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A

GENERAL HISTORY

OF THE

DICHLAMYDEOUS PLANTS,

COMPRISING COMPLETE

DESCRIPTIONS OF THE DIFFERENT ORDERS;

TOGETHER WITH THE

CHARACTERS OF THE GENERA AND SPECIES, AND AN ENUMERATION OF THE CULTIVATED VARIETIES;

THEIR PLACES OF GROWTH, TIME OF FLOWERING, MODE OF CULTURE, AND

USES IN MEDICINE AND DOMESTIC ECONOMY;

THE SCIENTIFIC NAMES ACCENTUATED, THEIR ETYMOLOGIES EXPLAINED, AND THE CLASSES AND ORDERS

ILLUSTRATED BY ENGRAVINGS,

AND PRECEDED BY INTRODUCTIONS TO THE LINNÆAN AND NATURAL SYSTEMS,

AND A GLOSSARY OF THE TERMS USED:

THE WHOLE

ARRANGED ACCORDING TO THE NATURAL SYSTEM.

BY GEORGE DON, F.L.S.

IN FOUR VOLUMES.

VOL. IV.—COROLLIFLORÆ.

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THE Proprietors take this opportunity of explaining the circumstances under which they find themselves reluctantly obliged to close the Work at its present stage. At the commencement of the undertaking the Editor arranged with them to complete it in *Four Volumes;* but when the present or fourth volume was printed, he informed them for the first time, to their surprise, that his materials had proved so much more voluminous than he anticipated, that the descriptions of the remaining plants would fill *more than two additional volumes* of the same extent. They are compelled to add, that the circulation of the Work has hitherto been too limited to afford them any prospect of reimbursement of the large additional expense which would be incurred if they proceeded to complete the Work; an expense which they had not originally contemplated. As, however, the Work has been compiled upon the *Natural System,* the description of that division of the science which is contained in the four published volumes is complete, and the volumes are consequently not, in this respect, rendered imperfect by the absence of the remaining two, since they contain a complete account of the *Dichlamydeous* plants. In justice to the Editor they feel bound to add, that he has spared no labour to render the Work as comprehensive and perfect as possible; and they are confident that no publication has hitherto appeared in this country which contains nearly so large a compass of valuable information upon that division of Botany of which it treats. They can only account for the confined circulation which the present Work has hitherto met with in the altered taste of the day for treatises of a less recondite and extensive nature.

The Proprietors would be ready to complete the Work if they could hope for

sufficient encouragement from the Public to induce them to proceed in this unusually expensive undertaking.

At the end of this volume new title-pages for the four volumes are added, in accordance with their contents, as a "*General History of the Dichlamydeous Plants.*"

London, February, 1838.

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COMPRISING THE

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*** In this Index the systematic names used, and the English names in common use, are in *Roman letters;* the synonymes in *Italics;* the names of Classes, Sub-classes and Orders in *large capitals;* and the names of Sub-orders and Tribes in *small capitals.*

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THE

GARDENER'S AND BOTANIST'S DICTIONARY.

SUB-CLASS III.

COROLLÆFLO'RÆ (from *corolla*, and *flos*, a flower.) Corolla monopetalous, or the petals combined into the form of a hypogynous corolla, which is not attached to the calyx. To this sub-class are to be referred all orders which have a monopetalous corolla, with the stamens inserted into it, and a superior ovarium; but those orders with a monopetalous corolla, having the stamens inserted into it and the inferior ovarium, as *Rubiàceæ*, *Ericàceæ*, *Epacrídeæ*, *Campanulàceæ*, *Lobeliàceæ*, *Caprifoliàceæ*, *Loranthàceæ*, &c. are still retained in the sub-class *Calyciflòræ*.

ORDER CXL. SYMPLOCI'NEÆ (this order only contains the genus *Sýmplocos*). D. Don. prod. fl. nep. p. 144.—Guaiacànæ, part 2. Juss. gen. 157.

Calyx 5-parted or 5-cleft (f. 1. *a*.). Corolla monopetalous, rotate (f. 1. *c*.), with a 5 (f. 1. *c*.) -10-parted spreading limb; when 8 or 10, 4 or 5 of which are interior and smaller: imbricate in æstivation. Stamens very numerous, inserted in the tube of the corolla, disposed in 3 or 4 series or rows; filaments cuspidate at the apex, polyadelphous at the base; anthers erect, roundish-elliptic, 2-celled, bursting lengthwise. Ovarium half inferior, 3-5-celled; ovula 4 in each cell, fixed to inner parietes of the cells at various heights, the 2 superior ones peritropous, and the 2 inferior ones pendulous. Style 1; stigma 3-5-lobed. Drupe rather fleshy, crowned by the calyx, containing a 3-5-celled nut; cells 1-seeded; seeds bony. Embryo inverted and furnished with albumen, having a superior radicle.

Trees with alternate branches. Leaves alternate, entire, or serrulated, exstipulate, turning yellow on drying. Flowers axillary, sessile, or pedunculate, almost solitary, conglomerate, or somewhat racemose, white or scarlet, furnished with imbricating bracteas at the base (f. 1. *b*.), sometimes fragrant. The leaves of most of the species are astringent; those of *Sýmplocos tinctòria* are used in America, under the name of *Sweetleaf*, for dyeing yellow; and the bark of *S. racemòsa* is used with mungeet for dyeing red in the East Indies, under the name of *Lohd*.

I. SY'MPLOCOS (*συμπλοκη*, *symploke*, a connection; in reference to the stamens being combined at the base). Lin. gen. 677. Jacq. amer. 166. Swartz, prod. 109. obs. t. 7. f. 1. Juss. gen. 157. L'Herit. in Lin. trans. 1. p. 174. H. B. et Kunth, nov. gen. amer. 3. p. 256. D. Don. prod. fl. nep. p. 144.—Ciponìma, Aubl. guian. 1. p. 226. Cav. diss. 7. p. 370. t. 217. Alstònia, Mut. in Lin. suppl. p. 264.—Hòpea, Lin. but not of Roxb.

LIN. SYST. *Polyadélphia*, *Polyándria*. Character the same as that of the order.

SECT. I. ALSTÒNIA (named in memory of Charles Alston, Professor of Botany in the University of Edinburgh). Corolla 8-10-parted; segments disposed in a double row. Stamens disposed in 3 or 4 series. Drupe half inferior, 3-5-celled; cells 1-seeded.—Species natives of South America.

1 S. ALSTÒNIA (Lher. in Lin. trans. 1. p. 176.) glabrous in every part; leaves roundish-elliptic or oblong, obtuse, rounded at the base, obsoletely crenated at the apex, coriaceous, shining; flowers by threes or fours, sessile. ♄. S. Native of New Granada, near Santa Fe de Bogota and Popayan. Humb. et Bonpl. pl. æquin. 1. p. 181. t. 51. Alstònia theæfórmis, Lin. suppl. p. 264. Habit of *Thèa Bohèa*. Leaves pale green and shining above, and pale beneath, and are employed as tea on account of their slight astringency. Corollas white, 8-10-cleft. Drupe 3-celled.

Alston's Symplocos. Tree 12 to 15 feet.

2 S. CE'RNUA (Humb. et Bonpl. pl. æquin. 1. p. 188. t. 53.) branches glabrous; leaves oblong, bluntish, running into the petioles at the base, serrulated at the apex, coriaceous, glabrous and shining above, pilose on the nerves beneath; flowers solitary, on short pedicels, drooping. ♄. S. Native of Peru, in woods, near the town of Jaen de Bracamoros. Leaves $2\frac{1}{2}$ inches long. Corolla 10-11-parted, white. Ovarium 3-celled.

Drooping-flowered Symplocos. Tree 30 feet.

3 S. COCCÍNEA (Humb. et Bonpl. pl. æquin. 1. p. 185. t. 52.) branches hispid from pili; leaves elliptic-oblong, acuminated, rounded at the base, obsoletely crenulated, membranous, glabrous, shining, pilose on the middle nerve; flowers solitary, almost sessile. ♄. S. Native of Mexico, near Xalapa and elsewhere. Corolla rose-coloured or purplish, silky outside, 10-11-parted, an inch in diameter when expanded. Drupe 5-celled. Stamens disposed in 4 series.

Scarlet Symplocos. Tree tall.

4 S. SERRULA'TA (Humb. et Bonpl. pl. æquin. 1. p. 190. t. 54.) branchlets clothed with rusty hairs; leaves obovate-

oblong, acuminated, rounded at the base, remotely denticulated, membranous, glabrous above, but clothed with adpressed pili beneath; peduncles short, usually 3-flowered. ♄. S. Native of New Granada, in woods near Popayan. Leaves 3½ to 4½ inches long. Corolla white, 6-9-parted, clothed with adpressed hairs outside. Stamens disposed in 3-4 series.

Serrulated-leaved Symplocos. Tree 12 to 15 feet.

5 S. RUFE'SCENS (Humb. et Bonpl. pl. æquin. 1. p. 192. t. 55.) branchlets clothed with rusty hairs; leaves obovate-oblong, much acuminated, rounded at the base, almost quite entire, membranous, glabrous above, and clothed with rusty hairs beneath, the middle nerve hairy; peduncles very short, 2-5-flowered. ♄. S. Native of New Granada, on the Andes about Quindiu. Leaves obsoletely and remotely denticulated, 7 inches long and 2½ broad. Corolla white, silky outside, 5-6-parted (ex Kunth), 7-8-parted (ex Bonpl.). Ovarium 3-5-celled (ex Kunth). Drupe 4-celled (ex Bonpl.).

Rufescent Symplocos. Tree 50 to 60 feet.

6 S. TOMENTÒSA (Humb. et Bonpl. pl. æquin. 1. p. 195.) branchlets clothed with rusty hairs; leaves obovate-oblong, acuminated, rounded at the base, denticulated, rather coriaceous, glabrous and shining above, but clothed with rusty tomentum beneath; peduncles short, 4-7-flowered. ♄. S. Native of New Granada, near Ibague. Flowers sessile. Corolla 10-parted. Ovarium 5-celled.

Tomentose Symplocos. Tree.

7 S. NU'DA (Humb. et Bonpl. pl. æquin. 1. p. 195.) branchlets glabrous; leaves oblong, acutish, cuneated at the base, remotely serrulated at the apex, glabrous above, but rather pilose beneath; peduncles short, 1-flowered. ♄. S. Native of New Granada, in woods, near Loxa. Leaves 2½ to 3 inches long. Drupe oblong, 3-celled, about the size of a small plum.

Naked Symplocos. Tree 12 feet.

8 S.? LIMONCÍLLO (Humb. et Bonpl. pl. æquin. 1. p. 196.) glabrous in every part; leaves oblong, acute at both ends, almost quite entire, shining; flowers racemose. ♄. G. Native of Mexico, in woods near Xalapa. Leaves a little serrulated. Drupe glaucous, containing a 3-4-celled nut (ex Bonpl.).

Limoncillo Symplocos. Tree tall.

9 S. MUCRONA'TA (Humb. et Bonpl. pl. æquin. 1. p. 196.) glabrous in every part; leaves oblong, mucronate, denticulated, coriaceous; peduncles 1-flowered. ♄. S. Native of Mexico, in the woods of Xalapa. Peduncles solitary. Flowers pale red, ex Schlecht.

Mucronate-leaved Symplocos. Tree 12 feet.

10 S. SCHIEDEA'NA (Schlecht. in Linnæa. 8. p. 527.) branches glabrous, angular; leaves large, oblong-elliptic, cuneated at the base, and with a short abrupt acumen at the apex, quite entire, glabrous; flowers axillary, subspicate. ♄. G. Native of Mexico, between Tiocelo and Jicochimalco. The branches are furnished with an elevated, acute line on both sides, from the decurrent bases of the petioles. Leaves 8-10 lines long.

Schiede's Symplocos. Tree.

11 S. MARTINICE'NSIS (Lin. spec. 747.) glabrous; leaves ovate, acute, shining above, rather coriaceous, crenulated; peduncles sub-racemose. ♄. S. Native of Martinico, in woods. Lher. in Lin. trans. 1. p. 175. Swartz, obs. 293. t. 7. f. 1. Jacq. amer. 166. t. 175. f. 68. pict. 81. t. 261. f. 41. Corolla white, 5-cleft. Drupe 5-celled.

Martinico Symplocos. Tree 25 feet.

12 S. CIPONÌMA (Lher. in Lin. trans. 1. p. 175. Meyer. ess. 248.) branches villous; leaves ovate-oblong, entire, villous beneath; peduncles many-flowered. ♄. S. Native of Guiana, where it is called *Ciponìma*. Ciponìma Guianénsis, Aubl. guian. 1. p. 567. t. 226. Cav. diss. 7. p. 371. t. 217. Corolla white, 10-parted. Drupe 5-celled, black.

Ciponima Symplocos. Shrub 7 feet.

13 S. ARE'CHEA (Lher. in Lin. trans. 1. p. 176.) leaves serrated, almost glabrous; peduncles about 5-flowered. ♄. S. Native of Peru, in woods, where it was collected by Dombey, under the name of *Arechea*. Corolla 10-parted? Drupe 5-celled.

Arechea Symplocos. Tree.

14 S. OCTOPE'TALA (Swartz, fl. ind. occ. 3. p. 1287.) leaves ovate, short-acuminated, glabrous, bluntly serrated; pedicels axillary, solitary, towards the tops of the branches; calycine segments 5, ciliated; limb of corolla 8-parted. ♄. S. Native of the south of Jamaica, on high mountains. Flowers white, about the size of those of the orange. Drupe 5-celled.

Eight-petalled Symplocos. Tree 20 to 36 feet.

15 S. TINCTÒRIA (Lher. in Lin. trans. 1. p. 176.) leaves oblong or lanceolate-ovate, a little serrated, glaucous, shining; flowers axillary, 8-10 together; fruit containing a 3-celled nucleus. ♄. G. Native of Carolina. Hòpea tinctòria, Lin. mant. 14. syst. ed. 1. 699.—Catesb. car. 1. t. 54. Bracteas concave, villous. Flowers yellow, sweet-scented. Corolla 5-parted. Stamens combined in 5 bodies. The juice, or a decoction of the leaves, will dye linen and silk of a bright yellow.

Dyers' Symplocos or Yellow-leaf. Clt. 1780. Tree.

16 S.? PENTA'GYNA (Spreng syst. 3. p. 340.) leaves opposite, oblong-lanceolate, acuminated, quite entire, glabrous; flowers racemose, pentagynous. ♄. S. Native of Brazil. Sello.

Pentagynous Symplocos. Shrub.

SECT. II. LÓDHRA (the Sanscrit name of *S. racemòsa*). Corolla 5-parted. Stamens numerous, inserted without order. Drupe containing a 3-5-celled nut, inferior.—Species natives of Asia. Perhaps the same as Decàdia, Lour. the Dicàlyx, Blum.

17 S. LO'HA (Hamilt. mss. ex D. Don, prod. fl. nep. 144.) leaves lanceolate, acuminated, serrulated, glabrous; spikes usually twin, tomentose, longer than the petioles; calycine segments and bracteas roundish. ♄. G. Native of Nipaul, at Narainhetty. S. subspinòsa, Hamilt. mss. Leaves 3-6 inches long, pale green, and from 1½ to 2 inches broad.

Loha Symplocos. Shrub.

18 S. SUMU'NTIA (Hamilt. mss. ex D. Don, prod. fl. nep. p. 145.) leaves elliptic, coriaceous, acuminated, slightly serrulated, glabrous; spikes pilose, twice the length of the petioles; calycine segments and bracteoles oblong. ♄. G. Native of Nipaul, at Narainhetty, and on Sheopore. S. floribúnda, Wall. cat. no. 4419. Leaves 3-6 inches long, and 1½ to 2 inches broad. Flowers rather large.

Sumuntia Symplocos. Fl. March. Shrub.

19 S. THEÆFÒLIA (D. Don, prod. fl. nep. p. 145.) leaves elliptic, acuminated, serrulated; spikes aggregate, densely pubescent, equal in length to the petioles; calycine segments and bracteoles roundish, ciliated. ♄. G. Native of Nipaul, at Narainhetty. S. attenuàta, Wall. cat. 4426. Leaves 3 inches long, and 1½-2 inches broad. Nothing but *S. racemòsa*, Roxb.

Tea-leaved Symplocos. Fl. Nov. Shrub.

20 S. FERRUGI'NEA (Roxb. fl. ind. 2. p. 542.) leaves lanceolate, serrulated, acuminated, parallel-veined, downy beneath; spikes axillary, solitary, compound, downy; stigma 3-lobed. ♄. S. Native of the East Indies, in the Garo country, where it is called *Foolinazur*. Flowers yellow. Bracteas 3 to each flower, broad-ovate, downy. Leaves 4-7 inches long, and 1-2 broad.

Rusty Symplocos. Tree.

21 S. SPICA'TA (Roxb. fl. ind. 2. p. 541.) leaves from lanceolate to oblong, serrated, acute; spikes axillary, compound; drupe urceolate, torose; nut 1-celled, 1-seeded. ♄. S. Native of Silhet, where it is called *Booree*. Leaves 4-6 inches long. Flowers small, yellow. Bracteas 3 to each flower, ciliated. The nuts are hard, about the size of a pea, and resemble

a minute fluted pitcher; when bored they are strung like beads, and by the natives put round the necks of their children, to prevent evil. The nuts only of *Nagèia putranjìva*, are employed in the same manner and for the same end.

Var. β; *platistàchya* (Wall. cat. no. 4428.) spikes compound, downy. ♄. S. Native of Silhet.

Spicate-flowered Symplocos. Tree or shrub.

22 S. racemòsa (Roxb. fl. ind. 2. p. 539.) leaves oblong, glabrous, serrulated; racemes axillary, generally simple; nut 3-celled. ♄. S. Native of Burdwan and Midnapore, in Bengal. The Sanscrit name of the tree is *Savura* and *Lodhra*, and the Bengalee one *Lodh*. Mýrtus, Retz, obs. 4. p. 26. Leaves 2-6 inches long. Flowers yellow. The bark of this tree is in request among dyers of red in Calcutta, and is met with in the markets of that town for a trifling price. It seems to be used as a mordaunt only to dye with Mungeet (a species of *Rùbia*), in which the bark called *Lodh* is an ingredient. For three yards of cloth take *Lodh* and the bark of *Bura Hur* (*Terminàlia Chébula*) of each one chatuk, or two ounces, pound them together, and mix them with water, and steep the cloth in it; then dry it. Take one chatuk of alum, dissolve it in water, and boil it; put the cloth into this solution, and let it boil for an hour, then wash and dry it. Then take *Al* (*Morínda tinctòria*) one chatuk, Dhawra flowers (*Grislea tomentòsa*) one chatuk, Mungeet half a seer (nearly a pound), separately mix them with lukewarm water, and boil it. Then put in the cloth and let it boil for 40 minutes. *Aboor*, the red powder used by the natives during the Hoolee holidays, is made about Kheerpaee of the bark of this tree.

Racemose-flowered Symplocos. Tree 20 feet.

23 S. cauda'ta (Wall. cat. no. 4413.) leaves lanceolate, or elliptic-lanceolate, tapering to both ends, long-acuminated, obsoletely denticulated; racemes simple, axillary, downy; calyx minute. ♄. S. Native of Silhet.

Tail-leaved Symplocos. Shrub or tree.

24 S. lu'cida (Wall. cat. no. 4414.) leaves smooth, shining on both surfaces, coriaceous, elliptic, or elliptic-lanceolate, entire at the base, and serrated from below the middle, acuminated; racemes downy, branched. ♄. S. Native of the East Indies.

Shining-leaved Symplocos. Shrub or tree.

25 S. pyrifòlia (Wall. cat. no. 4415.) leaves elliptic or oblong, acuminated, shining, coriaceous, entire, or denticulated towards the tops; racemes simple, slender, glabrous, twice the length of the petioles. ♄. S. Native of Silhet.

Pear-leaved Symplocos. Shrub or tree.

26 S. laurìna (Wall. cat. no. 4416.) leaves oblong or elliptic, acuminated, denticulated, shining, smooth; racemes simple or branched at the base, downy. ♄. S. Native of the East Indies. Mýrtus laurìna, Herb. madr. Eugènia laurìna, Rottl. herb.

Laurel-like Symplocos. Shrub or tree.

27 S. Hamiltonia'na (Wall. cat. no. 4420.) leaves elliptic-lanceolate or oblong, repandly denticulated; racemes simple, downy. ♄. S. Native of the East Indies. Decàdia racemòsa, Hamilt. herb.

Hamilton's Symplocos. Shrub or tree.

28 S. ri'gida (Wall. cat. no. 4422.) leaves oblong, coriaceous, stiff, quite entire, or repand, obtuse; racemes long, downy, simple, or branched at the base. ♄. S. Native of the Burman empire, at Moalmeyne.

Stiff Symplocos. Shrub or tree.

29 S. polyca'rpa (Wall. cat. no. 4423.) leaves elliptical, acuminated, repandly denticulated; spikes compound. ♄. S. Native of the East Indies, at Amherst and Tavoy.

Many-fruited Symplocos. Shrub or tree.

30 S. obtu'sa (Wall. cat. no. 4424.) leaves coriaceous, quite entire, oblong-obovate, obtuse, tapering to the base, shining; spikes simple; lobes of calyx rounded, imbricate, obtuse. ♄. S. Native of the East Indies, on the Neelgherry mountains.

Blunt-leaved Symplocos. Shrub or tree.

31 S. ramosíssima (Wall. cat. no. 4425.) leaves membranous, elliptic, or elliptic-lanceolate, acuminated, denticulated; racemes axillary and lateral, simple and compound. ♄. S. Native of Nipaul, on Sheopore.

Much-branched Symplocos. Shrub or tree.

32 S. adenophy'lla (Wall. cat. no. 4427.) leaves coriaceous, lanceolate, tapering to both ends, long-acuminated, usually quite entire; racemes compound, downy. ♄. S. Native of Penang.

Gland-leaved Symplocos. Shrub or tree.

33 S. móllis (Wall. cat. no. 4433.) branches, racemes, petioles, and nerves of leaves on the under surface clothed with rusty hairs; leaves elliptic, acuminated, quite entire; spikes compound. ♄. S. Native of Penang.

Soft Symplocos. Shrub or tree.

Sect. III. Palu'ra (meaning unknown to us). Corolla 5-parted. Stamens disposed in a triple series. Ovarium inferior. —Species natives of Nipaul and China.

34 S. Sini'ca (Ker. bot. reg. 710.) leaves elliptic-oblong, attenuated at both ends, mucronately serrated, downy on both surfaces and wrinkled; racemes compound, terminal, and axillary; calycine segments acuminated. ♄. H. Native of China. Flowers white. (fig. 1.)

FIG. 1.

Chinese Symplocos. Fl. May. Clt. 1822. Shrub 3 feet.

35 S. cratægoìdes (Hamilt. mss. ex D. Don, prod. fl. nep. p. 145.) leaves ovate, acute, serrated, villous beneath as well as on the branches; panicles racemose, terminal, villous; calycine segments roundish, membranous. ♄. G. Native of Nipaul, in the Great Valley, near the town of Thankot. S. paniculàta, Wall. Palùra odoràta, Hamilt. mss. Flowers white, fragrant. This shrub hardly belongs to *Sýmplocos*, and has the habit of *Prùnus Mahàbeb*.

Hawthorn-like Symplocos. Tree or shrub.

Cult. The species of *Sýmplocos* grow well in a mixture of loam, sand, and peat; and cuttings of them strike readily in sand, under a hand-glass; those of the tropical kinds in heat.

Order CXLI. STYRACI'NEÆ (this order only contains the genus *Stỳrax*). Styráceæ, part. Richard, ann. du fruct. 1808. Styracíneæ, part. Rich. in H. B. et Kunth, nov. gen. amer. 3. p. 256. Guiacànæ part. Juss. gen. 156.

Calyx permanent, campanulate, 5-toothed (f. 2. *a*.). Corolla monopetalous, funnel-shaped; deeply 3-7-cleft, but usually 5 or 6-cleft, valvate in æstivation. Stamens 10, exserted; filaments monadelphous at the base, adnate to the tube of the corolla; anthers linear, 2-celled, dehiscing lengthwise inside. Ovarium superior, 3-celled, many-ovulate, erect. Style 1 (f. 26.). Stigma obsoletely 3-lobed. Drupe nearly dry, containing a 1-celled, 1-3-seeded nut. Testa of seed double; inner cobwebbed, outer spongy. Embryo inverted, with elliptic coty-

ledons, and a thick superior radicle. Albumen fleshy.—Elegant trees or shrubs, usually clothed with stellate tomentum. Leaves entire, alternate, exstipulate. Peduncles axillary or terminal, one or many-flowered. Flowers racemose, bracteate, white or cream-coloured. The *Stỳrax officinàle*, affords the officinal storax of Asiatic Turkey, and *S. Benzòin* the fragrant resin of that name. This order is very nearly allied to *Halesiàceæ*, but differs by the decidedly superior ovarium, in the more deeply cleft corolla; and from *Symplocíneæ* in the superior ovarium, and entire or slightly lobed calyx, and in the stamens being fewer and monadelphous.

I. STY'RAX (*στυραξ, stỳrax*, of Theophrastus and Dioscorides; the name is a mere alteration of *assthirak*, the Arabic name of *S. officinàle*). Lin. gen. no. 595. Tourn. t. 369. Juss. gen 156. Gærtn. fruct. 1. p. 284. t. 59.

LIN. SYST. *Decándria, Monogýnia.* Character the same as that of the order.

* *A species native of Europe.*

1 S. OFFICINA'LE (Lin. spec. 635.) leaves ovate, clothed with hoary villi beneath, shining and green above; racemes simple and axillary, 5-6-flowered, shorter than the leaves. ♄. H. Native of Italy and the Levant. Cav. diss. 6. p. 338. t. 188. f. 2. Woodv. med. bot. 197. t. 71. Church et Stev. med. bot. 1. t. 47. Andr. bot. rep. 631. Lodd. bot. cab. 928. Plench, icon. 341. Mill. fig. 260. Lob. icon. 151. Leaves about 2 inches long. Flowers white. Drupe ovate, globose.

FIG. 2.

The *S. officinàle* is chiefly remarkable for producing the very powerful and fragrant balsam called storax. It is a native of Syria and the Levant, and is not uncommon all over Greece and the Peloponnesus, being known by the name of *λαγομηλια* in modern Greek. It is naturalized in hedges in some parts of Italy, particularly about Tivoli. The finest tree of this species in Britain is in the Apothecaries' Garden at Chelsea.

The best storax comes from Asiatic Turkey, and is obtained in a fluid state, from incisions made in the bark of the trunk or branches of the storax-tree. It is brought from Turkey; but is so adulterated that it is very rarely met with in a pure state. Storax is bitter and pungent to the taste, and has a strong fragrant odour. Two sorts of balsam are found in the markets—storax in the tear, and common storax in larger masses; this has been called "storax in the lump," "red storax," and the separate tears, "storax in the tear." The former is very rarely in separate tears, but in masses, composed of white and pale reddish tears, or having a uniform reddish-yellow or brownish appearance, being unctuous to the touch, soft, like wax, and free from visible impurities. This is the *στυραξ καλαμιτης* of the ancient Greeks. According to Galen it was formerly brought from Pamphylia, in hollow canes or reeds, whence it was called *Styrax calamita*. It is preferred to the common storax, in larger masses, which are lighter, less compact than the preceding, and have a large admixture of woody matter, like saw dust. Although the impurities of this kind of storax render it less valuable, it is not less useful, and when purified, its medical qualities are no less potent. Storax should be chosen of a reddish brown colour, rather softish, unctuous to the touch, yet brittle and friable, and of a pleasant sweet smell. On account of its yielding a pleasant odour of Benzoic acid, when ignited, it is much used in Roman Catholic countries for incense. Spirits dissolve it entirely; it consists principally of resin, with a small portion of Benzoic acid. The directions of the London Pharmacopœia for purifying storax are:—

"Dissolve Balsam of storax in rectified spirit and strain it; then distil off the spirit by a gentle heat until the balsam acquires a proper consistence." It may not be improper here to observe, that the storax of the Pharmacopœia ought not to be confounded with the storax of commerce, which is a liquid balsam, said to be obtained from *Liquidámber styracíflua*.

Storax is stimulating and expectorant, and was formerly prescribed for asthma and chronic affections of the windpipe; for amenorrhœa, &c. It is so far discarded from practice as hardly ever to be used, and is justly designated by Dr. Thomson, as a useless article in the list of Materia Medica.

Officinal Storax. Fl. July. Clt. 1597. Tree 12 to 15 feet.

** *Species natives of North America.*

2 S. GRANDIFÒLIUM (Ait. hort. kew. 2. p. 75.) leaves broad, obovate, acuminated, green above, but clothed with hoary tomentum beneath; lower peduncles solitary, 1-flowered. ♄. H. Native of South Carolina. Lodd. bot. cab. t. 1016. Wats. dend. brit. t. 129. S. officinàle, Walt. fl. car. 140. S. grandiflòrum, Michx. fl. bor. amer. 2. p 41. Flowers white.

Great-leaved Storax. Fl. Jul. Cult. 1765. Tree 12 to 15 feet.

3 S. LÆVIGA'TUM (Ait. hort. kew. 2. p. 75. Willd. spec. 2. p. 624.) leaves oval-lanceolate, acute at both ends, glabrous on both surfaces, toothed; peduncles axillary, solitary or twin, 1-flowered. ♄. H. Native of South Carolina and Virginia, in swamps. Lodd. bot. cab. 960. Wats. dendr. brit. t. 40. S. octándrum, Lher. stirp. nov. 2. t. 17. S. glàbrum, Cav. diss. 6. p. 340. t. 188. f. 1. S. læ've, Walt. fl. car. 140. S. Americànum, Lam. dict. 1. p. 82. Stamens from 6 to 10.

Smooth-leaved Storax. Fl. Jul. Aug. Clt. 1765. Shrub 3 to 4 feet.

4 S. PULVERULE'NTUM (Michx. fl. amer. bor. 1. p. 41. Wats. dendr. brit. 41.) leaves almost sessile ovate or obovate, obtuse; clothed with powdery tomentum beneath; flowers axillary and nearly terminal by threes on short pedicels. ♄. H. Native of Virginia and Carolina, in woods. S. lævigàtum, Curt. bot. mag. 921.

Powdery Storax. Fl. Ju. Aug. Clt. 1794. Shrub 4 to 6 feet.

*** *Species natives of South America.*

5 S. TOMENTÒSUM (Humb. et Bonpl. pl. æquin. 2. p. 72. t. 101. H. B. et Kunth, nov. gen. 3. p. 264.) leaves oblong or ovate-oblong, acute, glabrous above, but clothed with white tomentum beneath; racemes axillary, simple, 5-8-flowers. ♄. S. Native of Quito near Malacates. Pedicles, peduncles, and rachi, clothed with whitish or rusty tomentum, and the calyx with white tomentum. Flowers white. Leaves $3\frac{1}{2}$ to $4\frac{1}{2}$ inches long.

Tomentose Storax. Tree 30 to 40 feet.

6 S. FLO'RIDUM (Pohl. pl. bras. 2. p. 54. t. 134.) leaves oblong-elliptic, attenuated at both ends, glabrous above, but clothed beneath with greenish-hoary down; racemes axillary, simple, erectly spreading; calyx clothed with rusty tomentum. ♄. G. Native of Brazil, in the province of Goyaz, among bushes in mountainous places. Corollas yellowish-white.

Flowery Storax. Tree 10 feet.

7 S. FERRUGÍNEUM (Pohl. l. c. p. 55. t. 135.) leaves oblong-ovate, acute, rather attenuated at the base, glabrous above, but greenish-grey beneath, and dotted from tufts of rusty tomentum; racemes axillary, very short, few flowered; peduncles and calyxes clothed with hoary yellow tomentum. ♄. G. Native of Brazil,

in the province of Minas Geraes, about Villa Rica. Corollas yellowish-white.

Rusty Storax. Shrub 5 feet.

8 S. CAMPÒRUM (Pohl. l. c. p. 56. t. 135.) leaves oblong, acuminated, somewhat attenuated at the base, shining and glabrous above, and clothed with greenish hoary tomentum beneath; racemes axillary, few-flowered; peduncles and calyxes clothed with hoary yellow tomentum. ♄. S. Native of Brazil. Corollas yellowish-white.

Field Storax. Shrub 5 feet.

9 S. CRYMOPHY'LLUM (Pohl. l. c. p. 57. t. 137.) leaves oblong-lanceolate, acuminated, quite glabrous on both surfaces; racemes axillary, very short, about 4-flowered, and are, as well as the calyxes, clothed with white or greenish tomentum. ♄. S. Native of Brazil at Rio Janeiro, among bushes, about Agoacin. Corollas yellowish-white.

Ice-leaved Storax. Shrub.

10 S. PARVIFÒLIUM (Pohl. l. c. p. 53. t. 133.) leaves oblong-ovate, or oblong-elliptic, obtuse, glabrous above, and clothed with greenish canescent tomentum beneath; racemes axillary, compound; calyx clothed with yellowish down girding the pericarp to the middle. ♄. S. Native of Brazil, in the province of Minas Geraes. Corollas white.

Small-leaved Storax. Shrub 7 to 8 feet.

11 S. ACUMINA'TUM (Pohl. l. c. p. 58. t. 138.) leaves ovate, acuminated, glabrous, clothed with greenish hoary tomentum beneath; racemes axillary, simple; calyx girding the fruit to the fourth part of its length, and is, as well as the peduncles, clothed with yellowish tomentum. ♄. S. Native of Rio Janeiro, among bushes, about Marambaia. Corollas greenish-white.

Acuminated Storax. Shrub 6 to 8 feet.

12 S. CHRYSA'STERUM (Pohl. l. c. p. 59. t. 139.) leaves oblong, acute, glabrous and shining above, but clothed with greenish hoary tomentum beneath; racemes axillary, simple, many-flowered; calyxes and peduncles clothed with white tomentum. ♄. G. Native of Brazil, in the province of Goyaz, among bushes, by the edges of rivers and fields.

Golden-starred Storax. Tree 10 feet.

13 S. LATIFÒLIUM (Pohl. l. c. p. 60. t. 140.) leaves large, oval-ventricose, acute, glabrous above, clothed with rusty tomentum beneath; racemes axillary and terminal, compound; calyxes and peduncles clothed with rusty tomentum. ♄. G. Native of Brazil, in the province of Minas Geraes, in shady mountain-woods. Corollas yellowish-white, downy.

Broad-leaved Storax. Tree 15 to 20 feet.

14 S. MACROPHY'LLUM (Pohl. l. c. p. 61. t. 141.) leaves large, oblong-ovate, acute, rather cordate at the base, glabrous above, clothed with greenish-white tomentum beneath: with reddish-brown villous veins; racemes axillary, short, few-flowered; calyxes and peduncles clothed with reddish brown villi. ♄ S. Native of Rio Janeiro, among bushes about Pillar. Corolla yellowish-white.

Long-leaved Storax. Tree.

15 S. A'LBUM (Mart, in Spreng. syst. 2. p. 284. Pohl. l. c. p. 62.) leaves oblong-ovate, acute, glabrous above, but clothed with white tomentum beneath, as well as stellate rusty tomentum on the veins and nerves; calyxes and branches clothed with rusty villi. ♄. G. Native of Brazil. Flowers whitish.

White Storax. Shrub.

16 S. RETICULA'TUM (Mart. reis. bras. ex Linnæa. 5. p. 41.) leaves ovate or obovate-oblong, acute, glabrous above, but clothed with white tomentum beneath, and reticulated with parallel veins and cross nerves; calyxes clothed with white tomentum, about equal to the corolla in length. ♄. S. Native of Brazil. Leaves at length repand.

Reticulated Storax. Shrub.

17 S. AU'REUM (Mart. l. c.) leaves ovate, acute, beset with stellate tufts of tomentum above, but at length shining, clothed with golden yellow tomentum beneath, as well as the branchlets and calyxes, which are a little shorter than the corolla. ♄. G. Native of Brazil.

Golden-leaved Storax. Shrub or tree.

18 S. TINIFÒLIUM; leaves oblong-lanceolate, quite entire, hoary beneath; racemes panicled, terminal, tomentose. ♄. S. Native of Jamaica. Cléthra tinifòlia, Swartz. prod. 74. Tìnus occidentàlis. Lin. spec. 530. Volkameria, P. Browne, jam. 214. t. 21. f. 1. Sloan. jam. 2. p. 86. t. 198. f. 2. Leaves dark green above. Fruit containing a sweet mealy pulp and a hard stone. Sloane calls it the bastard Locust tree.

Tinus-leaved Storax. Shrub 10 to 12 feet.

* * * * *A species native of Africa.*

19 S. GUINEE'NSE; glabrous, leaves oblong, entire, ending in an obtuse acumen, on short petioles; peduncles many-flowered, corymbose, axillary; calyx nearly entire or a little toothed. ♄. S. Native of Guinea in the island of St. Thomas. Flowers very fragrant, white; anthers combined into a tube. Stigma large ovate. Corolla of 4 and 5 petals.

Guinea Storax. Shrub 6 to 10 feet.

* * * * * *Species natives of Asia.*

20 S. AGRE'STE; leaves ovate, acuminated, a little serrated; glabrous; peduncles many-flowered, almost terminal; calyx 5-toothed. ♄. H. Native of Cochin China, among bushes. Cýrta agréstis, Lour. coch. 278. Tube of corolla equal to the calyx in length. Drupe oblong, curved, containing a furrowed nut. Flowers white.

Field Storax. Shrub 6 to 8 feet.

21 S. VILLÒSUM (Blum. bijdr. p. 671.) leaves oblong, acuminated, acutish at the base, unequal sided, rather villous beneath; racemes simple, shorter than the leaves; flowers with 6, rarely with 5 stamens. ♄. S. Native of Java, in woods, on Mount Salak.

Villous Storax. Fl. Oct. Shrub.

22 S. JAVA'NICUM (Blum. bijdr. p. 671.) leaves oblong acute, rounded at the base, glabrous, rather tomentose on the rib beneath; racemes crowded, many-flowered, much shorter than the petioles; flowers hexandrous. ♄. S. Native of Java on the Parang mountains, in the province of Tjanjor; and in woods on Mount Burangrang.

Java Storax. Fl. Aug. Tree 40 to 50 feet.

23 S. VIRGA'TUM (Wall. cat. no. 4400.) branches downy; leaves ovate-oblong, acuminated, denticulated; calyx and corolla downy outside. ♄. S. Native of Silhet. Calyx obsoletely 5-toothed. Segments of corolla lanceolate.

Twiggy Storax. Shrub.

24 S. PORTERIA'NUM (Wall. cat. no. 4401.) branches, calyxes, corollas, petioles and young leaves, downy; leaves ovate-oblong, acuminated, almost quite entire. ♄. S. Native of Penang. Calyx entire. Corolla 6-parted, with elliptic-lanceolate acute segments.

Porter's Storax. Shrub.

25 S. FINLAYSONIA'NUM (Wall. cat. no. 4403.) downy like the last; leaves elliptic-acuminated, quite entire, canescent beneath. ♄. S. Native of the East Indies. Flowers fasciculated, terminal racemose. Leaves, green above. Calyx obsoletely 5-toothed. Corolla 5-6 cleft.

Finlayson's Storax. Shrub.

26 S. SERRULA'TUM (Roxb. fl. ind. 2. p. 415.) leaves oblong acuminated, serrulated, glabrous, racemes terminal, simple, villous; branches pubescent at top, as well as the young leaves beneath. ♄. S. Native of Chittagong. Cýrta, Ham. mss.

Koom-jameva is the Bengaleese name of the tree. Leaves 3 inches long. Corolla 6-cleft. Drupe 1-4-seeded.

Serrulated-leaved storax. Shrub.

27 S. Benzòin (Dryand. in trans. roy. soc. 77. p. 307. t. 12. Woodv. med. bot. p. 200. t. 72.) leaves ovate-oblong, acuminated, glabrous above, but clothed with leprous tomentum beneath, as well as the calyxes; racemes compound almost the length of the leaves; flowers with 7-9-10-stamens. ♄. S. Native of Sumatra and Java. Church. & Stev. med. bot. 3. t. 112. Blum. bijdr. p. 671. Plench, icon. t. 342. Benjùi, Garc. in Clus. exot. p. 155. A'rbor. Benzoìni, Grim. in ephem. acad. nat. cur. dec. 2. ann. 1. p. 370. f. 31. Benzòin, Radermacher, in act. Soc. batav. 3. p. 44. Laúrus Benzòin Houtt. in act. harlem. vol. 21. p. 265. t. 7. Benjamin or Benzoin, Marsden, Sumatra, p. 123. Luban is the Bengalese name of the resin. Leaves a hand long. Corolla white, downy outside; segments linear.—Though Garcias, Grim and Sylvias were acquainted with the real tree from which Benzoin is collected, their descriptions are so imperfect that succeeding botanists have fallen into many errors concerning it; and it is remarkable that, although this drug was always imported from the East Indies, most of the later writers on the Materia Medica have conceived it to be collected from a species of *Laúrus*, native of Virginia, to which, from this erroneous supposition, they have given the trivial name Benzoin. Linnæus Mant. p. 297., seems to think that the drug is furnished by the *Cròton Bentzòe*, and afterwards, in the Supplementum Plantarum, p. 434, he describes the same plant again under the name of Terminàlia Benzòin. Jacquin, who was informed that this shrub was called by the French, Bienjoint, may have occasioned the mistake, from the similar sound of the word. Mr. Dryander, however, in the year 1787, clearly proved it to be a species of *Stỳrax*. The tree is deemed in Sumatra to be of sufficient age in 6 years, or when the trunk is about 7 or 8 inches in diameter, to afford the Benzoin. The bark is then cut through longitudinally or somewhat obliquely, at the origin of the principal lower branches, from which the drug exudes in a liquid state, and by exposure to the sun and air soon concretes, when it is scraped off. The trees are not found to sustain the effects of these annual incisions longer than 10 or 12 years. The quantity each tree yields never exceeds 3 pounds. The Benzoin which issues first from the wounded bark is the purest, being soft, extremely fragrant, and very white; that which is less esteemed is of a brownish colour, very hard, and mixed with various impurities. In Arabia, Persia, and other parts of the East, the coarser sort is consumed in fumigating and perfuming temples, and in destroying insects. The Benzoin which we find here in the shops is in large brittle masses, composed partly of white, partly of yellowish or light brown; that which is clearest and contains the most white matter, is accounted the best. This resin has very little taste, impressing on the palate only a slight sweetness; its smell, especially when rubbed or heated, is extremely fragrant and agreeable. It totally dissolves in rectified spirit, the impurities excepted, into a deep yellow-red liquor, and in this state discovers a degree of warmth and pungency as well as sweetness. It imparts, by digestion, to water also, a considerable share of its fragrance, and a slight pungency; the filtered liquor, gently exhaled, leaves not a resinous or mucilaginous extract, but a crystalline matter, seemingly of a saline nature, amounting to one-tenth of an eighth of the weight of Benzoin. Exposed to the fire in proper vessels, it yields a quantity of white saline concrete, called Flores Benzoes, of an acidulous taste, and grateful odour, soluble in rectified spirit, and in water by the assistance of heat.

As the trees which afford Storax and Benzoin, are species of the same genus, their products are very similar in their external appearance, and not widely different in their sensible qualities; it is therefore reasonable to suppose that they are analogous in their medicinal effects. Benzoin, however, though rarely employed in a simple state, has been frequently prescribed as a pectoral, and is recommended for inveterate coughs, asthmas, obstructions of the lungs, and all phthisical complaints, unattended by much fever; it has also been used as a cosmetic, and in the way of fumigation for the resolution of indolent tumours. Dr. Cullen classes benzoin with the stimulants, and says that the *flores benzoes*, which is the only preparation employed, are manifestly a saline substance, of an acid kind, of considerable acrimony and stimulant power; and although it has been recommended as a pectoral, he found it heating and hurtful in asthmatic cases in a dose of half a drachm. In the Pharmacopœias the flowers are directed in the *tinctura opii camphorata*, and it is ordered in substance in the *tinctura benzoes composita*.

Benzoin Storax. Tree.

Cult. The hardy species of *Stòrax* are proper plants for shrubberies, being very handsome when in flower. A light soil suits them best. The best way of increasing them is by layers put down in the autumn or spring. The stove and greenhouse species will grow freely in a mixture of loam, peat, and sand; and will be easily propagated by cuttings planted in sand, under a hand-glass; those of the tropical species in heat.

Order CLXII. HALESIA'CEÆ (this order only contains the genus *Halèsia*, or Snow-drop trees). D. Don, in edinb. phil. journ. dec. 1828. Symplocíneæ, part. of authors. Guaiacànæ, part. Juss. 156.

Calyx small, 4-toothed. Corolla monopetalous, ventricosely campanulate, with a 4-lobed, erect border. Stamens 12-16; filaments combined into a tube at the base, and adnate to the corolla; anthers oblong, erect, 2-celled, dehiscing lengthwise. Ovarium inferior. Style 1; stigma simple. Drupe dry, corticate, oblong, with 2-4-winged angles, terminated by the permanent style: containing a 2-4-celled putamen, which is acute at both ends; cells 1-seeded; seeds attached to the bottom of the cells; testa of seeds simple, very thin. Embryo length of albumen, with linear-oblong cotyledons; and a long, linear, compressed inferior radicle. Albumen fleshy.—Trees with alternate, serrated leaves; and lateral fascicles of pedicellate, drooping, white flowers. This order comes nearest to *Symplocíneæ*, from which it differs in the inferior ovarium, in the fruit being a hard, dry, winged nut, and in the corolla being more decidedly monopetalous.

I. HALE'SIA (so named by Ellis in honour of the learned and venerable Stephen Hales, D.D. F.R.S., author of Vegetable Staticks in 1722). Ellis in Lin. gen. no. 596. Gærtn. fruct. 1. p. 160. t. 32. Juss. gen. 156.

Lin. syst. *Dodecándria, Monogýnia*. Character the same as the order.

1 H. tetra'ptera (Lin. spec. 636. Ellis in phil. trans. vol. 51. p. 931. t. 22. f. A.) leaves ovate-lanceolate, acuminated, sharply serrated; petioles glandular; fruit with 4 wings. ♄. H. Native of South Carolina, along the banks of rivers. Curt. bot. mag. 910. Lodd. bot. cab. 1173. Cav. diss. 6. p. 338. t. 186. Lam. ill. 404. Leaves acuminated, with the middle depressed. Flowers pure white, 9-10 in a fascicle, drooping, resembling those of the snow-drop. The wood is hard and veined; the bark is of a darkish colour, with many irregular fissures.

Four-winged-fruited Halesia, or Common Snow-drop Tree. Fl. April, May. Clt. 1756. Tree 15 to 20 feet.

2 H. parviflòra (Michx. fl. amer. bor. 2. p. 40.) leaves

ovate-oblong, acute, nearly entire; flowers octandrous; fruit clavate, slightly 4-winged. ♄. H. Native of Florida. Ker. bot. reg. t. 952. Leaves downy, glaucous beneath. Racemes panicled. Flowers white, drooping. Calycine teeth ovate.

Small-flowered Snow-drop-tree. Fl. May. Clt. 1802. Tree 10 feet.

3 H. DÍPTERA (Lin. spec. 636.) leaves ovate, acute, serrated; petioles smooth and even; pedicels elongated; fruit with 2 large opposite wings and 2 obsolete ones. ♄. H. Native of Georgia and Carolina, in shady places on the banks of rivers. Cav. diss. 6. p. 338. t. 187. Lodd. bot. cab. 1172. Flowers octandrous. Leaves much larger than those of either of the preceding species.

Two-winged-fruited Snow-drop-tree. Fl. April, May. Clt. 1758. Tree 10 feet.

Cult. The species of Snow-drop-tree are well fitted for shrubberies and lawns, on account of the profusion of early snow-drop-like blossoms which they bear. They will grow in any common soil, and are to be increased by slips of the root and by seeds.

ORDER CXLIII. MYRSINEA'CEÆ (this order contains plants agreeing with *Mýrsine* in important characters). Myrsíneæ, R. Br. prod. p. 533. Alph. D. C. in Lin. trans. 17. p. 100. Ardisiàceæ, Juss. ann. mus. 15. p. 349. Ophiospérmæ, Vent. cels. p. 86. Sapòtæ, part. Juss. gen. p. 168.

Calyx permanent, 4-5-lobed (f. 3. *a.* f. 4. *a.*). Corolla gamopetalous (f. 4. *b.* f. 5. *b.*), rarely polypetalous, regular; lobes or petals equal in number to the lobes of the calyx. Stamens equal in number to the lobes of the corolla, inserted in its base (f. 4. *b.*), and opposite the lobes, free from each other or combined. Pollen ovoid-globose, smooth. Ovarium free or adherent, 1-celled; ovula immersed in the central placenta. Style 1. Drupe or berry 1 or many-seeded. Albumen horny, conforming to the seed, or deficient. Cotyledons short. Plumule inconspicuous or very short.—Trees, shrubs, or subshrubs. Leaves alternate, rarely almost opposite or subverticillate, simple, entire, or toothed. Flowers axillary, pedunculate, or sessile, with indefinite centripetal floration. All the parts are more or less furnished with resinous matter, which appears in dots. The hairs are simple or stellate, usually rising from cells, generally very short; on the peduncles, calyxes, and lower surface of the leaves they are most frequent; in most of the species the situation, form, and number are variable.

The plants contained in this order are mostly inhabitants of the warmer regions of Asia and America, but never beyond the 39th degree of latitude. The order is intermediate between *Sapòteæ* and *Primulàceæ*. *Sapòteæ* differs from it in the whorl of stamens being alternate with the lobes of the corolla; and from *Primulàceæ* in the fruit being indehiscent, and in habit. The *Myrsìneæ* have more or less a disposition to produce a resinous substance, which appears as dots in different parts of the plant, chiefly on the leaves, flowers, and berries. It may be seen also in the hard wood of *Mýrsine* and *Ægíceras;* these dots are dark or light brown, reddish, orange, or yellow; they vary in size, shape, and position in different species. Alphonse de Candolle supposes the styptic taste of the fruit of *Embèlia Ribes* to depend very much upon the quantity, and some peculiar quality, of this resinous substance.

Synopsis of the genera.

TRIBE I.

ÆGICE'REÆ. *Flowers pentamerous. Filaments connate at the base. Ovarium superior, many-seeded. Stigma simple. Drupe long, cylindrical, follicular,* 1*-seeded. Albumen none. Embryo erect.*

1 ÆGI'CERAS. Characters the same as the tribe.

TRIBE II.

ARDISIE'Æ. *Calyx and corolla* 4*-*5*-lobed* (f. 3. *a. b.* f. 4. *a. b.* f. 5. *a. b.*). *Stamens usually free. Ovarium superior, many-seeded. Drupe or berry globose,* 1*-seeded. Albumen horny. Embryo transverse.*

2 WALLE'NIA. Calyx and corolla tubular, 4-lobed; filaments connate at the base; anthers ovoid. Stigma dot-formed.

3 WEIGE'LTIA, Calyx and corolla 4-parted. Filaments free; anthers ovoid. Style short.

4 CONOMÓRPHA. Calyx and corolla 4-cleft, funnel-shaped; filaments free, inserted in the upper part of the corolla; anthers ovate-triangular. Stigma simple.

5 CYBIA'NTHUS. Calyx and corolla 4-cleft, rotate; filaments very short; anthers oblong, opening by 2 pores at top. Stigma sessile, sub-capitate.

6 MY'RSINE. Calyx and corolla 4-6-lobed (f. 3. *a. d.*). Filaments short, free. Stigma fringed, lobed, or simple (f. 3. *b.*).

7 BA'DULA. Calyx 5-lobed (f. 4. *a.*). Corolla 5-cleft (f. 4. *b.*). Stigma thick, capitate, or obscurely lobed (f. 4. *c.*).

8 ONCOSTE'MUM. Calyx and corolla 5-cleft. Stamens combined into a mass, or into a 5-toothed tube. Stigma funnel-shaped, nearly entire, or denticulated.

9 ARDI'SIA. Calyx and corolla 5-cleft (f. 5. *a. b.*). Filaments free; anthers triangular, free, or combined. Stigma simple, subulate, or dot-formed.

10 EMBE'LIA. Calyx and corolla 5-parted. Filaments free; anthers ovoid. Stigma capitate.

11 CHORIPE'TALUM. Calyx 4-cleft. Corolla 4-petalled. Stamens combined, and with the petals at the base. Style filiform.

TRIBE III.

MÆ'SEÆ. *Calyx* 5*-lobed. Corolla* 5*-lobed, induplicate in æstivation. Stamens* 5*, free. Ovarium adherent, half inferior, many-ovulate. Style short; stigma obscurely* 3*-*5*-lobed. Seeds numerous, small, angular, fixed to the central placenta. Embryo transverse.*

12 MÆ'SA. Character the same as that of the tribe.

† *A genus doubtful whether belonging to the present order.*

13 CORYNOCA'RPUS. Calyx of 5 concave sepals. Corolla of 5 roundish petals. Stamens 5, from the claws of the petals. Drupe clavate, containing a 1-seeded nut.

Tribe I.

ÆGICE'REÆ (this tribe contains only the genus *Ægíceras*). Alph. D. C. in Lin. trans. 17. p. 100. Calyx 5-parted; segments obliquely imbricated. Corolla 5-cleft. Filaments connate at the base; anthers free, sagittate, having the cells burst-

ing lengthwise. Ovarium superior, many-seeded. Stigma simple. Drupe long, cylindrical, follicular, 1-seeded. Albumen none. Embryo erect. Habit of the genera of *Sapòteæ*.

I. ÆGI'CERAS (from *αιξ αιγος, aix aigos*, a goat, and *κερας, keras*, a horn; form of fruit). Gærtn. fruct. 1. p. 216. t. 46. Kœn. ann. bot. 1. p. 129. R. Br. prod. p. 534.

Lin. syst. *Pentándria, Monogýnia.* Character the same as that of the tribe.—Small trees, natives of the sea-shore, among mangroves.

1 Æ. fra`grans (Kœn. in ann. bot. 1. p. 129. with a figure. Hook. bot. misc. 3. p. 84. t. 21.) leaves obovate, repand, veiny; umbels pedunculate. axillary, and terminal; fruit cylindrical, subulate, a little arched. ♄. G. Native of New Holland, Moluccas, Java, Burman empire, Penang, Delta of Ganges, and Malabar, by the sea side, amongst mangroves. Æ. màjus, Gærtn. fruct. 1. p. 216. t. 46. Æ. obovàtum, Blum. bijdr. p. 693. Æ. flóridum, Rœm. et Schultes, syst. 4. p. 512. Rhizóphora corniculàta, Lin. spec. 635.—Rumph. amb. 3. t. 117. A stout milky shrub. Superior surface of leaves covered with saline excrescence. Flowers white, fragrant, in terminal umbels.

Fragrant Ægiceras. Clt.? Tree small.

2 Æ. fe'rreum (Blum. bijdr. p. 693.) leaves small, spatulate, with subrecurved margins, almost veinless; umbels axillary and terminal: fruit cylindrical, subulate, arched. ♄. S. Native of the east shore of Java, where it is called *Kalemugon*. Mángium férreum, Rumph. amb. 3. t. 79.

Iron Ægiceras. Fl. year. Shrub.

Cult. The species of this genus grow well in a mixture of sand, loam, and peat; and ripened cuttings will strike root in sand, under a hand-glass, in heat.

Tribe II.

ARDISIE'Æ (this tribe contains shrubs agreeing with the genus *Ardìsia* in important characters). Alph. D. C. in Lin. trans. 17. p. 101. Calyx 4-5-lobed. Corolla gamopetalous. Stamens usually free; cells of anthers bursting lengthwise or at the apex. Ovarium superior, many-seeded. Drupe or berry globose, 1-seeded. Albumen horny. Embryo transverse.

II. WALLE'NIA (so named in memory of Matthew Wallen, a native of Ireland, many years resident in Jamaica, who cultivated both indigenous and exotic plants there, at considerable expense, and much assisted Patrick Browne in his Natural History of Jamaica). Swartz. prod. 1. p. 31. fl. ind. occ. 1. p. 248. Schreb. gen. no. 1722. p. 789.

Lin. syst. *Tetrándria, Monogýnia.* Calyx and corolla tubular, 4-lobed at the apex. Stamens inserted in the base of the corolla; filaments combined at the base, free at top and exserted; anthers ovoid, much shorter than the filaments, dehiscing lengthwise. Style short; stigma dot-formed.—Small trees. Leaves alternate, nearly opposite, or 3 in a whorl, oblong, more or less obtuse, entire, coriaceous, glabrous. Panicles terminal, naked, many-flowered; pedicels forming umbellets at the tops of the peduncles. Lobes of calyx and corolla obtuse, imbricate in æstivation.

1 W. laurifòlia (Swartz. prod. p. 31. fl. ind. occ. 1. p. 248. t. 6.) calyx and corolla covered with glandular dots. ♄. S. Native of Jamaica, Hispaniola, and Cuba. Petesioìdes laurifòlium, Jacq. amer. 17.—Sloane, jam. 2. p. 234. t. 145. f. 5. Flowers yellow. Berries scarlet. Glandular dots orange-coloured. Jacquin describes the leaves as 6 inches long, and greasy; and the flowers as white.

Laurel-leaved Wallenia. Tree 10 to 14 feet.

2 W. angula`ta (Jacq. hort. schœnbr. 1. t. 30.) peduncles thicker; calyx and corolla without glandular dots. ♄. S. Native of the East Indies? Cultivated in the gardens of the Mauritius, and in those of Vienna.

Angular Wallenia. Tree 10 to 12 feet.

Cult. See *Ardìsia*, p. 20. for culture and propagtion.

III. WEIGE'LTIA (named after M. Weigelt, who first collected the plant). Alph. D. C. in Lin. trans. 17. p. 102.

Lin. syst. *Tetrándria, Monogýnia.* Calyx and corolla 4-parted. Stamens 4, inserted in the base of the corolla; filaments free, filiform, shorter than the lobes of the corolla; anthers ovoid, much shorter than the filaments, horizontal; having the cells dehiscing lengthwise. Style acuminated, 3 times shorter than the stamens. This genus differs from *Wallènia* in the inflorescence; in the calyx and corolla being deeply divided; in the filaments being free, &c.

1 W. myria'nthos (Alph. D. C. l. c.). ♄. S. Native about Surinam. Wallènia myriánthos, Rchb. in Weigelt. pl. exsic. sur. Branches glabrous. Leaves obovate, more or less acute, glabrous, 3-5 inches long, beset with red pellucid dots when examined by a lens. Peduncles numerous, alternate in the axils of the leaves, rather velvety. Bracteas alternate, oblong. Corolla white, dotted with red.

Myriad-flowered Weigeltia. Tree small.

Cult. See *Ardìsia*, p. 20. for culture and propagation.

IV. CONOMO'RPHA (from *χωνη, chone*, a funnel, and *μορφη, morphe*, form; in reference to the shape of the corolla). Alph. D. C. in Lin. trans. 17. p. 102.—Wallènia spec. Mart. nov. gen. bras. 3. p. 89.—Conóstylus, Pohl. in litt. to D. C.

Lin. syst. *Tetrándria, Monogýnia.* Calyx and corolla 4-cleft, funnel-shaped. Stamens 4, one half shorter than the corolla; filaments inserted in the upper part of the tube of the corolla, very short, free; anthers erect, ovate-triangular, inclosed, fixed by the base; having the cells dehiscing lengthwise. Ovarium conical in the abortive flowers, and nearly globose in the fertile flowers. Style short; stigma simple. Drupe 1-seeded.—Small, American trees. Leaves alternate, entire, full of dots, coriaceous, varying in size on the same branch. Racemes axillary; pedicels alternate, short, in the axils of the bracteas. Flowers probably polygamous, the ovarium not always being perfect.

1 C. oblongifòlia (Alph. D. C. l. c. p. 103.) leaves oblong; peduncles shorter than the petioles. ♄. S. Native of Brazil. Conóstylus oblongifòlius, Pohl. ined. Branches slender, glabrous. Leaves oblong or obovate, 3-4 inches long, 12-15 lines broad, obtuse, or acute, beset with blackish dots. Peduncles many-flowered. Bracteas ovate, obtuse. Lobes of calyx and corolla ovate, acute, glabrous. Corolla whitish, funnel-shaped.

Oblong-leaved Conomorpha. Tree small.

2 C. laxiflòra (Alph. D. C. l. c.) leaves obovate or oblong, bluntish, cuneated towards the base; racemes nearly equal, length of leaves, pendulous; bracteas linear-lanceolate, acuminated; calycine segments triangular, a little ciliated; corolla campanulate, having the lobes reflexed at the apex. ♄. S. Native on the banks of the river Amazon. Wallènia laxiflòra, Mart. nov. gen. 3. p. 89. Flowers white?

Loose-flowered Conomorpha. Tree small.

Cult. See *Ardisia*, p. 20., for culture and propagation.

V. CYBIA'NTHUS (from *κυβος, kybos*, a square, and *ανθος, anthos*, flower; square form of corollas). Mart. nov. gen. 3. p. 87. Alph. D. C. in Lin. trans. 17. p. 103.

Lin. syst. *Tetrándria, Monogýnia.* Calyx deeply 4-cleft. Corolla 4-cleft, rotate, flat, making the circumference nearly square: having the lobes as well as the calyx marked with dots and immersed glandular lines. Stamens 4; filaments very short; anthers nearly sessile, oblong, erect, opening by 2 pores at the apex. Ovarium superior, minute (abortive?), depressedly glo-

bose. Stigma sessile, sub-capitate. Ovula erect, probably numerous. Drupe 1-seeded.?—Small trees, natives of Brazil. Leaves scattered, but approximate towards the extremities of the branches, petiolate, beset with gland-like tubercles. Flowers small, unibracteate, disposed in axillary erectish or drooping racemes. Lobes of corolla, but particularly those of the calyx, fringed with hairs.

1 C. pendulìnus (Mart. nov. gen. bras. 3. p. 87. t. 236.) leaves oblong, acute at both ends, glabrous; petioles pilose at the base; racemes loose, pendulous, about equal in length to the leaves, downy; calycine segments acute. ♄. S. Native of Brazil, in the province of Rio Negro. Flowers white.

Drooping Cybianthus. Tree.

2 C. cuneifòlius (Mart. l. c. p. 88.) leaves broad-lanceolate, acute, tapering much to the base, glabrous; petioles pilose; racemes spreading, downy, 3 times shorter than the leaves; calycine segments bluntish. ♄. S. Native of Brazil, near Sebastionople. Flowers white.

Wedge-leaved Cybianthus. Tree.

3 C. príncipis (Alph. D. C. in Lin. trans. 17. p. 104) leaves lanceolate, attenuate at the apex and bluntish; panicles axillary and terminal, shorter than the leaves; peduncles spreading, angular; flowers somewhat fascicled at the apex; segments of corolla oblong, reflexed. ♄. S. Native of Brazil, at the river Ilheos, where it was collected by Prince Neuweid. Wallènia angustifòlia, Nees. et Mart. beitr. zur. fl. bras. in nov. act. bonn. 11. p. 87. Flowers white.

Prince Neuweid's Cybianthus. Tree.

4 C. Humbóldtii (Alph. D. C. l. c.) leaves oblong, acuminate, undulately ciliated, glabrous, shining above; panicles terminal, simple; flowers disposed in fascicular umbels; segments of corolla oblong, obtuse, revolute. ♄. S. Native of New Granada, on the Andes, about Quindiu, at the altitude of about 1200 hexapods. Flowers pedicellate, 3-5 in a fascicle. Berries red. Ardísia tetrándra, H. B. et Kunth. nov. gen. amer. 3. p. 243. Habit of *Ardísia crenàta*.

Humboldt's Cybianthus. Tree 15-20 feet.

Cult. For culture and propagation see *Ardìsia*, p. 20.

VI. MY'RSINE (*μυρσινη, myrsine*, the Greek name of Myrrh). Lin. gen. ed. 1. p. 54. no. 269. Juss. gen. 152. Gærtn. fruct. t. 59. R. Br. prod. p. 533. Alph. D. C. in Lin. trans 17. p. 104.—Rapànea, Aubl. guian. 1. p. 121.—Caballèria, Ruiz. et Pav. prod. fl. per. p. 141.—Manglílla, Juss. gen. 152. Pers. ench. 1. p. 237.—Athrurophy'llum, Lour. coch. 148.—Sideróxylon, Scleróxylon, Samàra, Rœmèria, Chrysophýllum, species of authors.

Lin. syst. *Tètra-Hexándria Monogỳnia*, or *Polygàmia Dioècia*. Calyx and corolla 4-5-6-lobed (f. 3. *a. d.*); lobes of corolla imbricate in æstivation. Stamens equal in number to the lobes of the corolla, free; filaments very short, inserted in the tube of the corolla; anthers usually almost sessile, erect, acute: having the cells dehiscing lengthwise. Ovarium with an indefinite number of ovula, 4-5, ex R. Br. Style short, usually caducous; stigma fringed, or lobed, or simple. Drupe, or berry, pea-formed, 1-seeded.—Trees, or small shrubs, with alternate leaves. Flowers polygamous or hermaphrodite, sessile, or on very short pedicels, in fascicles; fascicles axillary, more or less covered by imbricate, obtuse, permanent bracteas. This is a very polymorphous genus, distinguished by its peculiar inflorescence readier than by any other character.

* *Stigma fringed or lobed.*

1 M. Urvíllei (Alph. D. C. in Lin. trans. 17. p. 105.) glabrous; leaves ovate, obtuse, entire, full of pellucid dots; flowers almost sessile, fascicled, pentandrous, polygamous; lobes of calyx small, tooth-formed; anthers sessile, ovoid. ♄. G. Native of New Zealand, in Tasman's Bay, and Cook's Strait. Leaves 1-2 inches long, obtuse, and somewhat emarginate, membranous, covered with yellow dots. Bracteas a little ciliated. Corolla 5-parted; glabrous, hardly a line long. Berry ovoid.

D'Urville's Myrsine. Shrub.

2 M. Africa'na (Lin. spec. 285) glabrous; leaves elliptic, serrated, acute, dotted; flowers axillary, by threes, pentandrous, polygamous; segments of corolla ciliated; corolla full of testaceous dots; calycine segments obovate. ♄. G. Native of the Cape of Good Hope. M. glàbra, Gærtn. fruct. 1. p. 282.—Comm. hort. 1. p. 123. t. 164.—Pluk. phyt. t. 80. f. 5.—Breyn. cent. 9. t. 5. Flowers on short pedicels, pale. Berries blue, dotted. Stigma panicled.

Var. β, retùsa (Alph. D. C. in Lin. trans. 17. p. 105.) leaves obovate, obtuse, emarginately toothletted at top. ♄. G. Native of the Azores. M. retùsa, Ait. hort. kew. 1. p. 271. Vent. cels. t. 86.—M. scàbra, Gærtn. fruct. 1. p. 182. Berries size of red currants, rugged from small tubercles, with a straw-coloured rind. Cultivated since 1788, and flowers in June. (f. 3.)

FIG. 3.

African Myrsine. Fl. Mar. May. Clt. 1691. Shrub 3-6 feet.

3 M. bifa'ria (Wall. in Roxb. fl. ind. 2. p. 296.) branches and petioles villous; leaves small, lanceolate, cuspidately serrated, cuneated and entire at the base, glabrous, dotted; flowers almost sessile, tetrandrous, polygamous, in axillary fascicles; calycine segments lanceolate, ciliated; filaments very short; anthers large, exserted. ♄. G. Native of Nipaul, from Hetounra to the valley, and on the surrounding mountains. It is also a native of Kamaon and Shreenagur. A large shrub, with hardly any defined stem. Leaves bifarious, coriaceous. Flowers white, tinged with pink, 5 or 6 in a fascicle, besprinkled with copious brown elevated dots. Stigma warted. Drupe round, and about the size of a coriander seed.

Bifarious-leaved Myrsine. Fl. Dec. March. Clt. 1822. Tree 20 feet.

4 M. subspinòsa (D. Don, prod. fl. nep. 147.) leaves lanceolate, acuminated, stiff, glabrous, spinulosely serrated; flowers dioecious, tetrandrous, in sessile axillary umbellate downy fascicles. ♄. G. Native of Nepaul, at Narainhetty, where it is called *Mina Bocoshi* by the natives. Samàra subspinòsa, Hamilt. mss. ex D. Don. l. c.

Subspinose-leaved Myrsine. Clt. 1823. Tree 20 feet.

5 M. se'ssilis (D. Don, l. c. p. 146.) leaves elliptic-oblong, acuminated, glabrous, shining, denticulated at the apex; flowers hermaphrodite, tetrandrous, in sessile umbellate axillary fascicles; stigma 2-lobed. ♄. G. Native of Nipaul, in woods, at Narainhetty. Samàra séssilis, Hamilt. mss.

Sessile-flowered Myrsine. Fl. Oct. Shrub.

6 M. semiserra'ta (Wall. in Roxb. fl. ind. 2. p. 293. tent. fl. nep. 1. p. 34, with a figure) leaves dense, linear, or linear lanceolate, sharply serrulated from the middle to the apex; flowers tetrandrous and pentandrous, polygamous, pedicellate, 6-12 in a fascicle; teeth of calyx lanceolate, acute, ciliated; stigma unilateral, fringed, 3-lobed. ♄. G. Native throughout Nipaul, where it is called, in Newar language, *Bilsee*, *Beresse*, and *Kalikatha*. A branchy tree. Branches dotted. Leaves besprinkled with reddish resinous dots, coriaceous, from 3 to 5 inches long.

Corolla pale pink. Drupe size of a pea, round, smooth and shining; flesh soft and pulpy. The wood of this tree is of a chocolate colour, radiated, compact, and heavy; it is much esteemed by the hill-people for various carpenter's work. They eat the ripe fruit.

Half-serrated-leaved Myrsine. Fl. Dec. March. Clt. 1822. Tree 30-40 feet.

7 M. VARIA'BILIS (R. Br. prod. p. 532. Sieb. pl. exsic. nov. holl. no. 262.) leaves obovate, oblong, entire, or toothed; flowers in umbellate sessile fascicles; pedicels glabrous; flowers tetrandrous and pentandrous, polygamous; anthers sessile. ♄. G. Native of New South Wales.

Variable Myrsine. Fl. June, July. Clt. 1824. Shrub.

8 M. URCEOLA'TA (R. Br. l. c.) leaves lanceolate-oblong, quite entire; flowers in axillary sessile umbels; pedicels glabrous; flowers tetrandrous, polygamous; corolla of the male flowers urceolate; stamens inclosed. ♄. G. Native of New Holland, within the tropic.

Urceolate-flowered Myrsine. Shrub.

9 M. CRASSIFÒLIA (R. Br. l. c.) leaves obovate, coriaceous, entire; flowers axillary, aggregate, almost sessile. ♄. G. Native of New Holland, within the tropic; and of Norfolk Island. Endlicher, prod. fl. ins. norf. p. 48. Bauer, ill. ins. norf. t. 124. Leaves 2 or $2\frac{1}{2}$ inches long.

Thick-leaved Myrsine. Shrub.

10 M. EXCE'LSA (D. Don, prod. fl. nep. p. 147) leaves lanceolate, acute, quite entire, glabrous, attenuated at the base; flowers dioecious, pentandrous; umbels sessile, glomerate, woolly; lobes of stigma oblong. ♄. G. Native of Nipaul, in woods.

Tall Myrsine. Tree 30-40 feet.

11 M. CAPITELLA'TA (Wall. in Roxb. fl. ind. 2. p. 295.) leaves oblong-lanceolate, quite entire, coriaceous; flowers pentandrous, polygamous, sessile: in heads, from the axils of the fallen leaves, in which case they appear lateral; calycine teeth ovate-acute; anthers oblong, large. ♄. G. Native of Nipaul, where it is called, in the Newar language, *BhoollaBilloo*. Branches angular. Leaves 5-7 inches long, copiously dotted. Flowers greenish, with copious resinous elevated brown dots; æstivation valvate. Calyx urceolate. Corolla with lanceolate-recurved segments and short tube. Stigma slightly 2-lobed. Drupes like those of M. *semiserràta*, but smaller.

Var. β, *parvifòlia* (Alph. D. C. in Lin. trans. 17. p. 106) leaves smaller; heads few-flowered. ♄. G. Native of Silhet. M. lanceolàta, Wall. cat. no. 2297. Leaves 2-3 inches long. Flowers scattered.

Small-headed Myrsine. Fl. Dec. March. Clt. 1822. Tree 30-40 feet.

12 M. LÙCIDA (Wall. cat. no. 2298.) leaves lanceolate, quite entire, glabrous, with dotted margins; flowers lateral, in fascicles, pentandrous, polygamous? calycine lobes ovate, acute, a little ciliated. ♄. G. Native of the Burman Empire, on Mount Taong Dong. Branches brown. Leaves 4-5 inches long, acuminated or bluntish, coriaceous. Berries globose, deep purple.

Shining-leaved Myrsine. Tree small.

13 M. PORTERIA'NA (Wall. cat. no. 6525. Alph. D. C. in Lin. trans. 17. p. 106.) glabrous; leaves lanceolate, acute at both ends, entire; flowers sessile, glomerate, few, pentandrous, polygamous?; calycine lobes ovate, acute, ciliated. ♄. G. Native of Penang. Branches with white dots, leafy at top. Leaves $1\frac{1}{2}$ to 2 inches long, beset with depressed dots beneath.

Porter's Myrsine. Tree small.

14 M. WIGHTIA'NA (Wall. cat. no. 2300. Alph. D. C. l. c.) glabrous; leaves oblong-lanceolate, acute, entire, scabrous from dots; flowers few, sessile, pentandrous, polygamous?; calycine lobes ovate, acute, ciliated. ♄. G. Native of the East Indies. Branches inflated at the origin of the leaves and flowers. Leaves approximate at the tops of the branches, 2-3 inches long, sometimes obtuse, coriaceous, beset with elevated dots.

Wight's Myrsine. Tree.

15 M. LINEA'RIS (Poir. dict. suppl. 3. p. 709.) leaves linear, quite entire, flat, shining, crowded at the tops of the branches; flowers pentandrous, in fascicles. ♄. G. Native of Cochin China, in woods. M. athrurophy'llum, R. Br. Athrurophy'llum lineàre, Lour. coch. p. 148. Flowers small, whitish red.

Linear-leaved Myrsine. Tree tall.

16 M. MÌTIS (Spreng. syst. 1. p. 663.) glabrous; leaves oblong, acute at both ends; flowers lateral, sessile, aggregate, pentandrous; lobes of calyx roundish, obtuse; corolla rotate, with oblong, obtuse, concave segments; stigma sessile. ♄. G. Native of the Cape of Good Hope. Sideróxylon mìte, Lin. syst. p. 193. Jacq. coll. 2. p. 249. Scleróxylon mìte, Willd. spec. 1. p. 1089. Sideróxylon más inérme, Mill. fig. t. 299. Manglílla Millerià̀na, Pers. ench. 1. p. 237. Chrysophýllum Millerià̀num, Lam. ill. no. 2477. In Miller's figure the peduncles are lateral and axillary, cymose.

Mild Myrsine. Fl. July. Clt. 1692. Shrub 6-feet.

17 M. MELANOPHLE'OS (R. Br. prod. p. 533.) glabrous; leaves elliptic or lanceolate-oblong, bluntish; flowers axillary, aggregate, on short angular pedicels, pentandrous. ♄. G. Native of the Cape of Good Hope. Sideróxylon melanophlèum, Lin. mant. p. 48. Jacq. hort. vind. 1. p. 89. t. 71.—Burm. afr. 238. t. 84. f. 2.—Comm. hort. 1. p. 195. t. 109. Manglílla melanophlèos, Pers. ench. 1. p. 237. Chrysophýllum melanophlèum, Lam. dict. Scleróxylon melanophlèum, Willd. enum. 1. p. 249. Rœmèria melanophlèa, Thunb. nov. gen. in Rœm. arch. 2. B. p. 1. Flowers hermaphrodite.

Black-paper Myrsine. Fl. ?. Clt. 1783. Shrub.

18 M. SAMA'RA (R. Br. l. c. Rœm. et Schultes, syst. 4. p. 511) leaves elliptic; flowers pentandrous, in small corymbs. ♄. G. Native of the Cape of Good Hope. Samàra pentándra, Ait. hort. kew. 1. p. 160. Willd. spec. 1. p. 665. Flowers small. Branches leafy at top.

Samara Myrsine. Fl. Feb. Nov. Clt. 1770. Shrub.

19 M. AVE'NIS (Alph. D. C. in Lin. trans. 17. p. 107.) leaves lanceolate, bluntish at the apex, narrowed at the base, quite entire, coriaceous, glabrous, nearly veinless; flowers in axillary and lateral fascicles; calycine teeth acute. ♄. S. Native of Java, on the top of Mount Burangrang. Ardísia avènis, Blume, bijdr. t. 691.

Veinless Myrsine. Tree 20 feet.

20 M. MADAGASCARIE'NSIS (Alph. D. C. l. c.) leaves oblong, obtuse, entire, glabrous, coriaceous, thick, beset with black dots beneath; flowers in fascicles, pentandrous, polygamous.? calycine lobes ovate, a little ciliated; berries globose, pedicellate. ♄. S. Native of Madagascar. Leaves 2-4 inches long, emarginate, attenuated into the petioles. Pedicels three lines long.

Madagascar Myrsine. Shrub or tree.

21 M. RAPA'NEA (R. Br. prod. 533. Rœm. et Schultes, syst. 4. p. 509.) glabrous; leaves obovate, entire, full of excavated dots on both surfaces: flowers pentandrous, male and hermaphrodite, in axillary and lateral fascicles; corolla white; calycine segments ovate, acute. ♄. S. Native of French Guiana, Island of Trinidad; and about Bahia, in Brazil. Rapànea Guianénsis, Aubl. guian. 1. p. 121. t. 46. Swartz, fl. ind. 1. p. 262. Lam. ill. t. 121, f. 1. Samàra pentándra, Swartz, descr. 262. but not of Ait. Samàrá floribúnda, Willd. spec. 1. p. 665. Caballèria coriàcea, Meyer. esseq. p. 118. Berries globose, violaceous, size of a grain of pepper. Flowers white. Leaves 4-5 inches long.

Rapanea Myrsine. Shrub 5-6 feet.

22 M. CORIA'CEA (R. Br. prod. p. 533. Rœm. et Schultes,

syst. 4. p. 509.) leaves ovate-lanceolate, acute, coriaceous; flowers pentandrous, hermaphrodite,? sessile, in axillary fascicles. ♄. S. Native of Jamaica, Cuba, and Porto Rico. Samàra coriàcea, Swartz, prod. 32. descr. 261. Willd. spec. 1. p. 665.

Coriaceous-leaved Myrsine. Fl. Nov. Feb. Clt. 1770. Tree.

23 M. FLORIDA'NA (Alph. D. C. in Lin. trans. 17. p. 107.) glabrous; leaves oval-oblong, entire, coriaceous, dotted beneath; fascicles few-flowered, but numerous; flowers pentandrous; calyx 5-parted. ♄. G. Native of Florida. Sideróxylon punctàtum, Lam. ill. no. 2460.? Bumèlia punctàta, Rœm. et Schultes, syst. 4. p. 498.? Branches beset with ovate white warts. Leaves 2-3 inches long, obtuse or acutish, shining above, dotted. Berries globose, spotted. Allied to M. *Manglílla*, but the leaves are more oblong, and on shorter petioles; and to M. *coriàcea*, from which it differs in the larger leaves, which are never emarginate; oval-oblong, not cuneate-oblong, &c.

Florida Myrsine. Shrub.

24 M. MANGLÍLLA (Rœm. et Schultes, syst. 4. p. 509. ex R. Br. prod. 533.) glabrous; leaves oblong, obtuse, white beneath; fascicles axillary and lateral, on short pedicels; calycine segments ovate. ♄. G. Native of Peru, about Lima. Sideróxylon Manglíllo, Lam. dict. 1. p. 245. Manglílla, Juss. gen. 151. Manglílla Peruviàna, Gmel. syst. p. 398. Scleróxylon Manglíllo, Willd. mag. 3. p. 59. Duhamèlia Manglíllo, Dombey. Caballèria oblónga, Ruiz. et Pav. syst. fl. per. 1. p. 280. Manglílla Jussièui, Pers. ench. 1. p. 237. Chrysophy'llum Manglílla, Lam. ill. 2. p. 45. Bumèlia Manglílla, Willd. spec. 2. p. 1087.

Manglilla Myrsine. Shrub or tree.

25 M. TRINITA'TIS (Alph. D. C. in Lin. trans. 17. p. 108.) leaves elliptic, acute at both ends, glabrous, entire, dotted beneath; fascicles few-flowered; flowers small, pedicellate, pentandrous. ♄. S. Native of Trinidad. M. coriàcea, Sieb. pl. exsic. trin. no. 50. and 302. Extremities of the branches rusty, and rather velvety. Leaves 1-2 inches long, paler and dotted beneath. Calycine lobes small, lanceolate. This species differs from *M. coriàcea* in the acute leaves and smaller glabrous flowers.

Trinidad Myrsine. Tree or shrub.

26 M. SALICIFÒLIA (Alph. D. C. l. c.) leaves elliptic, entire; petioles pilose; fascicles many-flowered; flowers pentandrous; calycine lobes ciliated; berries globose, marked with oblong spots. ♄. S. Native of Guadaloupe. Bumèlia salicifòlia, Bert. ined. in herb. Balb. Branches dotted, velvety at top. Leaves 1½ to 2 inches long, firm, paler and dotted beneath. Calycine segments ovate-oblong, marked with yellow oblong spots. Style short, obtuse. Very nearly allied to *M. Trinitàtis*.

Willow-leaved Myrsine. Tree or shrub.

27 M. BERTE'RII (Alph. D. C. l. c. p. 109.) branches puberulous; leaves oblong-lanceolate, acutish, entire, glabrous above, puberulous beneath and on the petioles; flowers nearly sessile, rather velvety, pentandrous; lobes of calyx and corolla obtuse. ♄. S. Native of Hispaniola. Sideróxylon Mastichodéndron, Balb. in herb. D. C. Branches and petioles as if they were covered with powder. Leaves 2 inches long, narrowed into the petioles. Flowers 4-5 in each fascicle. Berry globose, glabrous, terminated by the truncate style. This species comes very near *M. salicifòlia*, but the leaves are a little smaller, less acute, and are downy beneath, as well as the branches, petioles, and flowers.

Bertero's Myrsine. Shrub or tree.

28 M. FERRUGÍNEA (Spreng. syst. 1. p. 664) leaves lanceolate, acute, quite entire, coriaceous, rather pilose; flowers in fascicles, on short pedicels, hermaphrodite, pentandrous; lobes of calyx and corolla acute; stigma 2-lobed. ♄. G. Native of Peru, in mountain groves. Caballèria ferrugínea, Ruiz. et Pav. syst. 1. p. 210. Branches rather pilose. Leaves 2½ inches long, rusty and dotted beneath: having the petioles, and central nerve rufous and velvety. Calyx smoothish. Berry spotted much.

Rusty Myrsine. Shrub or tree.

29 M. RUFE'SCENS (Alph. D. C. in Lin. trans. 17. p. 109.) branches and nerves of leaves dotted with rufescent velvety down; leaves oblong-lanceolate, acute, entire, on long petioles; flowers tetrandrous; stigma 2-lobed, thickish. ♄. S. Native of Brazil, in the woods of Corcovado, near Rio Janeiro. Branches twiggy. Leaves 2-3 inches long, pale and dotted beneath. Flowers in fascicles at the base of the branches. Berry globose, full of elongated marks.

Rufescent Myrsine. Shrub.

30 M. LATIFÒLIA (Spreng. syst. 1. p. 664.) leaves oblong, quite entire, dotted on both surfaces; flowers numerous, pentandrous, conglomerate. ♄. G. Native of Peru, in the woods of Muna and Pillao. Caballèria latifòlia, Ruiz. et Pav. syst. 1. p. 279.

Broad-leaved Myrsine. Shrub or tree.

31 M. PELLU'CIDA (Spreng. l. c.) leaves obovate-oblong, dotted; dots pellucid, roundish on the upper surface, but linear on the under: flowers pentandrous, aggregate. ♄. G. Native of Peru, on the mountains, in woods. Caballèria pellùcida, Ruiz. et Pav. l. c.

Pellucid-dotted Myrsine. Shrub or tree.

32 M. DENTA'TA (Spreng. l. c.) branches dependent; leaves crowded, ovate and cordate, upper ones dentated; flowers racemose, pentandrous; style long; stigma depressed. ♄. G. Native of Peru, on the mountains. Caballèria dentàta, Ruiz. et Pav. l. c. p. 281.

Tooth-leaved Myrsine. Shrub or tree.

33 M. VENOSÍSSIMA (Spreng. l. c.) leaves oblong-lanceolate, quite entire, full of pellucid dots; flowers aggregate, pentandrous. ♄. G. Native of Peru, on the mountains. Caballèria venosíssima, Ruiz. et Pav. l. c. p. 282.

Very veiny-leaved Myrsine. Shrub or tree.

34 M. DEPE'NDENS (Spreng. l. c.) branches dependent, velvety; leaves crowded, broad-elliptic, retuse or mucronulated, entire, ciliated, shining above, full of dots beneath; flowers axillary, solitary or twin, on short pedicels, tetrandrous; calycine segments ovate, acute; lobes of corolla oblong, twice as long as the calyx. ♄. G. Native of Peru, on the higher mountains; and on Silla de Caraccas. Caballèria dependens, Ruiz et Pav. syst. 1. p. 281. Caballèria myrtifòlia, Deless. herb. ex Ruiz. et Pav. Mýrsine ciliàta, H. B. et Kunth. nov. gen. 3. p. 248. t. 245. Leaves 4-6 lines long. Stigma capitate. Berry ovate-globose, spotted with black.

Hanging-branched Myrsine. Shrub or tree.

35 M. POPAYE'NSIS (H. B. et Kunth. nov. gen. amer. 3. p. 249.) leaves oblong, tapering to both ends, bluntish, quite entire, revolute at the base, glabrous and shining above, but clothed with fine down or hairs beneath; umbels or fascicles axillary, sessile; flowers on short pedicels, pentandrous; calycine lobes ovate-acute, a little ciliated; stigma pentagonal. ♄. G. Native of New Granada, near Popayan, in mountainous places. Samàra myricoìdes, Rœm. et Schultes, mant. 3. p. 294. ex Kunth. in Linnæa. 1830. p. 367. Branches downy, clothed with rusty tomentum while young; segments of corolla marked with black lines, oblong, acute. Flowers white. Anthers yellow.

Popayan Myrsine. Tree 20 feet.

36 M. MYRICOÌDES (Schlecht. in Linnæa, 8. p. 525.) leaves oblong-lanceolate, attenuated into the petioles, with revolute edges, smoothish and shining above, but paler beneath, and clothed with soft down; nerves prominent beneath, and are, as

well as the petioles, young branches, and buds, beset with more dense rusty down; flowers aggregate on short pedicels. ♄. G. Native of Mexico, at Jalapa. Leaves 3-4 inches long, and 8-10 lines broad. Fruit small, globose, bluntly mucronate, seated on the 5-cleft stellate calyx, marked with lines, brownish. Calycine segments slightly ciliated. Stigma pentagonal.

Myrica-like Myrsine. Fl. March, May. Shrub.

* * *Stigma simple.*

37 M. ardisioìdes (H. B. et Kunth. nov. gen. amer. 3. p. 249.) leaves oblong, somewhat acuminated, cuneated at the base, quite entire, membranous, glabrous; corymbs axillary, sessile, few-flowered; pedicels glabrous; flowers pentandrous; calycine segments roundish-ovate, obtuse, dotted with glands. ♄. G. Native of Peru. Branches glabrous, brown. Leaves 4-5 lines long. Fascicles 6-7-flowered. Corolla white?, with revolute, ovate, obtuse segments, which are full of glandular dots. Berries dry, depressedly globose.

Ardisia-like Myrsine. Tree small.

38 M. penduliflòra (Moc. et Sesse, icon. fl. mex. ined. Alph. D. C. in Lin. trans. 17. p. 110.) glabrous; leaves ovate, bluntish, entire, narrowed into the petioles; umbels axillary, pendulous, one-half shorter than the petioles; flowers pentandrous; teeth of calyx ovate, acute, small; lobes of corolla ovate, acute, 3 times as large as the calyx; anthers lanceolate, sessile, inserted in the middle of the lobes of the corolla, and shorter than them; style acute, inclosed; berry globose. ♄. G. Native of Mexico. Leaves an inch long. Flowers either solitary, or 2-5 in a fascicle. Corolla pale red.

Pendulous-flowered Myrsine. Tree or shrub.

39 M. Canarie'nsis (Spreng. syst. 1. p. 663.) leaves oval-oblong, bluntish, almost sessile, large, glabrous, coriaceous, entire; flowers axillary, in fascicles, sessile; calyx 5-6-toothed; corolla 5-6-cleft: having the lobes linear-lanceolate; stamens inclosed, inserted in the middle of the corolla; anthers acute; style inclosed, acuminated. ♄. G. Native of Teneriffe. Scleróxylon Canariénse, Willd. mag. berol. nat. freund. 3. p. 59. Manglílla Canariénsis, Rœm. et Schultes, syst. 4. p. 505. Branches spotted with white. Leaves 4-6 inches long, and 2-4 broad. Flowers 3-8 in a fascicle. Lobes of calyx ovate, obtuse, a little ciliated. Berry globose. There are varieties of this having the leaves more or less full of pellucid dots, which are either round or oblong. Flowers whitish.

Canary Island Myrsine. Fl.? Clt. 1820. Tree 30-40 feet.

40 M. pachysa'ndra (Wall. in Roxb. fl. ind. 2. p. 297. cat. no. 2284.) branches velvety; leaves lanceolate, acuminated, entire, dotted, glabrous above, rather pilose beneath, having the lateral nerves arched; flowers fascicled, pedicellate, hermaphrodite, pentandrous; calycine lobes ovate, ciliated; corolline lobes reflexed; anthers large, triangular, connate at the time of flowering; style acuminated. ♄. S. Native of Penang and Singapore. This is an anomalous species: the dots on the leaves and flowers are more like those of *Ardísia* than *Mýrsine*; but the inflorescence is that of *Mýrsine*. The alabastrum is spirally twisted, and the æstivation imbricate. Perhaps a new genus.

Thick-anthered Myrsine. Tree small.

† *Species unknown, or very doubtful.*

41 M. sca'bra (Gærtn. fruct. 1. p. 282.) ♄. G. Native of the Cape of Good Hope. Perhaps the same as M. *Africàna*, *var. β, retùsa.*

Scabrous Myrsine. Shrub 3-6 feet.

42 M. læ'ta (Alph. D. C. in Lin. trans. 17. p. 112) leaves ovate, obtuse, or lanceolate-elliptic, even on both sides; flowers fascicled, pedicellate, hardly longer than the petioles. ♄. S. Native of the West Indies. Samàra læ'ta, Lin. mant. 199. syst. 159. Swartz, prod. 151. Memècylon umbellàtum, Lin. fl. zeyl. no. 469. Burm. ind. 87. fl. zeyl. 76. t. 31. Branches purplish. Flowers numerous, yellow.

Joyful Myrsine. Shrub 6-10 feet.

43 M. myrtifòlia (Alph. D. C. l. c.) leaves elliptic, acute; flowers white. ♄. G. Native of South America. Samàra myrtifòlia, Rœm. et Schultes, mant. 3. p. 220. This plant is entirely unknown to Kunth, see Linnæa, 1830. p. 376. It is perhaps the same as M. *depéndens*, which is marked *Caballèria myrtifòlia* in Deless. herb.

Myrtle-leaved Myrsine. Shrub or tree.

44 M. salígna (Alph. D. C. l. c.) leaves oblong-lanceolate, bluntish, narrowed at the base, clothed with rufous tomentum on the middle nerve beneath, as well as the petioles and branches; flowers pentandrous. ♄. G. Native of South America. Samàra salígna, Willd. mss. ex Rœm. et Schultes, mant. 3. p. 220. This species is also unknown to Kunth. see Linnæa. 1830, p. 367. Flowers sometimes tetrandrous and hexandrous.

Willowy Myrsine. Shrub or tree.

Cult. The species of this genus grow well in any light rich soil, or a mixture of loam, peat, and sand; and cuttings, not too ripe, root readily if planted in a pot of sand, with a hand-glass placed over them: those of the tropical species require a little heat.

VII. BA'DULA (a name used by Burman, in his Flora Zeylanica.) Juss. gen. 420, exclusive of the syn. Burm. zeyl. Alph. D. C. in Lin. trans. 17. p. 112. Barthèsia, Comm. in herb. mus. par. Anguillària species, Lam. ill. Mýrsine species, Rœm. et Schultes, syst. vol. 4.

Lin. syst. *Pentándria Monogýnia.* Calyx 5-lobed (f. 4. *a.*). Corolla 5-cleft (f. 4. *b.*). Stamens 5, shorter than the corolla; anthers almost sessile, acute, free, 2-celled (f. 4. *d.*); cells bursting by a longitudinal chink. Style shorter than the stamens; stigma thick, capitate or obscurely-lobed (f. 4. *c.*). Berry globose.—Trees or shrubs. Leaves alternate, entire, dotted. Inflorescence like that of *Ardísia*, that is, the pedicels are approximate or umbellate at the extremities of the peduncles. The species are all natives of the Mauritius or Bourbon.

1 B. micra'ntha (Alph. D. C. in Lin. trans. 17. p. 112.) peduncles velvety; leaves broad-oblong, obtuse, glabrous; panicles terminal, pyramidal, many-flowered, longer than the leaves; flowers small, velvety; alabastra globose. ♄. S. Native of the Island of Bourbon and the Mauritius. Leaves $1\frac{1}{2}$ to 2 inches long, dotted. Lobes of calyx small, acute; those of the corolla ovate, obtuse. Stigma obtuse.

Small-flowered Badula. Shrub or tree.

2 B. Barthe'sia (Alph. D. C. l. c. p. 113.) leaves lanceolate, acutish, tapering a long way at the base, glabrous, thin, dotted; peduncles racemose, many-flowered, rather shorter than the leaves; calycine lobes obtuse, ciliated; anthers acute; stigma capitate, obscurely-lobed. ♄. S. Native of the Mauritius. Barthèsia, Comm. in herb. mus. par. Bádula, Juss. gen. p. 240. Anguillària Barthèsia, Lam. ill. no. 2742. Mýrsine Barthèsia, Rœm. et Schultes, syst. 4. p. 507. Bark of branches yellow. Leaves half a foot long, besprinkled with reddish dots. Corolla white.

Barthesia Badula. Shrub or tree.

3 B. insula'ris (Alph. D. C. l. c.) glabrous; leaves ovate, obtuse, coriaceous; peduncles shorter than the leaves; pedicels alternate; calyx 5-parted; alabastra ovate; stigma obtuse. ♄. S. Native of the Isle of Bourbon or the Mauritius. Branches rusty. Leaves 1-3 inches long. Lobes of calyx acute, ciliated a little.

Island Badula. Shrub or tree.

4 B. Siebe'rii (Alph. D. C. l. c. t. 5.) leaves obovate, obtuse, petiolate, full of pellucid dots, glabrous; peduncles axillary, 4 times shorter than the leaves, 4-8-flowered; alabastra obtuse; calycine lobes ovate, acute, a little ciliated; anthers cuspidate. ♄. S. Native of the Mauritius. Ardísia latifòlia, Sieb. fl. maur. 11. p. 53, but not of Rœm. et Schultes. Leaves 3-4 inches long, full of pellucid dots, approximate at the tops of the branches. Peduncles velvety. Corolla white, dotted; lobes obtuse. Stigma peltate, or somewhat 2-lobed. (f. 4.)

FIG. 4.

Sieber's Badula. Shrub or tree.

5 B. ovalifòlia (Alph. D. C. l. c. p. 114.) glabrous; leaves ovate, acute at both ends, membranous, full of black dots; peduncles 3 times shorter than the leaves; alabastra ovoid, full of dots; anthers nearly sessile; style short, obtuse. ♄. S. Native of the Mauritius. Leaves 3-6 inches long. Peduncles dotted like the flowers. Calycine segments simple, acute. Lobes of corolla ovate, acute.

Oval-leaved Badula. Shrub or tree.

6 B. cra'ssa (Alph. D. C. l. c.) glabrous; branches thick; leaves elliptic, or oblong, obtuse, coriaceous; peduncles shorter than the leaves; pedicels alternate, short. ♄. S. Native of the Isle of Bourbon and the Mauritius. Leaves 3-5 inches long, full of pellucid dots. Lobes of calyx obtuse. Berry globose.

Thick-branched Badula. Shrub or tree.

7 B. angustifòlia (Alph. D. C. l. c.) leaves lanceolate, acute at both ends, nearly entire, dotted, glabrous; peduncles velvety, stiff, rather longer than the leaves. ♄. S. Native of Bourbon, in the more elevated places. Branches rusty. Leaves 12-15 lines long, shining above. sometimes irregularly toothed on one side, towards the apex. Calyx rather pilose: with acute lobes. Berry globose. Stigma obtuse.

Narrow-leaved Badula. Shrub or tree.

Cult. For culture and propagation see *Ardísia*, p. 20.

VIII. ONCOSTE'MUM (from *ογκος*, *onkos*, a mass; and *στημων*, *stemon*, a stamen; the stamens are combined into an egg-formed mass in the first species). Adr. Juss. ann. mus. 19. p. 136. t. 11. Alph. D. C. in Lin. trans. 17. p. 115.

Lin. syst. *Pentándria Monogýnia.* Calyx and corolla 5-cleft. Stamens combined into an ovoid or cylindrical mass, which is joined to the tube of the corolla at the base: or is 5-toothed at the apex. Ovarium superior. Style simple.—Stigma funnel-shaped, nearly entire, or denticulated, &c. Shrubs, natives of Madagascar, with the habit of *Ardísia* and *Bádula*.

1 O. Commersonia'num (Andr. Juss. l. c. t. 11.) leaves lanceolate or oblong-obovate, and bluntly acuminated; peduncles and pedicels quite glabrous; calyx 5-cleft; stamens conferruminated into an egg-formed mass. ♄. S. Native of Madagascar.

Commerson's Oncostemum. Shrub or tree.

2 O. Capeliera'num (Juss. l. c. p. 137.) leaves lanceolate, or oblong-obovate, and bluntly acuminated; peduncles and pedicels hairy, as well as the calyxes; calyx 5-parted; stamens combined into a 5-toothed tube. ♄. S. Native of Madagascar.

Capelier's Oncostemum. Shrub or tree.

Cult. See *Ardísia*, p. 20, for culture and propagation.

IX. ARDI'SIA (from *αρδις*, *ardis*, a point, in reference to the acute, spear-pointed anthers.) Swartz, prod. p. 48. Schreb. gen. no. 1735. R. Br. prod. p. 533. Roxb. fl. ind. 2. p. 268. Alph. D. C. in Lin. trans. 17. p. 116. Anguillària, Gærtn. fruct. 1. p. 372. t. 77. Schreb. gen. p. 823. no. 345. Bládhia, Thunb. fl. jap. p. 7. Py'rgus, Lour. coch. p. 120.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft (f. 5. *a.*) Corolla 5-cleft (f. 5. *b.*); lobes imbricate in æstivation. Stamens 5, with free filaments; anthers free, rarely combined, equal to the filaments in length, or longer, erect, triangular, acute or acuminated, 2-celled; cells dehiscing by a longitudinal chink. Ovarium globose. Style filiform, permanent, longer than the stamens. Stigma simple, subulate, or dot-formed. Ovula 5, ex R. Br. or more. Berry globose.—Trees shrubs and subshrubs. Leaves alternate, rarely almost opposite, or 3 in a whorl, dotted. Flowers more or less panicled. Panicles sometimes many-flowered at the extremities of the branches, and longer than the leaves; sometimes few flowered, and in the axils of the leaves; pedicels rather umbellate at the tops of the peduncles. Flowers larger than those of *Myrsine*, always hermaphrodite, white or rose-coloured, and often dotted.

Sect. I. Ardísiæ ve'ræ (this section contains the legitimate species of the genus.) Alph. D. C. in Lin. trans. 17. p. 116. Anthers free, longer than the filaments. Style subulate, longer than the stamens. Bracteas much shorter than the pedicels.

§ I. *Leaves entire, glabrous.*

1 A. acumina'ta (Willd. spec. 2. p. 1062) leaves oblong, acuminated, attenuated at the base; panicles terminal and axillary, many-flowered; lobes of calyx small, acute, dotted. ♄. S. Native of Guiana, in cultivated fields. Sims, bot. mag. t. 1678. Icacòrea Guianénsis, Aubl. guian. suppl. l. t. 368. Corolla nearly white.

Acuminated-leaved Ardisia. Fl. July, Aug. Clt. 1803. Shrub 6-8 feet.

2 A. tinifòlia (Swartz, prod. 48. fl. ind. occ. 1. p. 468.) leaves elliptic, nerved; panicle terminal; calycine segments subulate. ♄. S. Native of Jamaica, on the mountains.—Sloane, jam. 2. p. 98. t. 105. Leaves dark green, 4 inches long, and 2 broad. Corollas pale red, revolute.

Tinus-leaved Ardisia. Fl. Jul. Aug. Clt. 1820. Tr. 20-30 ft.

3 A. laurifòlia (Alph. D. C. in Lin. trans. 17. p. 116.) leaves ovate-lanceolate, obtuse, coriaceous, glabrous; racemes simple, axillary, and terminal. ♄. S. Native of the Antilles. A. latifòlia, Rœm. et Schultes, syst. 4. p. 514. Anguillària laurifòlia, Lam. ill. 2. p. 109. no. 2741. Very nearly allied to *A. coriàcea*, except in the shape of the leaves and the disposition of the flowers.

Laurel-leaved Ardisia. Tree.

4 A. macula'ta (Poiteau, in herb. D. C. ex Alph. D. C. in Lin. trans. 17. p. 116.) leaves oblong, obtuse, coriaceous; panicle terminal, branched, many-flowered, pyramidal; calycine lobes oval, obtuse, large; berry spotted. ♄. S. Native of Hispaniola. A. Domingénsis, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 803. ? Leaves 2 to $2\frac{1}{2}$ inches long.

Spotted-berried Ardisia. Shrub or tree.

5 A. cestrifòlia (H. B. et Kunth, nov. gen. amer. 7. p. 212.) branches rather angular; leaves glabrous, lanceolate-oblong, acuminated, cuneated at the base, quite entire, dotless; panicles axillary and terminal, sessile, crowded, glabrous; flowers pedicellate, racemose, 4-5-androus. ♄. S. Native of the Andes, about Quindiu. Calycine segments ovate, bluntish. Segments of the corolla oblong, acute.

Cestrum-leaved Ardisia. Shrub.

6 A. Capollìna (Moc. et Sesse, icon. mex. ined. ex Alph.

D. C. in Lin. trans. 17. p. 116.) leaves lanceolate, acute at both ends, shining; panicle terminal, compound, longer than the leaves: peduncles alternate; pedicels umbellate; lobes of corolla ovate, acute, reflexed, 4 times as long as the calyx. ♄. S. Native of Mexico, where it is called *Capollin*. Bracteas caducous. Berry globose, wine-coloured. Flowers of a pale rose-colour.

Capollin Ardisia. Shrub or tree.

7 A. revolu'ta (H. B. et Kunth, nov. gen. amer. 3. p. 246.) glabrous; leaves rather membranous, oblong, obtuse, cuneated at the base and revolute; panicles terminal, simple; pedicels fasciculate or umbellate; lobes of calyx obtuse, full of glandular dots; berry nearly globose. ♄. S. Native of Mexico, on the western declivities of the mountains near La Venta de Moxonera, in oak woods; and in woods near Jalapa. Leaves same colour on both surfaces, full of glandular dots, $4\frac{1}{2}$ inches long. Flowers white. Berries dry, about the size of a peppercorn, wrinkled, glandular.

Revolute-leaved Ardisia. Tree 30 to 40 feet.

8 A. compre'ssa (H. B. et Kunth, nov. gen. amer. 3. p. 245.) glabrous; branches compressed; leaves obovate-oblong, short-acuminated, nearly quite entire; panicles terminal, sub-racemose; pedicels in umbellate fascicles; lobes of calyx roundish-ovate, obtuse; lobes of corolla oblong, obtuse, revolute, glandular. ♄. S. Native of New Andalusia, in temperate places, near the monastery of Caripe. Branches pendulous. Leaves membranous, full of pellucid dots, palest beneath, 5-6 inches long. Corolla white. Berry dry, smooth.

Compressed-branched Ardisia. Tree 15 feet.

9 A. durifòlia (H. B. et Kunth, nov. gen. amer. 7. p. 214.) branches terete, glabrous; leaves obovate-oblong, obtuse, and somewhat retuse, running into the petioles at the base, revolute on the edges, quite entire, beset with scaly dots beneath, as well as the panicles; flowers racemose. ♄. S. Native on the Andes, about Quindiu. Flowers white. Calyx calyptrate before expansion, divided into 2-4 unequal segments. Corolla pentapetalous; petals oblong, revolute, valvate in æstivation.

Hard-leaved Ardisia. Tree 20 feet.

10 A. micra'ntha (H. B. et Kunth, l. c. 3. p. 246.) glabrous; leaves oblong, acute; panicles terminal and lateral, simple, crowded: with short branches; pedicels in umbellate fascicles; lobes of calyx and corolla elliptic, obtuse. ♄. S. Native of South America, on the banks of the river Magdalena, near Teneriffe. Bumèlia micrántha, Willd. mss. ex Rœm. et Schultes, syst. 4. p. 805. Branches brown, beset with linear purple dots. Leaves and flowers full of glandular dots, 5-6 inches long. Corolla small, white. Stigma truncate.

Small-flowered Ardisia. Tree.

11 A. Orinoce'nsis (H. B. et Kunth, l. c. p. 244.) leaves oblong, acute; panicles terminal and lateral, almost simple; pedicels in umbellate fascicles; lobes of calyx ovate, obtuse, with diaphanous margins; lobes of corolla ovate-roundish, obtuse, reflexed. ♄. S. Native on the banks of the river Orinoco, between the falls of Ature and the town of St. Borja. Branches brownish. Leaves rather membranous, paler beneath, $1\frac{1}{2}$ inch long. Corolla white, full of glandular dots. Very like *A. coriàcea*.

Orinoco Ardisia. Fl. May. Tree.

12 A. propínqua (H. B. et Kunth, nov. gen. amer. 7. p. 213.) branches nearly terete, warted; petioles and leaves glabrous; leaves elliptic-oblong, acute at both ends, quite entire, membranous, full of glandular dots; racemes terminal, solitary, always simple, glabrous; fruit pedicellate. ♄. S. Native of South America, near the banks of the Orinoco.

Allied Ardisia. Shrub.

13 A. ferrugínea (H. B. et Kunth, l. c. 3. p. 244.) branches, petioles, and panicles clothed with rusty tomentum; leaves oblong, acuminated, glabrous and shining above, and clothed with fuscescent down beneath; panicles terminal, almost simple; pedicels in umbellate fascicles; lobes of calyx ovate, acute. ♄. S. Native along with the preceding. Leaves narrowed at the base, membranous, full of glandular dots, $4\frac{1}{2}$ inches long. Berry glabrous. Habit of *A. crenàta*.

Rusty Ardisia. Shrub.

14 A. thyrsiflòra (D. Don, prod. fl. nep. p. 148.) leaves lanceolate; panicles thyrsoid, terminal; segments of corolla roundish-ovate, acute; anthers almost sessile. ♄. S. Native of Nipaul.

Thyrse-flowered Ardisia. Clt. 1824. Shrub.

15 A. purpu'rea (Blum. bijdr. p. 684.) leaves oblong, acuminated at both ends, quite entire, coriaceous, glabrous; panicle terminal, pyramidal; pedicels subumbellate; calycine segments rounded. ♄. S. Native of Java and Nusæ-Kambanga, in mountain woods, where it is called *Kilampani*.

Purple Ardisia. Fl. year. Shrub.

16 A. mucrona'ta (Blum. bijdr. p. 685.) leaves oblong, acuminated at both ends, mucronately awned at the apex, quite entire, coriaceous, glabrous; panicle terminal, short; pedicels umbellate; calycine segments rounded. ♄. S. Native of Java, in the province of Krawang, near Tjiradjas, in mountain woods.

Mucronate-leaved Ardisia. Shrub or tree.

17 A. sanguinole'nta (Blume, l. c. but not of Wall.) leaves oblong, acuminated, acute at the base, quite entire, coriaceous, glabrous; panicle terminal, divaricate; pedicels umbellate; calycine teeth acute. ♄. S. Native of Java, in shady places on the Parang mountains. Nearly allied to *A. speciòsa*, Bl. but the flowers are much smaller.

Bloody-flowered Ardisia. Shrub or tree.

18 A. Ròthii (Alph. in Lin. trans. 17. p. 117.) leaves oblong, obtuse, attenuated at both ends, glabrous, quite entire; raceme terminal, pyramidal; peduncles alternate, compressed, umbelliferous; stem arboreous. ♄. S. Native of the East Indies. A. pyramidàlis, Roth. nov. spec. p. 123. exclusive of the syn. of Cav. This species differs from A. pyramidàlis, Cav. in the leaves being quite entire.

Roth's Ardisia. Shrub 5 feet.

19 A. Py'rgus (Rœm. et Schultes, syst. 4. p. 518. ex R. Br. prod. 533.) leaves ovate-lanceolate, quite entire, glabrous, on short petioles; racemes ovate-oblong, terminal; segments of corolla lanceolate. ♄. G. Native of Cochin-china. Pýrgus racemòsa, Lour. coch. p. 121. A shrub with spreading branches. Flowers reddish-white.

Tower Ardisia. Shrub 5 feet.

20 A. lanceola'ta (Roxb. fl. ind. 2. p. 275. Wall. cat. no. 2292.) glabrous; leaves broad-lanceolate, shining; panicles terminal and axillary, composed of a few simple racemes; segments of calyx ovate; lobes of corolla ovate, pointed. ♄. S. Native of Pulo Penang. Leaves 6-9 inches long and 2-3 broad. Style length of stamens.

Lanceolate-leaved Ardisia. Fl. July. Clt. 1820. Shrub.

21 A. panicula'ta (Roxb. fl. ind. 2. p. 270.) glabrous; leaves cuneate-oblong, almost sessile, reflexed; panicles terminal, oval, composed of many alternate compound branches; segments of calyx and corolla ovate. ♄. S. Native of Chittagong and Silhet, where it makes a conspicuous appearance, on account of its large reflexed leaves, and very ample elegant panicles of innumerable rose-coloured flowers. Ker. bot. reg. 638. Sims, bot. mag. 2364. Young shoots thick, green. Leaves from 6-20 inches long, and from 3-5 inches broad, crowded at the ends of the branches. Berries red, smooth, size of a pea, juicy.

Panicled-flowered Ardisia. Fl. year. Clt. 1818. Shrub 8 to 10 feet.

22 A. a'nceps (Wall. in Roxb. fl. ind. 2. p. 280.) glabrous; branches climbing, 2-edged; leaves oblong-lanceolate, acuminated; panicles terminal: with flattened, nearly smooth ramifications; segments of calyx lanceolate, acute, of the corolla ovate, acute. ♄. S. Native of Silhet. Branches pale grey. Leaves 5-10 inches long, coriaceous. Pedicels subumbellate. Flowers small, pink, dotted.

Two-edged-branched Ardisia. Shrub cl.

23 A. complana'ta (Wall. in Roxb. fl. ind. 2. p. 280. cat. no. 2277.) branches terete; leaves oblong-lanceolate, acuminated glabrous; panicles axillary and terminal: with villous, divaricate, flexuous ramifications; lobes of calyx triangular, acute, ciliated, dotted. ♄. S. Native of Penang and about Chappedong. A. polycárpa, Wall. cat. no. 2285. A rambling subscandent shrub. Branches rather tomentose and rusty while young. Leaves coriaceous, 6-8 inches long. Pedicels in umbellate fascicles. Flowers small, pink. Berries dark purple. Very like *A. ánceps*, but is readily distinguished by its terete branches.

Flattened-peduncled Ardisia. Clt. 1824. Shrub cl.

24 A. sca'ndens (Blum. bijdr. p. 686.) leaves oval, rounded at the apex, acute at the base, quite entire, glabrous; panicles terminal, drooping; pedicels racemose; calycine teeth acute; stem climbing. ♄. S. Native of Java, in mountain woods, where it is called *Ojot Katjambang* and *Kibaralalakkie*.

Climbing Ardisia. Shrub cl.

25 A. Blu'mii (Alph. in D. C. Lin. trans. 17. p. 117.) leaves oblong-lanceolate, acuminated at both ends, subrepand, glabrous, finely dotted beneath; panicles axillary and terminal, short; pedicels subumbellate; calycine teeth roundish; branchlets 2-edged. ♄. S. Native of the island of Nusæ Kambanga, where it is called *Sikattan*. A. ánceps, Blum. bijdr. p. 685. but not of Wall.

Blume's Ardisia. Shrub cl.

26 A. floribu'nda (Wall. in Roxb. fl. ind. 2. p. 272. cat. no. 2263.) young shoots and tender leaves covered on both sides with dense, scaly, purple, loose tomentum; leaves crowded towards the tops of the branches, oblong-lanceolate, acuminated at both ends, very obscurely crenulated, coriaceous, shining above and glaucous beneath; panicles terminal, oval; pedicels umbellate; calyx dotted: with ovate, acute lobes; segments of corolla ovate, acute. ♄. G. Native of Nipaul, on Sheopore, and of Noakote. Leaves 5-6 inches long. Flowers small, red.

Bundle-flowered Ardisia. Shrub 10 feet.

27 A. missiònis (Wall. cat. no. 6524. Alph. D. C. in Lin. trans. 17. p. 117.) glabrous; leaves oblong-lanceolate; panicle terminal, loose, length of leaves; lobes of calyx ovate, acute. ♄. S. Native of the East Indies. Leaves crowded at the extremity of the branches, 4-5 inches long. Peduncles axillary, remotish, 3-6-flowered. Lobes of corolla lanceolate, acuminated.

Mission Ardisia. Shrub or tree.

28 A. hu'milis (Vahl. symb. p. 40. Blum. bijdr. p. 687.) glabrous; leaves oblong-lanceolate, acuminated at both ends, glabrous, veined, shining; umbels simple, axillary, pedunculate; flowers drooping; segments of calyx short and rounded, ciliated; lobes of corolla lanceolate, first recurved, then revolute. ♄. S. Native of Coromandel, Nipaul, Bengal, Martaban, Ceylon, Sumatra, Java, Penang, &c. A. solonàcea, Roxb. cor. 1. p. 22. t. 27. Sims, bot. mag. 1677. Wall. cat. 2283. A. littoràlis, Andr. bot. rep. 630. A. dòma, Wall. cat. no. 2283. A. oleràcea, Wall. cat. 2283. G. A. umbellàta, Roxb. fl. ind. 2. p. 273. Lodd. bot. cab. 531. Wall. cat. no. 2283. A. nàna, Wall. cat. no. 2283. L. Leaves deep green, 3-4 inches long and about 2 broad. Peduncles solitary, bearing each a simple racemose umbel of many pretty, large, drooping, rose-coloured flowers. Anthers united by their heads into a cone. Berry size of a pea, shining, black, juicy. Blume says the racemes are compound and divaricate, composed of umbels of flowers.

Var. β; leaves more acute, membranous, with rather prominent nerves; peduncles and pedicels elongated, few-flowered. ♄. S. Native of the mountains of Silhet. A. solonàcea, Wall. cat. 2283. A. K.

Var. γ; flowers large; bracteas more ample. ♄. S. Native of the Nelligherry mountains. A. grandiflòra, Wall. cat. no. 2372.

Var. δ; leaves larger, shining on both surfaces. ♄. S. A. Wightiàna, Wall. cat. no. 2330.

Humble Ardisia. Fl. Ju. Sept. Clt. 1798. Shrub 4 to 8 ft.

29 A. lu'rida (Blum. bijdr. p. 687.) leaves oblong-lanceolate, acuminated at both ends, quite entire, coriaceous, glabrous; panicles umbellately racemose, axillary; calycine segments rounded. ♄. S. Native of Java, on the western mountains, and near Tjiradjas.

Lurid Ardisia. Fl. year. Shrub.

30 A. neriifòlia (Wall. cat. no. 2278. Alph. D. C. in Lin. trans. 17. p. 118. t. 8.) leaves oblong, acuminated, on long petioles, with the nerves rather distinct; panicles loose, terminal, and lateral, shorter than the leaves; peduncles and pedicels rather velvety; calycine segments small, acute, ciliated; lobes of corolla ovate, acuminated; style exserted; anthers cuspidate, almost sessile. ♄. S. Native of Silhet. Peduncles sometimes elongated and cirrhose.

Var. β, *montàna* (Alph. D. C. l. c.) leaves oblong-lanceolate, long-acuminated; pedicels shorter; calycine segments broader; alabastra small, acuminated. ♄. S. A. neriifòlia? β. Wall. cat. no. 2278.

Nerium-leaved Ardisia. Shrub or tree.

31 A. escallonioìdes (Cham. et Schlecht. in Linnæa. 6. p. 393.) glabrous; leaves cuneated-obovate, quite entire, paler beneath, ending in a blunt acumen; panicle terminal, formed from dense-flowered erect racemes, pyramidal; calycine segments elliptic, obtuse. ♄. G. Native of Mexico, in woods at Papantla. Leaves 4 inches long, with the petioles. Flowers white. Berries black.

Escallonia-like Ardisia. Shrub or tree.

32 A. dive'rgens (Roxb. fl. ind. 2. p. 275. Wall. cat. no. 2269.) glabrous; branches diverging; leaves ovate-lanceolate, attenuated at both ends, almost sessile; peduncles rather velvety, bearing a few small, alternate umbellets or corymbs. ♄. S. Native of the Moluccas and Penang. A. punctàta, Jack, ined. ex Roxb. fl. ind. l. c. Leaves 4-5 inches long. Corymbs terminal, paniculate.

Diverging-branched Ardisia. Shrub.

33 A. polyce'phala (Wall. cat. no. 2293.) glabrous; leaves oblong, acute, ample, unequally revolute on the margins beneath; peduncles numerous at the tops of the branches, compressed, one half shorter than the leaves; flowers densely racemose; calycine lobes obtuse; alabastra acute; style inclosed. ♄. S. Native of the East Indies, on the banks of the river Atran. Leaves 5-7 inches long, $1\frac{1}{2}$ and $2\frac{1}{2}$ inches broad, coriaceous. Pedicels incurved, approximate at the tops of the peduncles. Lobes of corolla acuminated. Berry black, striated.

Many-headed Ardisia. Shrub.

34 A. tuberculà'ta (Wall. cat. no. 2274.) leaves ovate-acuminated, coriaceous, dotted everywhere; racemes axillary and terminal, many-flowered, shorter than the leaves; peduncles rather compressed, glabrous; calycine segments ovate-acute, a little ciliated. ♄. S. Native of Singapore. Branches angularly compressed at the apex. Leaves 2-4 inches long, narrowed at the base, full of resinous dots. Pedicels umbellulate. Flowers small.

Tubercled Ardisia. Shrub or tree.

35 A. attenua'ta (Wall. cat. no. 2286.) glabrous; leaves oblong-lanceolate, acuminated at both ends, much dotted on the edges; peduncles axillary, elongated; flowers racemose; pedicels and peduncles glabrous; calycine lobes ovate, acute, a little ciliated. ♄. S. Native of the Burman empire, about Tavoy. Leaves 5-8 inches long. Pedicels thickened a little at the apex. Berry smoothish.

Attenuated-leaved Ardisia. Shrub.

36 A. elli'ptica (Thunb. nov. gen. pt. 8. ups. 1795. ex Rœm. et Schultes, syst. 4. p. 517.) glabrous; branches angular; leaves elliptic; panicles lateral. ♄. S. Native of Ceylon. Leaves a hand long. Stem terete.

Elliptic-leaved Ardisia. Tree.

37 A. oxyphy'lla (Wall. cat. no. 2291.) glabrous; leaves elliptic, acute at both ends, much dotted on the margins; peduncles terminal and axillary, shorter than the leaves; pedicels loosely umbellate; calycine segments ovate, a little ciliated; lobes of corolla lanceolate; style inclosed. ♄. S. Native of Penang. Leaves 4-5 inches long, stiff, shining. Inflorescence like that of *A. humilis*, but the flowers are smaller and less numerous.

Sharp-leaved Ardisia. Shrub.

38 A. eugeniæfo'lia (Wall. cat. no. 2276.) leaves oblong-lanceolate, acute at the base, and acuminated at the apex: having the nerves thick, and arched near the margin; peduncles axillary, short, panicled, many-flowered, much shorter than the leaves; pedicels and calyx velvety; segments of calyx and corolla ovate-acute; style exserted. ♄. S. Native of Silhet, on the mountains. Leaves 3-6 inches long, dotted.

Eugenia-leaved Ardisia. Shrub.

39 A. arbore'scens (Wall. cat. no. 2289.) glabrous; leaves oblong-lanceolate, acute, coriaceous; peduncles axillary, elongated, stiff; panicles loose, shorter than the leaves; pedicels long; calycine lobes ovate, acute. ♄. S. Native of the Burman empire, on Mount Taong Dong. Leaves 5-7 inches long. Peduncles often compressed.

Arborescent Ardisia. Tree.

40 A. Amherstia'na (Alph. D. C. in Lin. trans. 17. p. 120.) leaves oblong, acute; peduncles terminal, and are, as well as the pedicels downy; flowers umbellate; calycine segments ovate, obtuse, ciliated, velvety on the back; lobes of corolla ovate, acute; style inclosed. ♄. S. Native of the province of Martaban, near the town of Amherst. A. refléxa, Wall. cat. no. 2282. part. Branches silky at top and fulvous. Leaves 6-8 inches long. Flowers numerous.

Lady Amherst's Ardisia. Shrub.

41 A. pauciflo'ra (Heyne, herb. Roxb. fl. ind. 2. p. 279. Wall. cat. no. 2270.) glabrous; leaves lanceolate or oblong-lanceolate, acuminated; petioles short; peduncles lateral and axillary, 2-3-flowered. ♄. S. Native of the East Indies, at Wynaad? Young branches clothed with rusty dense scaly tomentum. Leaves 4-5 inches long, tapering into a bluntish sometimes retuse acumen. Flowers small.

Few-flowered Ardisia. Shrub.

42 A. tenuiflo'ra (Blum. bijdr. p. 686.) leaves oblong-lanceolate, bluntish, quite entire, glabrous; panicles divaricate, axillary, and terminal; pedicels racemose; calycine teeth acute; stem scandent; flowers very minute. ♄. ب. S. Native of Java, in the provinces of Buitenzorg and Bamtam, in woods, where it is called *Kitjambang*.

Var. β; leaves rounded at the base. ♄. S. Native at the foot of Mount Salak.

Fine-flowered Ardisia. Fl. year. Shrub cl.

43 A. nu'tans (Alph. D. C. in Lin. trans. 17. p. 121.) leaves oblong-lanceolate, bluntish, lined transversely, quite entire, glabrous, dotted beneath, clothed with fuscous tomentum while young, as well as the branchlets; umbels simple, axillary, and terminal, nutant; segments of calyx acute. ♄. S. Native of the island of Nusæ Kambanga, in shady places on the banks of rivulets. A. punctàta, Blum. l. c. p. 687. but not of Lindl.

Drooping-flowered Ardisia. Shrub.

44 A. margina'ta (Blum. bijdr. p. 688.) leaves lanceolate, acuminated at both ends, quite entire, glabrous, finely dotted beneath, with parallel transverse stripes, and girded on the margin by the approximation of veins and stripes; umbels subcorymbose, axillary; calycine teeth acute. ♄. S. Native of Java, on Mount Burangrang, in the higher woods.

Marginate-leaved Ardisia. Shrub.

45 A. læviga'ta (Blum. bijdr. p. 690.) leaves oblong, acuminated at both ends, quite entire, coriaceous, glabrous; racemes axillary and lateral, simple; calycine segments acuminated. ♄. S. Native of Java, on the top of Mount Gede.

Smooth Ardisia. Shrub.

46 A. obova'ta (Blum. bijdr. p. 688.) leaves obovate, rounded or obtuse at the top, quite entire, coriaceous, glabrous, marked with fine parallel stripes; flowers subumbellately racemose, axillary; calycine segments rounded. ♄. S. Native of the island of Nusæ Kambanga, on the sea shore, where it is called *Lampanee*.

Obovate-leaved Ardisia. Fl. Sept. Oct. Shrub.

47 A. cymo'sa (Blum. bijdr. p. 689.) leaves oblong, bluntish, attenuated at the base, quite entire, transversely striated; petioles, branchlets, and peduncles beset with rusty, leprous-like dots; cymes compound, axillary, and terminal, pedunculate; pedicels umbellate; teeth of calyx acute. ♄. S. Native of Java, in the province of Bamtam, among bushes.

Cymose-flowered Ardisia. Fl. Aug. Shrub.

48 A. oblo'nga (Alph. D. C. in Lin. trans. 17. p. 121.) leaves oblong, acuminated, dotted; peduncles nearly terminal, much shorter than the leaves; pedicels umbellate, few-flowered, and are, as well as the peduncles, glabrous; calycine lobes ovate, obtuse, a little ciliated. ♄. S. Native about Tavoy. A. attenuàta, Wall. cat. no. 2286. part. see no. 35. Leaves 4-5 inches long. Pedicels often reflexed. Berry smoothish.

Oblong-leaved Ardisia. Shrub or tree.

49 A. oxya'ntha (Wall. cat. no. 2275. Alph. D. C. l. c.) leaves lanceolate, acuminated at both ends, thin; flowers few, axillary; peduncles 1-flowered, filiform, about equal in length to the petioles; calycine segments lanceolate, a little ciliated; lobes of corolla elongated, long-acuminated. ♄. S. Native of Silhet on the mountains. Leaves 3-4 inches long. Pedicels rather velvety. This is an anomalous species.

Sharp-flowered Ardisia. Shrub.

§ 2. *Leaves entire, pilose.*

50 A. refle'xa (Wall. cat. no. 2282. Alph. D. C. in Lin. trans. 17. p. 122.) leaves oblong, acute, glabrous above and downy beneath; peduncles nearly terminal, reflexed, much shorter than the leaves, downy; pedicels umbellate, densely pilose, as well as the calyxes; calycine segments ovate, acute. ♄. S. Native of the province of Martaban. Branches brown and hispid at the top. Leaves 4-7 inches long; petioles hispid.

Reflexed-peduncled Ardisia. Shrub.

51 A. grandifo'lia (Alph. D. C. l. c.) leaves oblong, ample, cuspidately acute, glabrous above and pilose beneath; branches and petioles hispid; peduncles nearly terminal, puberulous, stiff, much shorter than the leaves; pedicels umbellate; calycine segments lanceolate, acute, a little ciliated. ♄. S. Native about Tavoy, in the Burman empire. A. macrophýlla, Wall. cat. no. 2290. but not of Blum. Leaves 5-9 inches long, and 3-4 broad, having the central nerve hispid beneath, and the lateral ones

pilose. Hairs on the branchlets and leaves silky and purplish. Berries ovoid, glabrous.

Great-leaved Ardisia. Shrub or tree.

52 A. macrophy'lla (Reinwdt. ex Blum. bijdr. p. 691. but not of Wall.) leaves rather large, oblong, acuminated, obtuse at the base, quite entire, coriaceous, tomentose beneath, as well as the umbels, which are subcorymbose and axillary. ♄. S. Native of Java, in the western provinces, on the mountains, where it is called *Lampanie-Badak*.

Long-leaved Ardisia. Shrub or tree.

§ 3. *Leaves glabrous, crenated, toothed or serrated.*

53 A. serra'ta (Pers. ench. 1. p. 233.) glabrous; leaves lanceolate, serrated; racemes terminal, compound. ♄. S. Native of South America, near Santa Cruz. A. Cavanillesiàna, Rœm. et Schultes, syst. 4. p. 515. Anguillària serràta, Cav. icon. 6. p. 2. t. 503. Leaves 6 inches long. Panicle pyramidal. Segments of corolla ovate-lanceolate.

Serrated-leaved Ardisia. Tree 15 to 20 feet.

54 A. pyramida'lis (Pers. l. c. but not of Roth.) glabrous; leaves lanceolate-ovate; racemes terminal, composed of umbel-bearing compressed peduncles; segments of calyx ovate, acute, ciliated; corolline lobes lanceolate. ♄. S. Native near Santa Cruz. Anguillària pyramidàlis, Cav. icon. 6. p. 1. t. 502. Leaves nearly sessile, a little toothed, tapering into the petioles, 6 inches long. Panicles ample, pyramidal. Calyxes rufescent. Corolla red. Drupe coriaceous.

Pyramidal Ardisia. Fl. July, Aug. Clt. 1818. Tree 20 to 25 feet.

55 A. speciòsa (Blum. bijdr. p. 684.) leaves oblong, acuminated, rather attenuated at the base, obsoletely denticulated, coriaceous, glabrous; panicles terminal, divaricate; pedicels subumbellate; calycine segments rounded. ♄. S. Native of Java, in mountain woods, where it is called *Kissamplak*. Allied to *A. divaricàta*.

Showy Ardisia. Shrub or tree.

56 A. serrula'ta (Swartz, prod. p. 48. fl. ind. occ. 1. p. 471.) glabrous; leaves lanceolate, acuminated, wrinkled, serrulated, beset with rusty dots beneath; panicles terminal; pedicels umbellate; segments of the corolla ciliated. ♄. S. Native of Hispaniola, on the banks of rivers. Plum. icon. t. 80. Branches downy. Pedicels and calyxes coloured. Corollas deep red. Berries blood red.

Var. β, chrysophýlla (Rœm. et Schultes, syst. 4. p. 515.) panicle terminal; leaves ovate-lanceolate, acuminated, golden yellow beneath. ♄. S. Native of St. Domingo. Anguillària chrysophýlla, Lam. ill. 2. p. 109. no. 2743. Flowers violaceous. Berries red.

Serrulated-leaved Ardisia. Fl. July, Aug. Clt. 1820. Sh. 2 to 3 feet.

57 A. fuliginòsa (Blum. bijdr. p. 692.) leaves oblong-acuminated, cuneated at the base, obsoletely denticulated at the apex, glabrous in the adult state, but clothed with rusty tomentum while young, as well as the branchlets; umbels subracemose, axillary; calycine teeth acute. ♄. S. Native of Java, in mountain woods. Allied to *A. solanàcea*.

Fuliginous Ardisia. Fl. year. Shrub.

58 A. glabra'ta (Blum. l. c.) leaves oblong-lanceolate, acuminated at both ends, with rather crenulated subglandular margins, smooth on both surfaces; umbels corymbose, terminal; calycine segments semi-lanceolate, obtuse, about equal to the corolla in length. ♄. S. Native of Java, in the province of Bantam, where it is called *Lampanie*. Allied to the preceding.

Smooth Ardisia. Shrub or tree.

59 A. macroca'rpa (Wall. in Roxb. fl. ind. 2. p. 277.) glabrous; leaves oblong, acute, tapering downwards, glandularly crenated, dotted; racemes terminal, corymb-formed, almost sessile; segments of corolla ovate, obtuse; berries large. ♄. S. Native of Nipaul, on most of the hills about the great valley. Branches greenish. Leaves approximate, coriaceous, 6-8 inches long, paler beneath, veinless. Racemes slightly pubescent. Flowers flesh-coloured, dotted. Pedicels clavate. Berry vermillion-coloured, as large as a gooseberry. This is a beautiful shrub.

Large-fruited Ardisia. Clt. 1824. Shrub 5 to 6 feet.

60 A. membrana'cea (Wall. cat. no. 2288.) glabrous; leaves approximate, oblong-lanceolate, acuminated, tapering a long way at the base, irregularly crenulated, membranous; peduncles axillary, 4 times shorter than the leaves; pedicels short, approximate; alabastra obtuse; calycine segments ovate, acute, about equal in length to the lobes of the corolla; style inclosed. ♄. S. Native of Silhet, on the mountains. Branches thick, filled with medulla. Leaves 4-5 inches long, dotted. Peduncles often reflexed. Flowers small, in loose fascicles.

Membranous-leaved Ardisia. Shrub 2 to 3 feet.

61 A. Wallíchii (Alph. D. C. in Lin. trans. 17. p. 123.) leaves obovate, acute, or obtuse, narrowed into the marginate petioles, repandly crenulated; peduncles axillary, one half shorter than the leaves, and are, as well as the pedicels pilose; flowers in loose racemes; calycine segments ovate, acute, a little ciliated; lobes of corolla ovate, acuminated; anthers nearly sessile, bluntish; style inclosed. ♄. S. Native of the Burman empire, on the banks of the Irawaddy and the Atran. A. sanguinolénta, Wall. cat. no. 2287. but not of Blum. A humble shrub: with thick, hardly woody branches. Young branches and leaves full of blood-coloured juice. Leaves 4-5 inches long, and 2 broad, thickish.

Wallich's Ardisia. Shrub dwarf.

62 A. Japónica (Blum. bijdr. p. 690. Hornstedt, diss. nov. pl. gen. pt. 1. p. 6-7. with a figure. Thunb. fl. jap. p. 95. t. 18. under *Bládhia*) glabrous; leaves nearly opposite, or 3-5 in a whorl, on short petioles, cuneate-oblong, acute, glabrous, serrated; pedicels subumbellate, secund. drooping; calyx 5-toothed; racemes simple, axillary. ♄. G. Native of Japan, on the mountains among bushes. Sankits vulgo Jamma Tadsi banna, Kæmpf. amœn. 5. p. 775. Root creeping. Leaves a hand long. Pedicels red. Corollas white.

Japan Ardisia. Shrub 1 foot.

63 A. gla'bra (Alph. D. C. in Lin. trans. 17. p. 123.) glabrous; leaves nearly opposite, serrated, ovate-acuminated. ♄. G. Native of Japan. Bládhia glàbra, Thunb. fl. jap. p. 350. Lin. trans. 2. p. 331. Stem frutescent, articulated, simple. Leaves approximate at the top of the stem, $1\frac{1}{2}$ inch long. Berries red, size of small peas.

Glabrous Ardisia. Shrub 1 foot.

64 A. pu'mila (Blum. bijdr. p. 688.) stem suffruticose, procumbent at base, rooting; leaves lanceolate-elliptic, acute, narrowed into the petioles at the base, obsoletely crenulated, marked with transverse stripes, glabrous; flowers subumbellately racemose; calyx 5-toothed; segments of corolla crenulate. ♄. S. Native of Java, in shady places on Mount Salak.

Dwarf Ardisia. Shrub 1 foot.

65 A. crísPA (Alph. D. C. l. c.) glabrous; leaves oblong-lanceolate, attenuated at both ends, with repandly crenulated glandular edges; cymes terminal, usually solitary, often compound; pedicels smooth, finely veined, umbellate, drooping; segments of calyx and corolla obtuse. ♄. G. Native of Penang, Singapore, Japan, and China. Bládhia crísPA, Thunb, fl. jap. p. 97. Banks, icon. Kæmpf. t. 7. Ardísia élegans, Andr. bot. rep. t. 263. A. crenàta Roxb. fl. ind. 2. p. 276. Wall.

cat. no. 2262. A. glandulòsa, Blum. bijdr. 690. but not of Roxb. Leaves bluntish. Racemes generally solitary, from the extremities of the corymbiform lateral branchlets. Flowers small, drooping, red. Berries red, size of peas. (fig. 5.)

FIG. 5.

Var. β; corolla white, dotted with red. ♄. S. A. crenàta, Sims, bot. mag. t. 1950. A. lentiginòsa, Ker. bot. reg. t. 553.

Var. γ; corolla white. ♄. S. A. crenulàta, Lodd. bot. cab. t. 2.

Curled-leaved Ardisia. Fl. July, Aug. Clt. 1809. Shrub 4 to 8 feet.

66 A. pentagòna (Alph. D. C. l. c.) leaves lanceolate, acuminated at both ends, obsoletely crenulated, glabrous; umbels simple, lateral; calycine teeth acute; fruit depressedly pentagonal. ♄. G. Native of China. A. quinquegòna, Blum. bijdr. 689.

Five-angled Ardisia. Fl. year. Shrub.

67 A. punctà'ta (Lindl. bot. reg. t. 827.) glabrous; leaves lanceolate, coriaceous, repandly crenated, tapering to the base; peduncles umbellate, terminal, and axillary; umbels involucrated by deciduous bracteas; segments of corolla 4-5, obovate, obtuse; flowers subcampanulate, secund. ♄. G. Native of China. Flowers greyish white, beset with dark dots: and the pedicels with dark lines.

Dotted Ardisia. Fl. June, Aug. Clt. 1822. Shrub 6 to 10 feet.

§ 4. *Leaves pilose, crenated, toothed, or serrated.*

68 A. crenula'ta (Vent. choix. t. 5.) leaves lanceolate-ovate, tapering at both ends, repandly crenulated, pilose; panicles terminal; pedicels umbellate. ♄. G. Native of Porto Rico, Mexico between Tampico and Real del Monte, Antilles, &c. A. lateriflòra, Swartz, prod. p. 48. fl. ind. occ. 1. p. 473.? Anguillària lateriflòra, Poir. dict. suppl. 7. p. 687.? Ang. crenulàta, Poir. dict. 7. p. 689. Flowers of a reddish violet colour. Berries black, size of currants. There are varieties of this with more or less repand and hairy leaves.

Var. β; leaves coriaceous, without pellucid dots, very pilose beneath.

Crenulated-leaved Ardisia. Fl. June, Sept. Clt. 1809. Sh. 3 to 6 feet.

69 A. Cuba'na (Alph. D. C. in Lin. trans. 17. p. 124.) leaves ovate-oblong, bluntish, undulated, glabrous above, rather pilose beneath; panicles terminal, branched, about equal with the leaves; peduncles rusty; calycine segments acute; lobes of corolla linear-lanceolate, spreading, velvety. ♄. S. Native of Cuba. Extreme branches and peduncles velvety. Leaves 2-3 inches long, obtuse or acutish; hairs stellate. Flowers like those of *A. crenulàta*, from which species it hardly differs, unless in the smaller, obtuse, less repand leaves.

Cuba Ardisia. Shrub.

70 A. melanostícta (Schlecht. in Linnæa, 8. p. 526.) leaves elliptic or oblong-elliptic, tapering into the petioles at the base, short-acuminated at the apex, glabrous above, but beset with rusty down and black dots beneath, with erosely crenulated membranous edges; umbels crowded into axillary racemes, which are shorter than the leaves; corolla downy inside, at length revolute, with a short tube and narrow segments. ♄. G. Native of Mexico, in woods, between San Salvador and Jalapa. Flowers white. Anthers cordate at the base.

Black-dotted Ardisia. Shrub or tree.

71 A. Ica'ra (Wall. cat. no. 2264. Alph. D. C. l. c. t. 7. p. 125.) leaves oblong-lanceolate, acuminated at the base, acute at the apex, denticulated, rather pilose above, but glabrous and paler beneath; panicles branched, nearly terminal, about equal to the leaves; peduncles umbellate; pedicels and flowers velvety; calycine segments subulate; lobes of corolla ovate, acute. ♄. S. Native of Bengal, about Bhatgong and Mateabo. Leaves 6 inches long. Hairs simple. Umbellets surrounded by whorls of bracteoles.

Icara Ardisia. Shrub.

72 A. odontophy'lla (Wall. cat. no. 2279. Alph. D. C. l. c. t. 6.) leaves lanceolate-oblong, acute at both ends, on long petioles, sharply toothed, puberulous; racemes axillary, much shorter than the leaves; pedicels short, alternate, and are, as well as the peduncles, velvety; calycine lobes ovate, acute, ciliated and downy; corolla deeply parted: with ovate, acute lobes. ♄. S. Native of Bengal, towards Silhet, and about Gualpara. A. pavonìna, Hamilt. herb. Branches ascending, filled with medulla. Leaves 4-6 inches long.

Toothed-leaved Ardisia. Shrub.

73 A. móllis (Blum. bijdr. p. 689.) leaves oblong-lanceolate, acuminated at both ends, crenulated, dotted, rather villous beneath; umbels axillary and terminal, simple; calycine segments semi-lanceolate, acute, about equal in length to the corolla. ♄. S. Native of Java, in the province of Bamtam, on the mountains. Allied to *A. glandulòsa*.

Soft Ardisia. Fl. Feb. Shrub.

74 A. Tavoya'na (Alph. D. C. l. c.) extremities of branches downy; leaves oblong-lanceolate, acuminated at both ends, glabrous above, pilose and much dotted beneath, rather crenulated, thin; peduncles lateral, simple, velvety, rather shorter than the leaves; pedicels umbellate; calycine segments linear-lanceolate, acuminated, pilose outside. ♄. S. Native about Tavoy, in the Burman empire. A. villòsa, Wall. cat. no. 2280. B. It differs from A. villòsa, Roxb. in the leaves being larger and pilose beneath, &c. Berries pilose.

Tavoy Ardisia. Shrub.

75 A. villòsa (Roxb. fl. ind. 2. p. 274.) branchlets villous; leaves lanceolate, acuminated, villous beneath, crenulated; umbels axillary and terminal, very villous; calycine segments linear-lanceolate. ♄. S. Native of Penang and Singapore. Leaves 5-7 inches long, tapering to the base, copiously dotted. Berries villous. Hairs simple, jointed. All the upper parts of the plant are densely beset with hairs. Umbellets terminal, compound.

Villous Ardisia. Fl. Oct. Shrub.

76 A. pusílla (Alph. D. C. l. c. p. 126.) stem filiform, tomentose; leaves opposite, ovate, acute, serrated, villous; peduncles few-flowered, tomentose; flowers lateral. ♄. G. Native of Japan. Bládhia villòsa, Thunb. fl. jap. p. 96. t. 19.

Least Ardisia. Shrub 1 foot.

77 A. vestìta (Wall. in Roxb. fl. ind. 2. p. 274. cat. no. 2281.) branches densely villous and hairy; leaves lanceolate, acuminated, remotely and bluntly crenated, tapering at the base, minutely and copiously dotted: and clothed with abundance of long, soft, jointed hairs: umbels axillary and terminal, villous; segments of calyx linear-lanceolate, acute; berries villous. ♄. S. Native of Singapore. Leaves 5-7 inches long. All the upper parts of the shrub are exceedingly thickly clothed with soft hairs.

Clothed Ardisia. Shrub.

Sect. II. Hymena'ndra (from *ὑμην*, *hymen*, a membrane, and *ανηρ ανδρος*, *aner andros*, a male; the anthers are membrane-winged in the first species). Alph. D. C. in Lin. trans. 17. p. 126. Anthers combined. Style about equal in length to the stamens; stigma dot-formed. Bracteas much shorter than the pedicels.

78 A. hymena'ndra (Wall. in Roxb. fl. ind. 2. p. 282. cat. no. 2266.) glabrous; leaves obovate, acuminated, coarsely crenated, tapering and entire downwards; corymbs lateral, leafy from large bracteas; segments of corolla nearly linear, long; anthers combined, membrane-winged and tailed. ♄. S. Native of Silhet, on the Juntyapoor mountains. Wall. pl. rar. asiat. 1. t. 175. Branches marked with callous tubercles. Leaves scattered, approximate, subverticillate by threes or fours, 6-10 inches long. Corymbs rising from the vestiges of the fallen leaves, composed of approximate spreading umbels of large pink flowers. Peduncles flattened. Calycine segments lanceolate, slightly ciliated.

Membrane-anthered Ardisia. Fl. Mar. July. Clt. 1828. Shrub 6 to 8 feet.

79 A. glandulòsa (Roxb. fl. ind. 2. p. 276.) glabrous; leaves lanceolate, having the margins coloured and glandular; umbels few-flowered, on long peduncles, globular, at and round the tops of the branches; corolline segments round and emarginate; anthers united. ♄. S. Native of Silhet, where it is called by the natives *Bun-nurukalee*. Leaves 4-6 inches long. Flowers small, white, on short pedicels. Calyx rusty from dots.

Glandular-leaved Ardisia. Shrub.

Sect. III. Micranthe'ra (from *μικρος*, *micros*, small, and *ανθηρα*, *anthera*, an anther; in allusion to the anthers being much shorter than the filaments.) Alph. D. C. in Lin. trans. 17. p. 126. Filaments elongated; anthers free, much shorter than the filaments. Style subulate, not longer than the stamens.

§ 1. *Style about equal in length to the stamens. Old anthers horizontal, twisted.*

80 A. coria'cea (Swartz, prod. p. 48. fl. ind. occ. 1. p. 470.) glabrous; leaves oblong, bluntish, quite entire, coriaceous; panicle terminal, pyramidal, rather longer than the leaves; calycine lobes ovate, bluntish; lobes of corolla ovate, acute, reflexed; filaments almost combined, inserted in the top of the tube of the corolla, rather longer than the anthers. ♄. S. Native of Guadaloupe and Hispaniola. Anguillària coriàcea, Poir. dict. suppl. 7. p. 683. The flowers and inflorescence agree with *Wallènia*. Corollas red, rather large.

Coriaceous-leaved Ardisia. Clt. 1824. Shrub.

81 A. Hamiltònii (Alph. D. C. in Lin. trans. 17. p. 126.) leaves obovate, bluntish, coriaceous, veined beneath, and obscurely so above, dotted on both surfaces; panicles terminal, rather crowded; racemes undulated, jointed. ♄. S. Native of St. Domingo. A. obovàta, Hamilt. prod. fl. ind. occ. p. 26. but not of Blum. Desv. herb. ex. Hamilt. l. c. Perhaps distinct from *A. coriàcea*.

Hamilton's Ardisia. Shrub or tree.

82 A. exce'lsa (Ait. hort. kew. 1. p. 261. Chr. Smith, in herb. D. C. et Deless. ex Alph. D. C. l. c.) leaves ovate-oblong, bluntish, middle-sized, entire, glabrous; peduncles axillary; pedicels umbellate, longer than the peduncles; calycine segments acute, glabrous; alabastra acute; lobes of corolla lanceolate, 3 times longer than the calyx; filaments subulate, twice as long as the anthers. ♄. F. Native of Madeira, on the mountains, where it is called *Aderno tree*. Heberdènia excélsa, Banks. Anguillària Bahaménsis, Gærtn. fruct. 1. p. 373. t. 77. f. 1.? My'rsine heberdènia, Rœm. et Schultes, syst. 4. p. 508. Icacòrea Bahaménsis, Lam. ill. t. 136. f. 1. Peduncles very short, therefore it comes near to the genus *Myrsine*. Flowers red.

Tall Ardisia or Aderno-tree. Fl. July, Aug. Clt. 1794. Tree 20 to 40 feet.

§ 2. *Style one half shorter than the stamens. Anthers erect.*

83 A. Lhótskya (Alph. D. C. in Lin. trans. 17. p. 127.) glabrous; leaves oblong, entire, bluntish, dotted; panicles terminal and axillary, many-flowered, much shorter than the leaves; pedicels umbellate; lobes of calyx acute; corolla funnel-shaped, with oblong lobes; filaments length of corolla. ♄. S. Native of Brazil, about Rio Janeiro. Leaves 2-3 inches long, full of black dots. Lobes of corolla white, spotted with yellow.

Lhotsky's Ardisia. Tree.

84 A. racemòsa (Spreng. syst. 1. p. 661.) leaves obovate-oblong, subrevolute, coriaceous, shining on both surfaces, parallelly nerved beneath, full of dots; racemes axillary, straight. ♄. S. Native of Brazil.

Racemose-flowered Ardisia. Tree.

85 A. lepidòta (H. B. et Kunth, nov. gen. amer. 3. p. 247.) branches clothed with rusty tomentum; leaves obovate-oblong, acuminated, quite entire, glabrous, lepidotted beneath; panicles terminal, much branched; flowers conglobate, almost sessile; segments of calyx ovate, acutish, full of glandular dots; lobes of corolla oblong, obtuse, reflexed; filaments filiform, 4 times longer than the anthers. ♄. S. Native of New Granada, between the mines of Santanna and the town of Mariquita. Branches angular. Branches of panicle clothed with rusty tomentum. Flowers small.

Lepidotted Ardisia. Shrub or tree.

Sect. IV. Tyrbæ'a (meaning unknown to us). Alph. D. C. in Lin. trans. 17. p. 127. Flowers loosely panicled; peduncles alternate. Bracteas large, caducous. Flowers alternate, almost sessile, large.

86 A. bracteòsa (Alph. D. C. l. c.) leaves oblong, acutish, entire, coriaceous; bracteas ovate, acute; lobes of calyx and corolla ovate, acute; anthers ovoid, horizontal, smaller than the filaments; style rather longer than the stamens. ♄. G. Native of Mexico. Tyrbæ'a, Moc. et Sesse, icon. mex. ined. Branches fuscous. Leaves approximate, 3-4 inches long. Corolla of a whitish rose-colour.

Bracteate Ardisia. Tree.

87 A. escule'nta (Pavon, in herb. Moricand. Alph. D. C. l. c. p. 128.) leaves ovate-oblong, acutish, entire, coriaceous, glabrous, dotted; petioles margined; panicles longer than the leaves; bracteas ovate, bluntish; calycine lobes ovate, acute, ciliated; anthers triangular, acute, longer than the filaments; style subulate, inclosed. ♄. S. Native of South America. Leaves 3-4 inches long, full of resinous black dots. Panicle slightly velvety. Lobes of corolla obtuse, spotted. Hardly distinct from the preceding species, nevertheless the stamens are very different. Berries esculent.

Esculent Ardisia. Tree or shrub.

88 A. fœ'tida (Rœm. et Schultes, syst. 4. p. 803.) leaves oblong-obovate, acuminated, coriaceous, shining above, and nearly veinless; spikes panicled, terminal; bracteas ovate, concave, obvolute; calycine segments ovate; lobes of corolla revolute; anthers connivent. ♄. S. Native of South America. Wood white and fetid. Flowers pale rose-coloured. Corolla campanulately rotate. Style longer than the corolla.

Fetid-wooded Ardisia. Tree 10 to 15 feet.

† *Species not sufficiently known.*

89 A. Bahame'nsis (Alph. D. C. in Lin. trans. 17. p. 128.) ♄. G. Native of the Bahamas. Heberdènia excélsa, Banks. herb. ex Gærtn. Anguillària Bahaménsis, Gærtn. fruct. 1.

p. 372. t. 77. f. 1. Icacòrea Bahaménsis, Lam. ill. t. 136. f. 1. Perhaps the same as *A. excélsa*.

Bahama Ardisia. Tree.

90 A. LINEA'TA (Rœm. et Schultes, syst. 4. p. 804. ex herb. Willd) leaves oblong-ovate, parallelly veined, glabrous ; panicle terminal, divaricate. ♄. S. Native of South America. Humb. et Bonpl.

Lined-leaved Ardisia. Shrub.

91 A. DIVARICA'TA (Rœm. et Schultes, l. c.) leaves lanceolate, tapering into the petioles ; flowers panicled ; branches of panicle divaricate. ♄. S. Native ?

Divaricate-panicled Ardisia. Shrub or tree.

92 A.? PARVIFÒLIA (Rœm. et Schultes, l. c.) leaves ovate-lanceolate ; cymes trifid, axillary. ♄. S. Native of Peru. Humb. et Bonpl. Calyx small, 5-toothed. Corolla salver-shaped, having the tube inflated at the apex, and the limb 5-parted. Stamens inclosed. Style inclosed. Stigma ovate, thickened. Drupe ovate, clammy, 1-celled, 1-seeded.

Small-leaved Ardisia. Shrub 6 feet.

93 A.? PARASÍTICA (Swartz, prod. p. 48. fl. ind. occ. 1. p. 474.) glabrous ; leaves lanceolate, ovate, lined, sessile ; racemes axillary, simple. ♄. S. Native of Dominica, on the trunks of trees, among the mountains. Anguillària parasítica, Poir. dict. suppl. 7. p. 687. Branches slender, brittle, tetragonal. Leaves quite entire, paler beneath, with blackish veins. Pedicels short, bracteate at the base. Calyx coloured : with ovate, acute lobes. Corolla whitish purple, subrotate, dotted inside. Filaments short ; anthers ovate, emarginate, diverging. Style length of stamens. Stigma obtuse. Drupe globose, dotted.

Parasitical Ardisia. Shrub par.

94 A.? ARGU'TA (H. B. et Kunth, nov. gen. amer. 3. p. 247.) branches and under side of leaves covered with small, rusty scales ; leaves elliptic-oblong, acute, sharply toothed ; panicles lateral, much branched ; flowers pedicellate, rather racemose. ♄. S. Native of the province of Popayan, on the burning mount Purace, near El Primer Pajonal. Leaves 5-6 inches long. Panicle beset with rusty scales. Calyx 5-parted, having the segments dotted with glands in the middle. Stamens 5-6, opposite the lobes of the corolla. Filaments short ; anthers oblong-lanceolate. Ovarium ovate-conical, glabrous. Style filiform ; stigma obtuse. Perhaps a distinct genus, although it has the habit and dotting of *Ardisia*.

Sharp-tooth leaved Ardisia. Tree 15 to 20 feet.

95 A. OVA'TA (Thunb. nov. gen. pt. 8. ups. 1795. ex Rœm. et Schultes, syst. p. 517.) leaves ovate ; stem compressed, furrowed. ♄. S. Native of the East Indies. Stem simple, a span high, glabrous : bearing 2-3 petiolate, coriaceous, entire, glabrous leaves, with reflexed margins, a hand long. Flowers panicled.

Ovate-leaved Ardisia. Shrub 1 foot.

Cult. Almost all the species are handsome, and of easy culture. Any light rich soil answers them well, or a mixture of loam, peat, and sand. Cuttings, either of the branches or root, strike freely in a pot of sand, in heat. When propagated by pieces of the root, the pieces should be planted so as their tops may be above the mould, and they should not, like cuttings of the branches, be placed under a hand-glass, as they are very apt to rot.

X. EMBE'LIA (the Ceylonese name of one species). Burm. fl. ind. t. 23. Juss. gen p. 427. Roxb. fl. ind. 2. p. 285. Alph. D. C. in Lin. trans. 17. p. 129.—Ribesioìdes, Lin. fl. zeyl. no. 403.

LIN. SYST. *Pentándria*, *Monogýnia*. Calyx 5-parted. Corolla 5-parted ; lobes rather valvate in æstivation. Stamens 5, about equal to the lobes of the corolla in length. Anthers ovoid, much shorter than the filaments, which are free, horizontal at the time the flowers are open. Ovarium superior, 1-ovulate (ex Wall.). Style shorter than the stamens : stigma capitellate. Berry globose, 1-seeded.—Usually climbing shrubs, natives of Asia ; petioles sometimes denticulated. Racemes axillary or terminal, simple or branched. Flowers small. Alabastra obtuse. Peduncles and pedicels alternate, usually pilose or velvety.

* *Panicles or racemes terminal.*

1. E. RÌBES (Roxb. fl. ind. 2. p. 285. Wall. cat. no. 2304.) scandent ; tender shoots and peduncles hoary ; leaves oblong, entire, glabrous ; panicles terminal, hoary. ♄. ب. S. Native of Silhet, Ceylon, Penang, Singapore, Golgipori, &c. Ribesioìdes, Lin. fl. zeyl. p. 403. Rìbes, Burm. prod. 62. t. 23. A large climber. Leaves 2-3 inches long. Flowers numerous, very small, of a greenish yellow colour. Lobes of calyx concave. Berries size of black pepper, succulent, black. The natives in the vicinity of Silhet, where the plants grow abundantly, gather the berries, and when dry sell them to the small traders in black pepper, who fraudulently mix them with that spice, which they so resemble as to render it almost impossible to distinguish them, by sight, or by any other means, as they are withal somewhat spicy. The vernacular name of the shrub is *Baberung*.

Currant Embelia. Shrub cl.

2 E. CANE'SCENS (Jack. ex Wall. in Roxb. fl. ind. 2. p. 292. Wall. cat. no. 2311.) branches villous ; leaves ovate-oblong, acuminated, retuse at the base, villous beneath ; petioles with curled glandular margins ; panicle terminal, consisting of very long hairy branches ; petals villous. ♄. ◡ S. Native of Penang, where it is called *Assum-Oatan*, in the Malay language. Leaves membranous, with revolute edges. Lobes of corolla lanceolate. Flowers white. Very like *E. rìbes*.

Canescent Embelia. Shrub cl.

* * *Racemes axillary.*

3 E. FERRUGÍNEA (Wall. cat. no. 2310. Alph. D. C. l. c.) young branches and peduncles tomentose, rusty ; leaves ovate-roundish, entire, coriaceous, glabrous above, and dotted with rusty stellate hairs beneath. ♄. ◡ S. Native of the Burman Empire, on the banks of the Irrawaddy. Leaves 5 inches long, velvety on the nerves above ; petioles pilose, not winged. Berry blackish.

Rusty Embelia. Shrub cl.

4 E. VILLÒSA (Wall. in Roxb. fl. ind. 2. p. 289. cat. no. 2313.) climbing or rambling ; branches villous, and with numerous callous dots ; leaves oval, or roundish-oval, short-acuminated, acute at the base, villous beneath ; racemes simple, axillary, fascicled, long, slender, and villous. ♄. ◡ S. Native about Rajmahul and Tavoy. Leaves ciliated, 4-5 inches long, glabrous above. Flowers small, whitish, very numerous. It comes very near *E. robústa*, but differs from it in hairiness, and in the long fascicled slender racemes. There are varieties of this species with broadly obovate-roundish, very pilose leaves ; or ovate-acute, small, smoothish leaves.

Villous Embelia. Shrub cl.

5 E. PÍCTA (Wall. cat. no. 2302.) branches and peduncles velvety and rusty ; leaves oval, smoothish, remotely denticulated ; racemes axillary, simple, longer than the leaves ; calyx and corolla velvety. ♄. ◡ S. Native of the East Indies, in Gongachara and Goalpara. Samàra pícta, Hamilt. herb. Branches pilose, and spotted with white. Leaves 3-5 inches long, and 2-3 broad, glabrous above, remotely marked with black dots beneath. Flowers as in *E. villòsa*.

Painted-branched Embelia. Shrub cl.

6 E. FLORIBU'NDA (Wall. in Roxb. fl. ind. 2. p. 291. cat. no. 2305. A.) climbing, glabrous; branches slender; leaves oblong-lanceolate, finely-acuminated, with straight margins; panicles axillary, of many long slender racemes. ♄. ◡. G. Native of Nipaul, on Chundragiri, Sheopore, and at Thankote. A beautiful climber. Branches scabrous from dots. Leaves 5-6 inches long, with entire revolute edges; dark green above, and pale underneath. Flowers fragrant, dense, yellowish green.

Var. β; macrophýlla (Alph. D. C. l. c.) leaves longer. ♄. ◡ S. Native of Silhet. E. floribúnda, Wall. cat. no. 2305. B.

Bundle-flowered Embelia. Shrub cl.

7 E. VESTÌTA (Roxb. fl. ind. 2. p. 288.) villous, scandent, very much branched; leaves oblong-lanceolate, attenuated, subserrated; racemes axillary. ♄. ◡. S. Native of Silhet. The shrub is uncommonly well-furnished with branches and foliage. The flowers are particularly small and delicate, collected into little, oblong, subsessile, axillary racemes.

Clothed Embelia. Shrub cl.

8 E. NU'TANS (Wall. in Roxb. fl. ind. 2. p. 290. cat. no. 2303.) shrub nutant, at length pendulous, with very slender dense branches; leaves somewhat bifarious, approximate, lanceolate, acuminated, smooth and shining, waved; racemes numerous, short, 2-3 together, in axillary fascicles. ♄. S. Native of Silhet. Bark of branches dotted, while young downy. Leaves rather coriaceous, entire, pale, and minutely dotted beneath. Flowers small, white, verging to greenish, with a disagreeable smell. This is a very elegant shrub; its dense branches and pendulous habit render it a desirable ornament in tropical gardens.

Drooping Embelia. Shrub 5-6 feet.

9 E. ROBU'STA (Roxb. fl. ind. 2. p. 287.) rambling; leaves, smooth, from oblong to ovate; racemes axillary and terminal, solitary. ♄. S. Native of the East Indies, on the Rajmahul hills. Young branches, and under surfaces of leaves downy, the tender parts clothed with rust-coloured jointed and glandular tomentum. The leaves and flowers are beset with dots, which are elevated on the latter. Flowers greenish white. Calyx villous.

Robust Embelia. Clt. 1823. Shrub rambling.

10 E. PARVIFLÒRA (Wall. cat. no. 2307. Alph. D. C. l. c.) leaves bifarious, small, spproximate, ovate, acute, obtuse at the base, entire, glabrous, shining; racemes axillary, shorter than the leaves; flowers small, densely umbellulate; peduncles velvety. ♄. S. Native of Silhet.

Var. β, major (Alph. D. C. l. c.) leaves oblong, acute at both ends, larger, a little toothed. ♄. S.

Small-flowered Embelia. Shrub.

11 E. UROPHY'LLA (Wall. cat. no. 2309. Alph. D. C. l. c. 131.) quite glabrous; leaves ovate-lanceolate, acuminated at both ends, entire, coriaceous, shining; peduncles simple, elongated, about equal in length to the leaves; pedicels very short. ♄. S. Native of Singapore. Leaves 2-3 inches long, cuspidate. Flowers small.

Tail-leaved Embelia. Shrub.

† *Doubtful species.*

12 E. TSJE'RIAM-CÓTTAM (Alph. D. C. l. c.) leaves ovate or elliptic, quite entire, thickish, evergreen, paler beneath; racemes small, axillary, shorter than the leaves; lobes of corolla roundish. ♄. S. Native of Malabar. Tsjèriam-Cóttam, Rheed. mal. 5. p. 21. t. 11. Basal, No. 2. Lam. dict. 1. p. 381. Ardísia; Tsjèriam-Cóttam, Rœm. et Schultes, syst. 4. p. 518. Racemes solitary or twin. Flowers greenish-brown. Stigma globose. Berry round, reddish, rather acid.

Tsjeriam-Cottam Embelia. Shrub or tree.

13 E.? BASA'AL (Alph. D. C. l. c.) leaves ovate, acute, quite entire, aggregate, terminal; racemes small, lateral, shorter than the leaves; segments of corolla acute. ♄. S. Native of Malabar and Cochinchina. Ardísia? Basàal, Rœm. et Schultes, syst. 4. p. 517. Basàal, Rheed. mal. 5. p. 23. t. 12. Lam. dict. 1. p. 381. Leaves glabrous, dark green. Flowers small, numerous, white, sweet-scented. Berries small.

Basaal Embelia. Tree middle-sized.

Cult. For culture and propagation see *Ardísia*, p. 20. The climbing species answer well for training up the rafters in stoves.

XI. CHORIPE'TALUM

(from χωρις, *choris*, separately; and πεταλον, *petalon*, a petal; the petals are separate, not joined together as in other genera of the order.) Alph. D. C. in Lin. trans. 17. p. 131. Mýrsines dùbiæ, Wall.

LIN. SYST. *Tetrándria Monogýnia.* Calyx 4-cleft. Corolla 4-petalled; petals falling off separately. Stamens 4, opposite the petals, and combined with them at the base. Anthers shorter than the filaments. Style filiform, shorter than the petals. Ovarium superior, perhaps sometimes abortive, therefore the flowers are sometimes polygamous. Drupe globose, 1-seeded. —Woody plants, natives of Asia. Leaves alternate, entire, glabrous, ovate at the base, and narrowed a long way into the petioles. Flowers racemose; peduncles axillary; bracteas permanent, alternate, small; the inflorescence is therefore that of *Embèlia*. This genus, having the corolla composed of separate petals, verges towards *Rhamneàceæ*.

1 C. AURANTI'ACUM (Alph. D. C. l. c. p. 131.) leaves ovate-lanceolate; peduncles spike-formed, simple, 3 times shorter than the leaves; petals lanceolate; filaments longer than the petals. ♄. S. Native of the Indian peninsula. Mýrsine aurantìaca, Wall. in Roxb. fl. ind. 1. p. 300. cat. no. 2299. Flowers yellowish. A large rambling shrub.

Orange-like Choripetalum. Shrub rambling.

2 C. UNDULA'TUM (Alph. D. C. l. c. p. 132.) branches full of elevated callous protuberances; leaves ovate or lanceolate, acute at both ends, a little undulated, thin, full of pellucid dots; peduncles 3 times shorter than the leaves; petals lanceolate, acute, glandularly ciliated. ♄. G. Native of Nipaul, on Sheopore. Mýrsine undulàta, Wall. in Roxb. fl. ind. 2. p. 299. A large climbing shrub. Flowers small, scentless, yellowish-white.

Undulated-leaved Choripetalum. Shrub cl.

Cult. For culture and propagation see *Ardísia*, p. 20.

Tribe III.

MÆ'SEÆ (this tribe only contains the genus *Mæ'sa*) Alph. D. C. in Lin. trans. 17. p. 132. Calyx 5-lobed. Corolla 5-lobed, induplicate in æstivation. Stamens 5, free, inserted in the base of the corolla, inclosed. Anthers ovoid-cordate, equal in length to the filaments. Ovarium adherent, half-inferior, many-ovulate. Style short; stigma 3-5 lobed. Seeds small, numerous, angular, fixed to the central placenta. Embryo transverse.—Shrubs or trees, natives of Asia and Africa. Leaves alternate, sometimes full of pellucid dots, variable on the same specimen. Racemes usually axillary, simple, or branched, many-flowered; flowers alternate, on short pedicels; bracteas 2, almost opposite, near the base of the calyx.

XII. MÆ'SA

(maas, the Arabic name of one of the species.) Forsk. desc. p. 66. Alph. D. C. in Lin. trans. 17. p. 133. Bæóbotrys, Forst. nov. gen. t. 11. Blum. bijdr. 864. Sibouràtia, Pet. Th. nov. gen. mad. p. 12.

LIN. SYST. *Pentándria Monogýnia.* Character the same as that of the tribe. This genus joins the present order to *Primulàceæ*, through *Samòlus*.

* *Panicles or racemes terminal.*

1 M. PANICULA'TA (Wall. cat. no. 2320. Alph. D. C. in Lin. trans. 17. p. 133.) quite glabrous; leaves broad elliptic, acute at both ends, large, toothed; racemes axillary and terminal, elongated slender. ♄. S. Native about Tavoy, in the Burman Empire. Leaves 6 inches long, and 3 broad, membranous, shining, a little dotted. Flowers approximate. Stigma 3-lobed.

Panicled-flowered Mæsa. Shrub.

2 M. MUSCÒSA (Blum. bijdr. p. 866. under Bæóbotrys) leaves ovate-oblong, long-acuminated, rather repand, glabrous on both surfaces, as well as the branchlets; panicles axillary, fastigiate. ♄. G. Native of Java, among bushes on the mountains.

Mossy Mæsa. Fl. year. Shrub.

3 M. VIRGA'TA (Blum. bijdr. 864, under Bæóbotrys) leaves ovate-oblong, much acuminated, glandularly denticulated above the base, glabrous on both surfaces, as well as the branchlets; racemes compound, twiggy, axillary. ♄. S. Native of Java, in mountain woods.

Var. β; leaves quite entire. ♄. S. On the top of Mount Gede.

Twiggy Mæsa. Fl. year. Shrub.

4 M. LATIFÒLIA (Blum. bijdr. p. 866, under Bæóbotrys) leaves elliptic-oblong, bluntly acuminated, glandularly denticulated above the base, and are, as well as the branchlets, glabrous; racemes axillary, simple. ♄. S. Native of Java, on the top of Mount Gede.

Broad-leaved Mæsa. Fl. year. Shrub.

* * *Racemes usually lateral.*

5 M. OVA'TA (Wall. cat. no. 2324. Alph. D. C. l. c. p. 133. t. 4.) glabrous; leaves ovate, acuminated, rather cordate, entire, shining on both surfaces; racemes axillary, elongated, slender, rather longer than the leaves. ♄. S. Native of Penang. Branches not dotted. Leaves 2-3 inches long, membranous. Flowers not numerous. Hardly distinct from *M. ramentàcea*.

Ovate-leaved Mæsa. Shrub.

6 M. RAMENTA'CEA (Roxb. fl. ind. 2. p. 231.) glabrous; leaves lanceolate, acuminated, entire, smooth; panicles terminal, axillary, and lateral, ramentaceous. ♄. S. Native of Silhet, where it is called Mulmooriya; and of the Burman Empire, about Rangoon, Moalmyne, and Tavoy. Bæóbotrys lùcida, Wall. cat. no. 2323. Leaves 2-6 inches long. Panicles numerous, small, crowded with small abortive rusty ramentaceous branchlets. Flowers small, greenish yellow. Berries small, white, succulent. Stigma 2-3-lobed.

Ramentaceous Mæsa. Shrub.

7 M. MISSIÒNIS (Alph. D. C. l. c. p. 134.) glabrous; leaves ovate, acuminated, entire; racemes shorter than the leaves. ♄. S. Native of the East Indies. Bæóbotrys? missiònis, Wall. cat. no. 6523. Intermediate between *M. ramentàcea* and *M. nemoràlis*. Leaves 1-3 inches long, acutish at the base, a little toothed.

Mission Mæsa. Shrub.

8 M. NEMORA'LIS (Alph. D. C. l. c.) glabrous; leaves ovate-oblong, repandly toothed; racemes axillary, short and crowded. ♄. S. Native of Silhet, where it is called *Mulmooriya*. Bæóbotrys nemoràlis, Forst. nov. gen. p. 22. Vahl. symb. p. 19?. Roxb. fl. ind. 2. p. 232. Mart. choix. de pl. mun. p. 6. t. 6. Leaves 3-4 inches long. Racemes twice the length of the petioles. Flowers small, white. Stigma 3-lobed.

Grove Mæsa. Fl. March, May. Clt. 1830. Shrub.

9 M. BLU'MII; leaves oblong-lanceolate, acuminated at both ends, glandularly serrulated from the middle to the apex, and are, as well as the branches, glabrous; racemes axillary, simple and compound, shorter than the leaves. ♄. S. Native of Java, in mountain woods, where it is called *Kipiit burriet*. Bæóbotrys lanceolàta, Blum. bijdr. 865.

Var. α; leaves oval, acutish at both ends. ♄. S. Native of Java, in the province of Cheribon, and among bushes at Tjiradjas.

Var. β; leaves rounded at the base; racemes compound. ♄. S. Java, in woods on Mount Salak.

Blume's Mæsa. Fl. year. Shrub.

10 M. I'NDICA (Alph. D. C. l. c.) glabrous; leaves from ovate to lanceolate, coarsely serrated; racemes axillary and terminal: the terminal ones most generally compound. ♄. G. Native of Chittagong and Nipaul. Hook, bot. mag. 2052. Bæóbotrys I'ndica, Roxb. fl. ind. 2. p. 230. Bæob. lanceolàta, Vahl. symb. 1. p. 19. t. 6. Mæ'sa Chísea, D. Don. prod. fl. nep. p. 148?. Mæ'sa Forsk. fl. ægypt. arab. p. 22. t. 11. Leaves 3-6 inches long, pretty smooth. Racemes usually aggregate. Flowers numerous, pure white. Stigma lobed. The berries, which are white, are eaten by the Parbuteeyas, or hill people of Nipaul.

Indian Mæsa. Fl. Nov. Clt. 1817. Shrub 5 to 6 feet.

11 M. LANCEOLA'TA; glabrous; leaves lanceolate, quite entire, acuminated; racemes twin, many-flowered. ♄. G. Native of Nipaul. Bæóbotrys lanceolàta, D. Don, prod. fl. nep. p. 148. Leaves 3 inches long. Racemes sometimes by threes, or trifid or bifid from the base.

Lanceolate-leaved Mæsa. Shrub.

12 M. DU'BIA (Wall. in Roxb. fl. ind. 2. p. 235.) almost glabrous; leaves ovate, acuminated, coarsely serrated; panicles axillary, racemose, equal in length to the leaves. ♄. S. Native of the East Indies, at Wynaad and Coorg. Branches hardly pubescent, dotted. Leaves 5-6 inches long. Panicles composed of long slender racemes. Flowers very small.

Doubtful Mæsa. Shrub.

13 M. ARGE'NTEA (Wall. in Roxb. fl. ind. 2. p. 233.) young branches villous, old ones downy; leaves ovate, acuminated, sharply toothed, downy, of a silvery white colour beneath; racemes axillary, short. ♄. G. Native of Nipaul, on Chundragiri. Branches subscandent. Leaves 6-8 inches long. Racemes downy: having a few alternate branches at the base, giving it the appearance of being fascicled. Flowers dense, white, nodding. Berries smooth white.

Silvery Mæsa. Fl. April, May. Clt. 1818. Shrub 5 to 6 feet.

14 M. MACROPHY'LLA (Wall. in Roxb. fl. ind. 2. p. 234. cat. no. 2325,) arboreous, densely villous; leaves ovate, subcordate, very soft, obtuse or acute, strongly toothed; panicles axillary and terminal. ♄. G. Native of Nipaul, at Hetounra, and on Chundragiri, Naokote, foot of Sheopore, and on hills called Chiriaghaut. Bæóbotrys tomentòsa, D. Don, prod. fl. nep. p. 148.? Young branches ferruginous. Leaves 6 to 12 inches long. Flowers white, smaller than those of the preceding, as also the berries.

Long-leaved Mæsa. Fl. April, July. Clt. 1818. Tree 10 feet.

15 M. MÓLLIS (Blum. bijdr. p. 865, under *Bæóbotrys*,) leaves elliptic, oblong, acute, almost entire, soft beneath, as well as the branchlets; racemes axillary, simple. ♄. S. Native of Java, on the mountains.

Soft Mæsa. Fl. year. Shrub.

16 M. MOLLÍSSIMA (Blum. bijdr. p. 866, under *Bæóbotrys*) leaves oblong, acute, almost quite entire, clothed with silky down above, but very soft beneath, as well as the branchlets; racemes compound, axillary. ♄. S. Native of Java, on the mountains.

Very soft Mæsa. Fl. year. Shrub.

Cult. See *Ardísia*, p. 20, for culture and propagation.

XIII. CORYNOCA'RPUS (from *κορυνη, coryne*, a club; and *καρπος, karpos*, a fruit, in reference to the shape of the fruit.) Forster, gen. t. 16. Schreb. gen. 394. Juss. 288.

Lin. syst. *Pentándria Monogýnia.* Calyx of 5 concave sepals. Corolla of 5 roundish petals, narrowed at the base: alternating with as many petal-formed scales, which are furnished each with a gland inside at the base. Stamens 5, rising from the claws of the petals, subulate; anthers oblong; style one, short; stigma obtuse. Drupe terbinately clavate, containing a single 1-seeded nut.—A shrub, with alternate, stalked, obovate, wedge-shaped, sub-emarginate, quite entire, glabrous leaves; and terminal, large, sessile panicles of white flowers.

1 C. læviga'ta (Forst. l. c. Lin. syst. 242.) ♄. G. Native of New Zealand.

Smooth Corynocarpus. Fl. ? Clt. 1823. Tree. 20 feet.

Cult. For culture and propagation see *Ardísia*, p. 20.

† *Shrubs belonging to the Myrsineàceæ, but doubtful to which of the genera they appertain.*

* *Natives of Asia.*

1 Embe'lia? lùcida (Wall. cat. no. 2315. Alph. D. C. l. c. p. 134.) branches grey; leaves oval, alternate, 2-4 inches long, acute at both ends, coriaceous, entire, with revolute hardly dotted edges, having the lateral nerves arched near the margin; peduncles spike-formed, axillary, solitary or twin, 4 times shorter than the leaves, velvety: covered with ovate-acute, imbricating bracteas their whole length; ovarium sessile, ovoid, in the axils of the bracteas, terminated by a 2-5 lobed stigma. ♄. S. Native of Singapore. From the ovarium, stigma, and bracteas about the base of the peduncles, it agrees with *Mýrsine;* but from the flowers being alternate on secund peduncles, it agrees with *Embèlia.*

Shining Embelia. Shrub.

2 Embe'lia? coria'cea (Wall. cat. no. 2314. Alph. D. C. l. c.) branches blackish, striated; leaves lanceolate, acute, half a foot long, entire, glabrous, coriaceous, glaucescent beneath, having the lateral nerves hardly evident, besprinkled with small dots on both surfaces; panicle terminal, elongated, loose, length of leaves; peduncles and pedicels pilose; calyx glabrous; berries round, dotted, glabrous; style shorter than the berry; stigma capitate. ♄. S. Native of Penang. Leaves and inflorescence those of *Ardísia*, but the stigma is capitellate.

Coriaceous-leaved Embelia. Shrub.

3 My'rsine? umbella'ta (Wall. cat. no. 2312. Alph. D. C. l. c. p. 135.) branches glabrous; leaves 2-3 inches long, oblong, obtuse, glabrous, a little denticulated, with revolute margins, thickish, slightly dotted; flowers axillary, on a common short peduncle: covered by ovate, acute, concave, rather ciliated, short bracteas; pedicels umbellate, filiform, 4-6 in number; calyx 5-parted. ♄. S. Native of Singapore. Inflorescence that of *Mýrsine.*

Umbellulate-flowered Myrsine. Shrub.

4 Ardísia? spica'ta (Wall. cat. no. 2273. Alph. D. C. l. c.) glabrous; leaves on long petioles: petioles 3 inches long, dilated and marginated, sheathing at the base for the space of one inch: limb ovate, acute at both ends, 3-4 inches long, 1½ to 2½ inches broad, repandly crenulated, coriaceous, full of pellucid dots, having the nervation very singular for the order: the lateral nerves are numerous, parallel, and very distinct, even to near the margin, with smaller, hardly perspicuous, transverse nerves; peduncles axillary, 1-3 inches long, and are, as well as the pedicels and flowers, rather downy: bearing lateral, many-flowered, or 1-flowered, alternate branchlets; pedicels usually umbellate at the tops of the branchlets, 2 lines long; bracteas subulate, caducous; calyx deeply 5-cleft, with slender, subulate, erectly incurved lobes; corolla and stamens unknown; ovarium superior, ovoid, terminated by the filiform style, which is the length of the calyx; berries globose, thick, 1-seeded, as in *Ardísia.* ♄. S. Native of Singapore. The inflorescence is that of *Choripétalum.* The petioles, being dilated at the base, are very like those of *Alísma*, and it will therefore form a new genus.

Spicate-flowered Ardisia. Shrub or tree.

5 Ardísia denticula'ta (Blum. bijdr. p. 691.) leaves oblong, acuminated at both ends, bluntish at the apex, denticulated at top, glabrous; umbels sub-corymbose, rarely solitary, terminal or axillary; calycine segments obtuse; flowers for the most part tetrandrous. ♄. S. Native of Java, on the Seribu mountains, and about Rompien.

Denticulated-leaved Ardisia. Fl. March. Shrub.

6. Mæ'sa tetra'ndra (Roxb. fl. ind. 2. p. 233.) leaves alternate, oblong, entire; racemes axillary; flowers tetrandrous. ♄. S. Native of the Moluccas.

Tetrandrous Mæsa. Shrub.

* * *Natives of Africa, and probably belonging to the genus Bádula.*

7 Ardísia microphy'lla (Rœm. et Schultes, syst. 4. p. 804, ex Pet. Th. in. herb. Willd.) leaves obovate, acutish, quite entire; peduncles axillary, 1-flowered. ♄. S. Native of Madagascar.

Small-leaved Ardisia. Shrub.

8 Ardísia floribu'nda (Rœm. et Schultes, l. c.) panicles axillary, divaricate; leaves elliptic-obovate, quite entire. ♄. S. Native of Madagascar.

Bundle-flowered Ardisia. Shrub.

9 Ardísia pyrifòlia (Rœm. et Schultes, l. c.) peduncles racemose, terminal; leaves obovate, coriaceous, quite entire. ♄. S. Native of Madagascar.

Pear-leaved Ardisia. Shrub.

10 Ardísia erythroxyloìdes (Rœm. et Schultes, l. c.) flowers lateral, subspicate at the tops of the branches; leaves lanceolate-obovate, coriaceous. ♄. S. Native of Madagascar.

Erythroxylon-like Ardisia. Shrub.

* * * *Natives of America.*

11 My'rsine? spica'ta (H. B. et Kunth. nov. gen. amer. 3. p. 250.) leaves obovate-oblong, rounded at the apex, quite entire, glabrous, glaucous, pruinose and shining above; spikes axillary, about equal in length to the petioles; flowers sessile; corollas 4-5-parted. ♄. S. Native of the province of New Guiana, in inundated places on the banks of the river Atabapo. Leaves coriaceous, 3-3½ inches long. Segments of calyx ovate-acute, full of glandular dots. Corolla yellowish, with bluntish revolute segments, full of glandular dots. Stamens, with very short glabrous filaments: and erect, lanceolate, and tetragonal anthers, which dehisce lengthwise inside. Style filiform; stigma simple. Ovarium ovate, glabrous. Perhaps a species of Weigéltia; but, nevertheless, it differs in the form and size of the anthers. Inflorescence not that of *Mýrsine.*

Spicate-flowered Myrsine. Shrub 8 to 12 feet.

12 Ardísia Brazilie'nsis (Spreng. syst. 1. p. 662.) leaves lanceolate-oblong, tapering to both ends, membranous, entire; panicles lateral; peduncles umbelliferous. ♄. S. Native of Brazil.

Brazilian Ardisia. Shrub.

* * * * *Native country doubtful.*

13 Ardísia multiflòra (Rœm. et Schultes, syst. 4. p. 804. ex herb. Willd.) flowers racemose; leaves oblong, attenuated

at both ends, with slender parallel veins. ♄. S. Native country unknown.

Many-flowered Ardisia. Shrub.

† † *Plants referred to the order Myrsineàceæ, which ought to be excluded.*

1 ARDÍSIA TURBACE'NSIS (H. B. et Kunth. nov. gen. amer. 3. p. 245.) From the description given of the fruit and seeds, in the above work, this plant belongs to the order *Sapòteæ*.

2 BÆÓBOTRYS ACUMINA'TA (Wall. cat. no. 2321.) From the corolla being polypetalous, and the stamens alternating with the petals, it probably belongs to the order *Rhamneàceæ*, but certainly not to *Myrsineàceæ*.

3 EMBE'LIA? RAMÒSA (Wall. cat. no. 6522.) leaves without dots. Petals wanting. Stamens 5, inserted in the lobes of the perigone, and opposite them. Stigma discoid, toothed. Probably belonging to the order *Urtíceæ*.

4 ARDÍSIA ACERÒSA (Gærtn.) is Cyathòdes aceròsa, R. Br.

5 ÆGÍCERAS MÌNUS (Gærtn.) is Connàris santaloìdes, Vahl. ex Kœnig.

6 MY'RSINE? THEÆFÒLIA (Wall. cat. no. 6391.) does not belong to the order, as the stamens alternate with the lobes of the corolla.

† † † *Genera referred to Myrsíneæ.*

1 OPÍLIA (Roxb.) is very like *Groútia*, Perrot. et Guill. fl. seneg. 1. p. 100. t. 22, which belongs to the order *Olacíneæ*, according to the authors.

2 SAMA'RA (Lin. but not of Swartz) the Córnus Zeylánica, Burm. zeyl. t. 76, belongs to the order *Rhámneæ*.

ORDER CXLIV. THEOPHRA'STEÆ (so called from the plants of the order agreeing with Theophrásta in important characters.) Bartl. D. Don, mss.—Myrsíneæ part of authors. Calyx 5-parted, imbricate, sessile, permanent. Corolla monopetalous, 5-lobed; the lobes imbricate in æstivation, and having squamæform appendages alternating with them. Stamens 5, opposite the lobes of the corolla; anthers turned outwardly, bilocular; the cells parallel, opening lengthwise; pollen farinaceous. Ovarium free, superior 1-celled; the ovula erect, usually indefinite, inserted into a central placenta. Stigma simple, undivided. Berry crustaceous, 1-celled, valveless; 1 or many-seeded; filled by the fleshy placenta. Seeds with a hollow umbilicus; the testa simple, thin, and cartilaginous. Albumen copious, horny. Embryo erect, with foliaceous cotyledons: and a cylindrical radicle, which is opposite the hylum.—Non-lactescent, small, evergreen trees or shrubs, natives of equinoxial America; with usually simple stems, bearing leaves at their tops. Leaves alternate, callous, and often toothed on the edges, reticulately veined; the primary veins transverse; petioles callous at the base. Flowers terminal or lateral, racemose.

Synopsis of the genera.

1 JACQUÍNIA. Corolla campanulate; the appendages distinct and petaloid. Stamens free. Berry 1-seeded.—Leaves entire, with inconspicuous veins.

2 CLAVÌJA. Corolla salver-shaped; the appendages fleshy and adnate. Stamens monadelphous. Berry 2 or many-seeded. —Leaves veiny; the margin entire or toothed.

3 THEOPHRA'STA. Corolla campanulate; the appendages combined into an angularly-lobed, fleshy, arched ring. Stamens free. Berry many-seeded.—Leaves toothed, veiny.

4 ONCÌNUS. Corolla funnel-shaped, fleshy; segments all hooked; the appendages combined into a 5-cleft ring. Stamens free. Berry many seeded.—Leaves entire, opposite.

5 LEÒNIA. Corolla rotately sub-campanulate; the appendages combined with the filaments into a cup-shaped tube. Berry many-seeded, seeds fixed to parietal placentas—.Leaves entire.

I. JACQUI'NIA (so named by Linnæus, in honour of Nicholas Joseph de Jacquin, Professor of Botany at Vienna, born at Leyden in 1727, author of many splendid works). Lin. gen. no. 254. Jacq. amer. 23. Juss. gen. 151. H. B. et Kunth, nov. gen. amer. 3. p. 250.

LIN. SYST. *Pentándria, Monogýnia.* Segments of calyx obtuse. Corolla campanulate; segments of corolla are, as well as the distinct appendages in the throat, obtuse. Stamens 5, inserted in the base of the tube of the corolla; anthers ovate. Ovarium containing many ovula. Style short; stigma obtuse. Berry globose, 1-6-seeded.—Branched shrubs and small trees. Leaves scattered, obtuse, or verticillate, quite entire, crowded at the tops of the branches, with revolute edges. Flowers terminal, racemose, or solitary.

1 J. ARBÒREA (Vahl, eclog. p. 26. H. B. et Kunth, nov. gen. amer. 3. p. 250.) leaves opposite, or almost 4 in a whorl, obovate-oblong, obtuse, unarmed, glabrous; flowers racemose. ♄. S. Native of the Spanish Main, about Cumana; and the island of Montserrat. At Cumana it is called *Barbasco*. Branches somewhat dichotomous, the lower ones 4 together. Leaves about 1½ inch long, and 6-7 lines broad. Corolla white. Calycine segments ciliated. Lobes of crown or appendages scale-formed. Berries red, 1-seeded.

Tree Jacquinia. Fl. July, Aug. Clt. 1829. Tree 20 feet.

2 J. ARMILLA'RIS (Jacq. amer. 53. t. 39. pict. t. 36. Lin. spec. 272.) leaves wedge-shaped, obtuse, unarmed, alternate; flowers racemose. ♄. S. Native of South America, and the West Indies, on calcareous rocks by the coast; Jamaica, Curaçoa, Martinico, Carthagena, &c.—Loefl. itin. 244. t. 277.—Sloan. jam. 2. p. 89. t. 190. f. 2. Branches nodose at the ramifications, 4-5 in a whorl. Leaves oblong-obovate, sometimes emarginate, but always with a little stiff mucrone. Flowers small, white, with the scent of jasmine. Berry of a reddish orange colour, containing 4 seeds, or thereabouts.

Bracelet Jacquinia. Fl. June, July. Clt. 1768. Shrub 4 to 6 feet.

3 J. CARACA'SANA (H. B. et Kunth. nov. gen. 3. p. 251.) leaves scattered, lanceolate-oblong, glabrous, terminating in a spiny point. ♄. S. Native on the Caraccas shore, between the port of La Guayra and Cabo Blanco, in dry places. Leaves cuneated at the base, 1½ inch long, and 5 lines broad. Berry edible, 4-6 seeded. Seeds imbedded in sweet fleshy pulp.

Caraccas Jacquinia. Shrub 6 to 8 feet.

4 J. PUBE'SCENS (H. B. et Kunth. l. c. t. 244.) leaves scattered; upper ones sub-verticillate, obovate-oblong, rounded at the apex, and terminating in a spine, downy beneath; flowers racemose. ♄. S. Native of South America, in the province of Bracamoros, on the banks of the river Amazon, near Tomependa. J. mucronàta, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 802. Branches sub-verticillate. Leaves 18-20 lines long, and 7-8 lines broad. Flowers probably white. This species differs from *J. macrocárpa*, Cav. in the leaves being obovate-oblong, and downy beneath.

Downy-leaved Jacquinia. Shrub 4-5 feet.

5 J. BERTE`RII (Spreng. syst. 1. p. 668.) leaves scattered, subspatulate, acutish, coriaceous, quite glabrous; corymbs terminal, few-flowered. ♄. S. Native of Hispaniola.

Bertero's Jacquinia. Shrub.

6 J. MACROCA´RPA (Cav. icon. 5. p. 55. t. 483.) leaves lanceolate or lanceolate-obovate, mucronate, glabrous; flowers racemose. ♄. S. Native of Mexico, by the sea shore, not far from Panama, Acapulco, &c. Bark violaceous. Leaves 2-3 inches long. Flowers orange-coloured. Berry orange-coloured, cherry-shaped.

Long-fruited Jacquinia. Fl. May, Sept. Clt. 1825. Shrub 6 to 8 feet.

7 J. AURANTI`ACA (Ait. hort. kew. 2d ed. vol. 2. p. 6.) leaves obovate-lanceolate, acuminated, ending in a pungent point, glabrous; flowers racemose. ♄. S. Native of the Sandwich Islands. Sims, bot. mag. 1639. Branches sub-verticillate. Flowers orange-coloured. (f. 6.)

FIG. 6.

Orange-coloured flowered Jacquinia. Fl. April, Sept. Clt. 1796. Shrub 3 to 6 feet.

8 J. RUSCIFÒLIA (Jacq. amer. 54. ed. pict. t. 57.) leaves lanceolate, verticillate, glabrous, ending in a spiny taper point; peduncles 1-flowered, drooping. ♄. S. Native of South America, and of Cuba, in mountain-woods. Medèola aculeàta, Lin. spec. 339.—Dill. elth. p. 148. t. 123. f. 119. Branches dichotomous. Leaves 5-8 in a whorl, an inch long. Flowers white.

Ruscus-leaved Jacquinia. Fl.? Clt. 1729. Shrub 2 to 3 feet.

9 J. FERRUGÍNEA (Spreng. syst. 1. p. 668.) leaves alternate, linear, straight, cuspidate, rather coriaceous, rusty beneath, veiny; peduncles sub-racemose, axillary, few-flowered. ♄. S. Native of Hispaniola.

Rusty-leaved Jacquinia. Shrub.

10 J. LINEA`RIS (Jacq. amer. 54. t. 40. f. 1. ed. pict. t. 58.) leaves linear, acuminated, pungent, whitish beneath, usually twisted, with revolute edges; pedicels solitary, 1-flowered, pendulous. ♄. S. Native of St. Domingo, on the sea-shore; and of the Cayman islands, on the shore, within reach of the tide, where we have seen it in great profusion. Habit of *Andrómeda polifòlia*. Flowers red. Segments of corolla reflexed.

Linear-leaved Jacquinia. Fl. May, Sept. Clt. 1823. Shrub 1 foot.

11 J.? VENÒSA (Swartz, prod. p. 47.) leaves ovate-lanceolate, veiny, rather membranous. ♄. S. Native of the West Indies. Swartz has omitted this plant in Flora Indiæ Occidentalis. It is probably the *Pychótria megalaspérma*, Vahl. and not a species of the present genus.

Veiny Jacquinia. Shrub.

Cult. Jacquinia is a genus of very pretty shrubs, when in blossom, and are, therefore, very desirable in every collection of stove plants. A mixture of sand and peat is a good soil for them; and if they were watered occasionally with salted water, they would probably grow and flower more freely. Cuttings will strike root in sand, under a hand-glass, in heat.

II. CLAVIJA (named by Ruiz and Pavon, after J. Clavijo Faxardo, a Spanish naturalist) Ruiz et Pav. syst. fl. per. 1. p. 284. gen. t. 30. D. Don, in edinb. phil. journ. jan. 1831.—Theophrásta species of authors.

LIN. SYST. *Monadélphia, Pentándria.* Segments of calyx nearly orbicular, concave, finely and erosely serrulated. Corolla rotate; segments fleshy, with finely crenulated margins. Crown of the throat 10-lobed; lobes obtuse, fleshy. Filaments combined into a pyramidal tube; anthers trigonal, combined into a starry disk, with the cells hardly drawn out at the base, at length 4-lobed behind. Style attenuated; stigma small, truncate. Berry globose, crustaceous, 1-celled, usually many-seeded, rarely 1-2-seeded. The rest as in *Theophrásta*.—Shrubs with simple, unbranched stems: furnished with a tuft of long, spiny-toothed leaves at top, somewhat in the manner of palm trees. Leaves alternate, crowded so as to appear verticillate, spreading, oblong-lanceolate, coriaceous, glabrous, reticulately-veined, with spiny-toothed or quite entire edges; petioles callous at the base. Flowers terminal, racemose, white or orange-coloured; they are hermaphrodite, but never dioecious, as said by the authors of *Floræ Peruvianæ*.

§ 1. *Leaves with quite entire edges.*

1 C. MACROCA´RPA (Ruiz. et Pav. syst. fl. per. et chil. 1. p. 284. gen. t. 30.) leaves spatulate-oblong, acute, stiff, dotted beneath; petioles hardly an inch long; racemes very long, pendulous, glabrous. ♄. S. Native of Peru, in the forests of Cuchero and Muna, where it is commonly called *Lucuma de Monte*. Leaves 1 to 1½ foot long, with cartilaginous, sub-reflexed edges. Racemes from a span to 1 foot long. Flowers larger than other species of the genus. Berry size of a crab-apple.

Large-fruited Clavija. Clt. 1816. Shrub 10 to 12 feet.

2 C. LONGIFÒLIA (Ruiz. et Pav. syst. fl. per. et chil. 1. p. 284.) leaves spatulate-lanceolate, acuminate, rather membranous; petioles 3 inches long; racemes erect, downy. ♄. S. Native of Peru, in Pati and Macora. C. lancifòlia, Desf. in nouv. ann. mus. 1. p. 402. t. 14. Leaves 1½ to 2 feet long, and a hand in breadth. Berry size of a cherry.

Long-leaved Clavija. Fl. Aug. Sept. Shrub 8 feet.

3 C. SPATULA`TA (Ruiz. et Pav. l. c. p. 285.) leaves oblong-spatulate, obtuse; petioles 1½ inch long; racemes erect, smoothish. ♄. S. Native of Peru, in the woods of Pozuzo and Muna. Leaves rather membranous, a foot or more long, and 5 inches broad. Racemes 3-4 inches long. Berry size of a cherry.

Spatulate-leaved Clavija. Shrub 6 feet.

4 C. PE´NDULA (Ruiz. et Pav. l. c. p. 285. D. Don, in edinb. phil. journ. jan. 1831.) leaves lanceolate; racemes long, pendulous. ♄. S. Native of Peru, in the forests of Pozuzo.

Drooping-racemed Clavija. Shrub 4 to 6 feet.

§. 2. *Leaves with spiny-toothed edges.*

5 C. ORNA`TA (D. Don, l. c.) leaves long-lanceolate, acute, spiny-toothed; petioles a nail in length; racemes drooping; berries usually 2-seeded. ♄. S. Native of Caraccas, in woods. Theophrásta longifòlia, Jacq. coll. 4. p. 136. hort. schœnbr. 1. t. 116. Leaves 1½ foot long, acute at the base. Racemes 3 to 4 inches long. Flowers orange-coloured. Berry size of a small cherry.

Ornamental Clavija. Clt. 1828. Shrub 10 to 12 feet.

6 C. UNDULA`TA (D. C. l. c.) leaves cuneate-lanceolate, acuminated, spiny-toothed; petioles half an inch long. ♄. S. Native of Guayaquil. Clavìja, spec. nov. Ruiz. et Pav. in herb. Lamb. Leaves hardly a foot long, acute at the base, with the margins sinulately toothed and undulated. Flowers not seen.

Undulated-leaved Clavija. Shrub.

Cult. Shrubs very like *Theophrásta* in habit, which see, p. 26. for culture and propagation.

III. THEOPHRA'STA (so named from Theophrastus, the father of natural history.) Juss. gen. Lin. spec. Lindl. coll. t. 26.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, cartilaginous; segments elliptic-oblong, with erosely-toothed edges. Corolla campanulate, with a short tube, a dilated pentagonal throat, and a spreading limb; throat girded by an elevated, angularly-lobed, fleshy, arched ring. Stamens 5, combined with the tube of the corolla; anthers furnished with a beak-formed, obtuse appendage. Style attenuated; stigma capitate. Berry spherical, crustaceous, many-seeded, bursting irregularly; seeds half immersed in the placenta.—This is a small tree, with a simple, unbranched stem: furnished with a tuft of long, evergreen leaves at top, somewhat in the manner of a palm tree. Leaves alternate, crowded so as to appear somewhat verticillate, almost sessile, oblong-lanceolate, coriaceous, stiff, glabrous, pale green, a foot or a foot and a half long, with undulated, dentately spinose margins, usually truncate at the base and apex, paler beneath, very smooth, with a very thick midrib: having the veins hardly evident, except in the dried state. Flowers terminal, racemose; racemes numerous, many-flowered, hidden among the leaves, very short, hardly 2 inches long. Corolla white. Berry size a crab apple, yellowish.

1 T. Jussieu'i (Lind. coll. t. 26.) ♄. S. Native of St. Domingo, on the mountains. Th. Americàna, Lin. spec. 1. p. 212.? Swartz, obs. p. 58. Th. Henrìci, Hamilt. prod. fl. ind. occ. p. Erèsia foliis aquifolii longissimis, Plum. gen. p. 8. t. 28. icon. t. 126.?

Jussieu's Theophrasta. Fl.? Clt. 1818. Tree 10 feet.

Cult. A small tree, handsome on account of its long, holly-like leaves. A mixture of peat, loam, and sand, answers it well; and cuttings, having the leaves remaining on entire, will take root readily in sand, under a hand-glass, in heat.

IV. ONCI'NUS (from *ογκινος, onkinos,* a hook; in reference to the segments of the corolla being hooked.) Lour. coch. p. 123.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, 5-notched. Corolla funnel-shaped, fleshy; limb 5-parted: segments obtuse, all hooked to one side, emarginate; crown 5-cleft, in the mouth of the tube. Filaments fixed to the middle of the tube. anthers simple. Ovarium globose. Style short. Stigma acute. Berry globose, large, shining, 1-celled, many-seeded. Seeds small, roundish, nestling in the pulp.—A climbing shrub. Leaves ovate-lanceolate, entire, glabrous, shining, opposite.? Flowers white, in long, racemose, terminal corymbs. Berry red, edible, sweet, and somewhat astringent.

1 O. Cochinchine'nsis (Lour. l. c.). ♄. G. Native of Cochinchina. Theophrásta Cochinchinénsis, Spreng. syst. 1. p. 671.

Cochin-china Oncinus. Shrub cl.

Cult. See *Theophrásta* above for culture and propagation.

V. LEO'NIA (named after Don Francisco Leon, a great promoter of the sciences, who by his munificence assisted in bringing out some volumes of the Flora Peruviana.) Ruiz. et Pav. fl. per. et chil. 2. p. 69. t. 222. Mart. nov. gen. bras. 2. p. 86. t. 200. f. 4. in letterpress. Steudèlia, Mart. l. c. in tab. 168 and 169.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, 5-lobed, deciduous, with scarious edges. Corolla rotately sub-campanulate. Stamens 5, combined into a pentagonal, cup-shaped tube, inclosing the pistil. Anthers didymous, 2-celled. Berry corticate, 1-celled. Seeds many, oblong, attached to parietal placentas, (ex Mart. l. c.) nestling in the pulp.—Trees with alternate, coriaceous leaves, on short petioles, entire, full of pellucid dots, glabrous. Flowers cream coloured, full of glandular dots, disposed in axillary racemes or cymes.

1 L. racemòsa (Mart. nov. gen. bras. 2. p. 86. t. 168, and t. 200. f. 4. under *Steudèlia,* in tab.) leaves oblong, ending in a short, acute point; flowers disposed in drooping, compound, aggregate racemes. ♄. S. Native of Brazil, on the banks of the Amazon, at Serpa; and of Peru. L. glycicárpa, Ruiz. et Pav. fl. per et chil. 2. p. 69. t. 222. Corolla yellow, with obovate, concave segments. Seeds obovate.

Racemose-flowered Leonia. Tree 30 to 40 feet.

2 L. cymòsa (Mart. l. c. 2. p. 88. t. 169. under *Steudèlia,* in tab.) leaves oblong, acuminated at both ends; cymes of flowers bifid, erect. ♄. S. Native of Brazil, in the province of Rio Negro, at Ega, in woods. Seeds oblong.

Cymose-flowered Leonia. Tree 10 to 15 feet.

Cult. For culture and propagation see *Theophrásta* above.

Order CXLV. SAPOTA'CEÆ. Sapòtæ, Juss. gen. p. 151. R. Br. prod. p. 528.

Flowers hermaphrodite. Calyx divided, regular, permanent. Corolla monopetalous, hypogynous, regular: having the segments equal in number to the divisions of the calyx, rarely double or triple that number, deciduous. Stamens epipetalous, definite, distinct; fertile ones equal in number to the segments of the calyx, rarely more, and opposite them, but alternating with the segments of the corolla; sterile ones equal in number to the fertile ones, and alternating with them, sometimes wanting. Anthers usually behind. Ovarium many-celled; cells 1-seeded. Ovula erect. Style 1; stigma undivided, sometimes lobed. Berry many-celled, or only 1-celled from abortion. Seeds nucumentaceous, sometimes combined into a many-celled putamen; testa bony, shining, with the front more or less scraped away, and opaque. Embryo erect, white, large, usually inclosed in fleshy albumen. Cotyledons foliaceous in those seeds furnished with albumen, and fleshy in those without, sometimes connate; with a short straight or a little inclined radicle, looking towards the hilum, and an inconspicuous plumule.—Exotic trees or shrubs, the greater part natives within the tropics, most of which are milky. Leaves alternate, exstipulate, quite entire, coriaceous. Inflorescence axillary.

This order is more nearly allied to *Ebenàceæ* than to any other, but differs from it in the species being milky, in the wood being soft, in the stamens being definite, in the flowers being hermaphrodite, in the style being undivided, in the cells of the ovarium being always 1-seeded, in the ovula being erect, in the testa of the seeds being bony, and in many other characters.

The plants contained in this order are chiefly valuable for their fruit, which in many cases contribute richly to the dessert. *Mimùsops Elèngi, Imbricària, Commersònii,* and *Argània Sideróxylon* are all of this description; the star-apples of the West Indies, the produce of several species of *Chrysophýllum,* and particularly of *C. Cainìto,* are esteemed delicious; and the medlars, lucumas, and sapotillas of equinoxial America, all the fruit of different kinds of *A'chras* are among the most valuable productions of the Western world. The seeds of all the order are oily; those of *A'chras sapòta* are accounted diuretic and aperient. Their oil is not fluid, but so concrete as to have the appearance and consistence of butter, whence the name of butter-tree has been applied to different species, both in India and

Africa. The most famous of this description are the Indian *Mava, mahva*, or *Madhuca*, the *Bássia butyràcea*, and the African *Shea-tree, Bássia Párkii;* the seeds of the former are so oleaginous, that a single tree has been known to produce three quintals of oil; the dried flowers of the same tree are mixed by some Indians with their food, and a kind of spirit is distilled from them by others. The juice of all the sapotas is milky, but not acrid and poisonous, like that of most other lactescent orders, but, on the contrary, yielding a wholesome beverage or food. According to Mr. R. Brown, the bark of some species of *A`chras* and *Lucùma* is so astringent and febrifugal as to be substituted for quinquina or Peruvian bark.

Synopsis of the genera.

1 Sersalísia. Calyx 5-parted. Corolla 5-cleft. Stamens 10, 5 fertile and 5 sterile. Stigma undivided. Ovarium 5-celled. Berry 1-5-seeded. Seeds exalbuminous, crustaceous.

2 Arga`nia. Calyx 10-parted, disposed in a double series. Corolla 5-cleft; segments sub-emarginate. Stamens 10, 5 fertile, and 5 sterile, petal-like. Drupe containing a 2-3-celled nut, some of the cells usually above, marked by as many furrows as there are cells.

3 Sideróxylon. Calyx 5-parted. Corolla 5-cleft, with a denticulated lobe at the base of each segment. Stamens 5, alternating with the 5 teeth or sterile stamens. Berry 5-celled; cells 1-seeded, not all fertile; seeds exalbuminous, bony.

4 Bume`lia. Calyx and corolla 5-parted. Stamens 10, 5 fertile, alternating with 5 membranous sterile ones. Ovarium 5-celled. Berry 1-seeded. Seeds albuminous.

5 Nycterisítion. Calyx and corolla 5-parted. Stamens 5, fertile, without any sterile ones. Ovarium 5-celled; cells 1-seeded. Stigma obtuse. Seeds bony, albuminous.

6 Chrysophy´llum. Calyx and corolla 5-parted. Stamens 5, fertile, and no sterile ones. Stigma obsoletely 10-lobed. Berry 10-celled. Seeds bony and albuminous.

7 A`chras. Calyx 6-parted. Corolla 6-cleft. Stamens 12, 6 sterile and 6 fertile. Ovarium 12-6-celled, 12-6-seeded. Seeds albuminous, bony.

8 Lucu`ma. Calyx 5-parted. Corolla 5-cleft. Stamens 10, 5 fertile, and 5 sterile, scale-like. Ovarium 10-5-celled. Berry 1-10-seeded. Seeds bony, exalbuminous.

9 Inoca´rpus. Calyx 2-cleft. Corolla 5-cleft, long and linear. Stamens 10, inserted in a double row. Stigma concave, sessile. Drupe compressed, ovate, incurved at top, containing a fibry reticulated nut. Embryo exalbuminous.

10 Mimu`sops. Calyx 8-6-parted, in a twin order. Corolla with a double row of segments. Stamens 6-8 fertile (f. 7. *a.*), and 6-8 sterile (f. 7. *a.*). Ovarium 6-8-celled. Berry few-seeded from abortion. Seeds albuminous, nucumentaceous.

11 Imbrica`ria. Calyx 8-parted. Corolla with a triple series of trifid segments. Stamens 8 sterile and 8 fertile. Ovarium 8-celled, 8-seeded. Berry few-celled from abortion. Seeds albuminous, nucumentaceous.

12 Omphaloca´rpum. Calyx many-parted, covered by 11-12 concave scales. Corolla 6-7-cleft; segments alternating with as many fringed scales. Stamens 30-40, disposed in unequal series. Fruit solid, woody, umbilicate, many-celled, many-seeded.

13 Ba´ssia. Calyx 4-5-parted. Corolla 8-parted. Stamens 16, disposed in a double row. Berry 6-8-celled; cells 1-seeded. Seeds without albumen, somewhat trigonal, bony.

14 Laba`tia. Calyx 4-parted, the 2 outer segments the largest. Corolla 4-cleft. Stamens 8, 4 sterile and scale-formed, and 4 fertile ones inserted in the bottom of the corolla. Berry hard, roughish, 4-celled, rarely 2-celled 4-seeded. Seeds exalbuminous.?

15 Poute`ria. Calyx and corolla 4-cleft. Stamens 8, 4 sterile and bristle-formed, and 4 fertile. Capsule ovate, hispid, 4-valved; each valve containing an arillate almond-formed seed.

16 Phellìne. Calyx 4-toothed. Corolla 4-parted. Stamens 4, fertile. Capsule 4-celled; cells corky, dehiscing inside. Seeds solitary.

† *A genus hardly known.*

17 Monta`bea. Calyx tubular, with 5 unequal segments. Corolla funnel-shaped, with unequal segments. Nectary monophyllous, or stamens 5-8 combined, fixed to the superior part of the tube of the corolla, 5-toothed at top, with an anther between each of the teeth, which are probably abortive stamens. Stigma globose, obtuse. Berry 3-5-celled, 3-5-seeded. Seeds arillate, umbilicate on one side.

I. SERSALI´SIA (named in memory of John Baptist Sersalis, a Neapolitan ecclesiastic, much praised by Fabius Columna). R. Br. prod. p. 529.—Sideróxylon species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla 5-cleft. Stamens 10, 5 of which are sterile and scale-formed, and the other 5 fertile and bearing anthers, alternating with the scale-formed sterile ones. Ovarium 5-celled. Stigma undivided. Berry 1-5-seeded. Seeds exalbuminous, with a crustaceous testa, and longitudinal hilum.—Shrubs, with obovate leaves, and axillary, white flowers. The flowers are almost those of *Sideróxylon*, and the fruit almost that of *Bumèlia.*

1 S. serícea (R. Br. prod. p. 530.) leaves ovate or obovate, obtuse, tomentose beneath as well as the peduncles and calyxes; corollas villous outside, having the tube exceeding the calyx; sterile filaments lanceolate; style filiform, villous at the base. ♄. S. Native of New Holland, within the tropic. Sideróxylon seríceum, Ait. hort. kew. 1. p. 262.

Silky-leaved Sersalisia. Clt. 1772. Shrub 6 to 10 feet.

2 S. obova`ta (R. Br. l. c.) leaves obovate, a little attenuated at the base, rather silky beneath; calyxes smoothish; corolla 5-parted, glabrous: with orbicular segments, which much exceed the lanceolate, sterile filaments; stigma sessile, round. ♄. S. Native of New Holland, within the tropic.

Obovate-leaved Sersalisia. Shrub.

Cult. A mixture of loam, peat, and sand is a good soil for the species of *Sersalísia;* and cuttings strike root freely in sand, with a hand-glass over them.

II. ARGA`NIA (*Argan* is the aboriginal name of the tree). Rœm. et Schultes, syst. XLVI. Sideróxylon spinòsum, Lin.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-10-cleft; leaflets, or rather scales, roundish, concave, disposed in a double

series. Corolla cup-shaped, 5-parted, with ovate-lanceolate, sub-emarginate segments; having 5 petal-like, linear-subulate segments, adhering to the base of the corolla, and alternating with its segments. Stamens 5, filiform, length of corolla, and adnate to its base; anthers incumbent, ovate, keeled on the back. Ovarium conical, hairy. Style glabrous; length of stamens; stigma simple. Drupe ovate, terminated by the style, 2-3-celled; cells 1-seeded. Seeds hard, smooth, having a longitudinal furrow inside.—A small evergreen tree.

1 A. SIDERÓXYLON (Rœm. et Schultes, syst. 4. p. 502.). ♄. H. Native of the southern parts of the kingdom of Morocco; abundant in woods situated in the southern provinces, between the rivers Tansif and Sur. Sideróxylon spinòsum, Lin. spec. p. 279. exclusive of the syn. of Rheede, mal. Ait. hort. kew. ed. 2. vol. 2. p. 14. Dry. in Lin. trans. 2. p. 225. Correa, in ann. mus. 8. p. 393. Elæodéndron A'rgan, Retz. obs. 6. p. 26. Willd. spec. 1. p. 1148. exclusive of the syn. Rhámnus pentaphýllus, Jacq. and Boccone. Schousb. mar. p. 89. Rhámnus Sículus, Lin. syst. 3. p. 227. exclusive of the synonymes.—Comm. hort. amst. 1. p. 161. t. 83. An evergreen tree of middle size, with a bushy head. Branches terminated by strong spines. Leaves lanceolate, entire, bluntish, glabrous, paler beneath; the lower ones in fascicles. Flowers lateral and axillary, scattered, crowded, sessile. Corolla greenish-yellow. Fruit dotted with white, size of a plum, full of white, milky juice.

Iron-wood Argania. Fl. July. Clt. 1711. Tr. 15 to 20 ft.

Cult. The tree will grow against a south wall, but will require the protection of a mat in severe weather in winter. It is to be propagated by cuttings in sand, under a hand-glass.

III. SIDERO'XYLON (from σιδηρος, *sideros*, iron, and ξυλον, *xylon*, wood; from the hardness of the wood). Dill. elth. p. 357. t. 265. f. 344. Lin. gen. no. 264. Juss. gen. 151. Gærtn. fruct. 3. p. 123. t. 202. Lam. ill. t. 120. Vent. choix. t. 22.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, 5-parted. Corolla 5-cleft, with roundish, concave segments; having a lobe in each recess. Stamens 5 (in one species 10), length of corolla, alternating with the teeth inside the corolline segments, which are probably sterile stamens; anthers oblong. Style length of stamens. Stigma obtuse. Berry 5-celled, 5-seeded, but some of the cells are usually abortive. Albumen subcartilaginous. Embryo obliquely ascending.—Evergreen trees, with axillary and lateral fascicles of flowers.

* *Shrubs unarmed.*

1 S. INE'RME (Lin. in Dill. hort. elth. 357. t. 265. f. 344.) spec. p. 278.) leaves oblong-ovate, obtuse, glabrous; flowers in lateral and axillary fascicles. ♄. G. Native of the Cape of Good Hope. Jacq. coll. 2. p. 250. Mill. ill. t. 299. S. A'rgan, Lam. dict. 1. p. 245. ill. no. 2455. t. 120. f. 1. Rœmèria inérmis, Thunb. in Rœm. arch. 2. p. 2. Leaves coriaceous, shining, 3 inches long, attenuated at the base. Flowers small, with a green calyx and white petals and stamens. Sterile filaments lanceolate, acuminated, usually cut.

Unarmed Iron-wood. Fl. July. Clt. 1692. Sh. 5 to 6 ft.

2 S. CINE'REUM (Lam. dict. 1. p. 244. exclusive of the synonymes) leaves obovate, flat, reticulated with veins beneath; flowers axillary, 1-4 in a fascicle. ♄. S. Native of the Isle of France.—Burm. afr. t. 84. f. 2. Branches rufescent. Leaves coriaceous, glabrous, dotted beneath. Flowers small, white.

Grey-barked Iron-wood. Shrub 6 to 10 feet.

3 S. NÍTIDUM (Blum. bijdr. 675.) leaves oblong, attenuated at both ends, shining; flowers crowded into axillary racemes. ♄. S. Native of Java, in the province of Buitenzorg, in woods on Mount Sulin, where it is called *Njalu*.

Shining Iron-wood. Tree 80 feet.

4 S.? RUGÒSUM (Rœm. et Schultes, syst. 4. p. 501.) leaves oblong, acuminated, glabrous; flowers in axillary fascicles; fruit wrinkled, acuminated. ♄. S. Native of Jamaica, on the higher mountains. Chrysophýllum rugòsum, Swartz, prod. p. 49. fl. ind. occ. 1. p. 484. Willd. berl. mag. 3. p. 60. Leaves large, paler beneath. Corolla 10-cleft, 5 of the segments obtuse and 5 very short. Fruit size of a filbert, yellowish brown. Seeds ovate-oblong, compressed.

Wrinkled-fruited Iron-wood. Tree.

5 S.? CANTONIE'NSE (Lour. coch. p. 122.) leaves palmate, glabrous, on long petioles; peduncles solitary, axillary, many-flowered. ♄. G. Native of China, in the suburbs of Canton. Shrub climbing. Calyx a small, lancéolate, deciduous spathe. Corolla 5-cleft. Nectarium acutely 5-cleft. Stamens 5. Stigma obtuse. Berry roundish, 4-celled, 1-seeded. Root a large round tube, tapering at the base. This is certainly not a *Sideróxylon*, nor does it appear to belong to the order.

Canton Iron-wood. Shrub cl.

6 S.? ATROVÍRENS (Willd. enum. suppl. p. 11.) leaves lanceolate, acute, smooth, pale beneath, approximate; flowers small, racemose, axillary. ♄. G. Native? An erect, branched shrub, with greyish white branches; petioles blackish, brown. Flowers white. Perhaps the same as S. atrovírens, Lam., or probably S. nígricans, Dum. Cours.

Dark-green Iron-wood. Shrub 6 to 10 feet.

7 S. GUADALUPE'NSIS (Spreng. syst. 1. p. 666.) unarmed; leaves ovate-oblong, bluntish, coriaceous, quite glabrous, parallelly veined beneath; peduncles solitary, 1-flowered, axillary. ♄. S. Native of Guadaloupe.

Guadaloupe Iron-wood. Tree or shrub.

8 S. TOMENTÒSUM (Roxb. cor. 1. p. 28. t. 28.) leaves oblong, undulated, downy; flowers in axillary fascicles; berry 1-5-seeded. ♄. S. Native of the East Indies, on the tops of mountains. Bark ash-coloured. Leaves smooth in the adult state, but clothed with rust-coloured down while young, 3-5 inches long. Flowers small, dull white. Berry ovate, size of an olive. Segments of corolla acutish. S. Wightiànum, Wall. no. 4154. appears to be only a more glabrous variety of *S. tomentòsum*.

Tomentose Iron-wood. Clt. 1818. Tree 8 to 10 feet.

9 S. GRANDIFÒLIUM (Wall. in Roxb. fl. ind. 2. p. 348.) leaves obovate-elliptic, obtuse or acuminated, tapering downwards, smooth, crowded at the tops of the branches; flowers globular, in numerous axillary and lateral, crowded fascicles; segments of corolla obtuse; ovarium densely bearded. ♄. S. Native of Silhet. Branches angular. Leaves 6-12 inches long. Flowers small, pea-green. Stigma truncate. S. règium, Wall. cat. no. 415. (a native of Pegu) does not appear to differ from this.

Great-leaved Iron-wood. Tree large.

10 S. WALLICHIA'NUM; branches, petioles, and midrib of leaves clothed with rusty villi while young; leaves large, elliptic-oblong, or oblong-obovate, acuminated, on short petioles, crowded at the tops of the branches. ♄. S. Native of Penang. S. rugòsum, Wall. cat. no. 4158. but not of Rœm. et Schultes.

Wallich's Iron-wood. Tree.

11 S. NERVÒSUM (Wall. cat. no. 4159.) branches, petioles, and midrib of young leaves, calyxes, and pedicels clothed with rusty villi; flowers rather large, in crowded, close, axillary and lateral fascicles; leaves large, oblong, with a short acumen, on short thick petioles, rusty beneath. ♄. S. Native of the Burmese empire, at Trogle, on the banks of the Saluen river.

Nerved Iron-wood. Tree.

* * *Armed shrubs.*

12 S. arma'tum (Roth. nov. spec. p. 67.) prickles axillary, about equal in length to the petioles; leaves elliptic, tapering to both ends, downy beneath, tomentose while young; pedicels axillary and lateral, crowded. ♄. S. Native of the East Indies. Very like *S. tomentòsum* in the leaves and flowers. The flowers are scattered without order.

Armed Iron-wood. Tree.

13 S.? deca'ndrum (Lin. mant. p. 48. Willd. spec. 1. p. 1091. berol. mag. p. 55.) spinose; leaves elliptic, deciduous, glabrous; flowers in axillary fascicles; stamens 10, fertile, length of nectary. ♄. S. Native of South America. Spines axillary, solitary. Corolla funnel-shaped, with concave segments. Segments of nectary or abortive stamens serrated. Anthers sagittate. Berry black, 3-5-celled.

Decandrous Iron-wood. Tree.

Cult. For culture and propagation see *Sersalisia*, p. 27.

IV. BUME'LIA (from *βουμελια*, *boumelia*, the Greek name for the common ash). Swartz, prod. p. 49. fl. ind. occ. 1. p. 493. Schreb. gen. 1736.—A'chras species, Lin. Poir.—Sideróxylon species, Lam. and others.—Chrysophýllum species, Aubl. and others.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx 5-parted. Corolla with a short tube, and a 5-parted limb, furnished with 2 scales at the base of each segment. Stamens 5, inserted in the tube of the corolla, and opposite its segments, having as many membranous scales or sterile filaments alternating with them. Ovarium 5-celled; cells 1-ovulate. Stigma simple. Drupe oval, 1-seeded. Seed albuminous.—Trees, rarely shrubs. Leaves scattered, entire, permanent. Peduncles axillary and lateral, 1-flowered, usually crowded in fascicles. Flowers whitish.

* *Unarmed shrubs or trees.*

1 B. nìgra (Swartz, prod. 49. fl. ind. occ. 1. p. 487.) leaves oblong-lanceolate, glabrous, with undulated margins; branchlets twiggy; flowers 4-6 in a fascicle. ♄. S. Native of Jamaica, in mountain woods. A'chras nìgra, Poir. suppl. 6. p. 532.—A'chras, Browne, jam. p. 201. Sideróxylon nìgrum, Gærtn. fil. carp. 1. fasc. 3. p. 123.? Bark blackish. Leaves crowded at the tops of the branches, dark green, drooping. Segments of corolla and calyx ovate, concave, white. Sterile filaments lanceolate undulated. Drupe glabrous, roundish.

Black Bumelia. Clt. 1806. Tree 30 feet.

2 B. pa'llida (Swartz, prod. p. 40. fl. ind. occ. 1. p. 489.) leaves elliptic, obtuse; pedicels crowded, lateral; branches erect. ♄. S. Native of Jamaica, in fields. A'chras pállida, Poir. suppl. 6. p. 533. Sideróxylon pállidum, Spreng. syst. 1. p. 668. Very nearly allied to *B. nìgra*, from which it differs in the smaller stature, whitish bark, and stiffer branches. Two of the calycine segments are larger than the other three. Corolla yellowish white, divided even to the base; segments without any scales at the base. Scales or sterile filaments trifid at the apex.

Pale Bumelia. Tree small.

3 B. retu'sa (Swartz, prod. p. 49. fl. ind. occ. 1. p. 490.) leaves cuneate-ovate, retuse, stiff; flowers in axillary fascicles. ♄. S. Native of the west of Jamaica, on the mountains. Gærtn. fil. carp. 3. p. 126. t. 202. f. 3. A'chras retùsa, Poir. suppl. 6. p. 533.—Browne, jam. 201. no. 7. Leaves alternate and opposite, shining above, white beneath, and full of black dots. Calyx white, roughish. Sterile filaments lanceolate, undulated. Drupe ovate. Browne calls this *Bastard Bully-tree*.

Retuse-leaved Bumelia. Tree dwarf.

4 B. fœtidíssima (Willd. spec. 1. p. 1086.) leaves lanceolate-oblong, sub-emarginate; flowers in axillary fascicles. ♄. S. Native of St. Domingo, on the mountains. Sideróxylon fœtidíssimum, Lin. mant. p. 49. Jacq. amer. p. 55. Sideróxylon oppositifòlium, Mill. dict. no. 2.? Tree not lactescent. Leaves shining, nearly opposite. Flowers white, fetid. Calycine segments roundish, obtuse, concave. Corolla rotate, with ovate, flat segments. Sterile filaments serrated. Drupe roundish, depressed at top.

Very fetid-flowered Bumelia. Fl. June, Aug. Clt. 1820. Tree 12 feet.

5 B. pauciflòra (Rœm. et Schultes, syst. 4. p. 493.) leaves lanceolate-oblong, alternate, obtuse; flowers spreading, axillary, 3-4 in a fascicle. ♄. S. Native of St. Domingo, in woods on the mountains. Sideróxylon pauciflòrum, Jacq. amer. p. 55. Segments of corolla concave at top. Flowers white, less fetid than the preceding, to which it is very nearly allied.

Few-flowered Bumelia. Tree 20 feet.

6 B. mastichode'ndron (Rœm. et Schultes, l. c.) leaves lanceolate, acute, and obtuse; flowers in axillary fascicles. ♄. S. Native of St. Domingo, and the Bahamas. Sideróxylon mastichodéndron, Lam. ill. no. 2456. t. 120. f. 2. Jacq. coll. 2. p. 253. t. 17. f. 5. Gærtn. fil. carp. 3. p. 125. t. 202.—Catesb. car. 2. t. 75. Branches long, flexible. Leaves shining above and paler beneath. Flowers yellowish. Corolla rotate, with ovate, obtuse, concave segments. Sterile filaments subulate. Drupe yellow, ovate, obtuse.

Mastich-tree Bumelia. Tree 40 to 50 feet.

7 B. salicifòlia (Swartz, prod. p. 50. fl. ind. occ. 1. p. 491.) leaves ovate-lanceolate, acuminated; flowers in axillary and lateral fascicles. ♄. S. Native of Jamaica and St. Domingo. Willd. spec. 1. p. 1085. exclusive of Mastichodéndron, Jacq. Sideróxylon salicifòlium, Lam. ill. 2458.? Gærtn. fil. carp. 3. p. 124. A'chras salicifòlia, Lin. spec. 470.—Browne, jam. 201. t. 17. f. 4.—Sloane, hist. 2. p. 98. t. 206. f. 2. The tree is called in Jamaica *Galimeta-wood*, or from the bark *White Bully-tree*. Leaves shining. Calyx clothed with rusty down. Corollas white. Fruit small, oblong, often 2-seeded.

Willow-leaved Bumelia. Clt. 1820. Tree 20 feet.

8 B. monta'na (Swartz, prod. 49. fl. ind. occ. 1. p. 493.) leaves oblong, obtuse; flowers solitary, or 3 or 4 in a fascicle. ♄. S. Native of the south of Jamaica, on the higher mountains. A'chras montàna, Poir. suppl. 6. p. 533. Branches a little warted. Calycine segments 5-8, concave, roundish. Corolla having the tube ventricose at the base; and the segments of the limb undulated. Scales or sterile filaments acute, connivent.

Mountain Bumelia. Tree.

9 B. nervòsa (Vahl, eclog. p. 28. Willd. spec. 1. p. 1087.) leaves elliptic, of a different colour beneath; flowers tomentose, disposed in lateral and axillary fascicles. ♄. S. Native of Cayenne and Guiana. Chrysophýllum Cainìto, Aubl. guian. 1. p. 234. Chrysophýllum macrophýllum, Lam. dict. 2. p. 44. Tops of branches rather angular, and clothed with rusty tomentum. Leaves acute at the base, and bluntish at the apex, 4-5 inches long, shining above, but of a rufescent glaucous colour beneath, hardly downy. Petioles clothed with rusty tomentum. Calycine segments ovate, acute, length of corolla. Sterile filaments subulate. Ovarium tomentose.

Nerved-leaved Bumelia. Clt. 1820. Tree 20 feet.

10 B. rotundifòlia (Swartz, prod. 50. fl. ind. occ. 1. p. 495.) leaves nearly orbicular or elliptic, rounded at the apex, acute at the base, coriaceous, glabrous, shining; flowers in axillary and lateral fascicles. ♄. S. Native of Jamaica, on the mountains among bushes; and in the province of Bracamoros, on the banks of the Amazon, at the confluence of the Chincapin. B. obtusifòlia, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 802. A'chras rotundifòlia, Poir. ency. 6. p. 534. Leaves palest beneath. Calyxes clothed with silky down: having ovate, ob-

tuse concave segments. Corolla white, also clothed with silky down, having roundish-ovate segments, with 2 subulate scales at the base of each segment. Drupe roundish-ovate, glabrous. The plant of Humboldt does not differ from that of Swartz, unless that the calyx and branchlets of the former are downy.

Round-leaved Bumelia. Clt.? Tree 20 feet.

11 B. cunea'ta (Swartz, fl. ind. occ. 1. p. 496.) leaves cuneate-obovate, glabrous; flowers in lateral and axillary fascicles towards the tops of the branches. ♄. S. Native of Jamaica, and other west Indian islands, among bushes on the mountains. Sideróxylon obovàtum, Lam. ill. no. 2464. Gærtn. fil. carp. cent. 1. p. 125. A'chras cuneifòlia, Poir. ency. 6. p. 534. Leaves sometimes as if they were in fascicles, and rather emarginate at the apex. Calycine segments roundish, concave. Corolla small, with acuminated segments, hardly lònger than the calyx; inner scales small, acute.

Cuneate-leaved Bumelia. Clt. 1823. Tree.

** *Armed shrubs or trees.*

12 B. cela'strina (H. B. et Kunth, nov. gen. amer. 7. p. 212.) spiny; leaves obovate-oblong, rounded at the apex, cuneated at the base, quite entire, rather coriaceous, glaucous-green. ♄. S. Native of Mexico, on the western declivities of mountains. Leaves in fascicles of 2-6. Calycine segments 4, roundish elliptic. Peduncles solitary or twin, rising from the fascicles of leaves.

Celastrus-like Bumelia. Shrub.

13 B. buxifòlia (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 802. H. B. et Kunth, nov. gen. amer. 7. p. 212.) spiny erect; leaves elliptic, rounded at the apex and cuneated at the base, or obovate, quite entire, somewhat coriaceous, glabrous, shining, clothed with silky down beneath while young. ♄. S. Native of the Spanish Main, near Cumana, where it is called *Pejoui* by the inhabitants. Leaves $1\frac{1}{2}$ inch long. Calycine segments roundish-elliptic, somewhat concave. Corolla hemispherically campanulate, 5-6-parted. Flowers umbellately crowded, small, white.

Box-leaved Bumelia. Tree 40 feet.

14 B. lycioìdes (Gærtn. fil. carp. 3. p. 127. t. 120. Pers. ench. 1. p. 237.) spiny; leaves broad-lanceolate, bluntish, tapering to the base, glabrous; flowers in axillary fascicles. ♄. S. Native of Carolina, in shady woods. Sideróxylon lycioìdes, Duham. arb. 2. p. 260. t. 68. Willd. spec. 1. p. 1090. Ait. hort. kew. ed. 2. vol. 2. p. 12. Pursh, fl. amer. sept. 1. p. 155. Sider. læ've, Walt. fl. corol. p. 100. Lycioìdes, Lin. hort. cliff. p. 488. Spines subulate. Leaves 2 inches long, deciduous, a little silky while young. Flowers greenish white. Segments of corolla trifid? perhaps from the 2 scales inside each segment.

Boxthorn-like Bumelia. Fl. Aug. Clt. 1758. Sh. 8 to 10 ft.

15 B. fe'rox (Cham. et Schlecht. in Linnæa. 6. p. 392.) nearly glabrous in every part, with strong flexuous branches and spreading spinescent branchlets; leaves coriaceous, glaucescent, on short petioles, cuneated, obtuse, spatulate-lanceolate, elliptic and obovate; flowers aggregate, axillary, calycine segments ovate-obtuse, unequal. ♄. G. Native of Mexico. Leaves 1-2 inches long. Pedicels 1-flowered. Segments of corolla a little longer than the calyx, erosely crenulated. Stamens equal in length to the corolla; sterile ones spatulate, lanceolate, with dentately jagged edges. Ovarium 5-celled. Flowers white.

Fierce Bumelia. Shrub or tree.

16 B. reclina'ta (Vent. choix. t. 22. Pursh, fl. amer. sept. 1. p. 155.) spiny, bushy, diffusely reclinate; leaves small, obovate, quite smooth; flowers in axillary fascicles. ♄. H. Native of Georgia, on the banks of rivers. Sideróxylon reclinàtum, Michx. fl. bor. amer. 1. p. 122. Young branches terminated by a long spine. Leaves alternate or in fascicles. Flowers small, white. Corolla and scales serrated. Sterile filaments subulate, entire. Drupe ovate.

Reclinate-branched Bumelia. Fl. Jan. Clt. 1806. Sh. 3 to 4 ft.

17 B. te'nax (Willd. spec. 1. p. 1085. enum. p. 248.) leaves obovate-lanceolate, of a rusty silvery colour beneath, silky; flowers in axillary fascicles. ♄. H. Native of Carolina, in dry situations. B. chrysophylloìdes, Pursh. fl. amer. sept. 1. p. 155. Sideróxylon tènax, Lin. mant. p. 48. Jacq. coll. 2. p. 252. Lam. dict. 1. p. 245. Siderox. chrysophylloìdes, Michx. fl. bor. amer. 1. p. 123. Chrysophýllum Caroliniénse, Jacq. obs. 3. p. 3. t. 54. Chrys. glàbrum, Juss. Siderox. seríceum, Walt. fl. car. p. 100. Branches very tough. Bark white. Leaves deciduous. Calycine and corolline segments ovate, obtuse. Segments of nectary trifid. Stamens length of corolla. Drupe oval. Flowers white.

Tough-branched Bumelia. Fl. Jul. Aug. Clt. 1765. Tr. 20 ft.

18 B. lanuginòsa (Pursh. fl. amer. sept. 1. p. 155.) rather spinose; branchlets spreading, downy; leaves oval-lanceolate, glabrous above and woolly beneath, but not silky; flowers in axillary fascicles. ♄. H. Native of Carolina and Georgia, in humid situations among bushes. Sideróxylon lanuginòsum, Michx. fl. bor. amer. 1. p. 123. Siderox. tènax, Walt. fl. car. p. 100. Very nearly allied to *B. tènax*, but differs in the leaves being woolly beneath, not silky, often obtuse.

Woolly-leaved Bumelia. Clt. 1806. Tree small.

19 B. pentagòna (Swartz, prod. p. 49. fl. ind. occ. 1. p. 494.) leaves lanceolate, acuminated, shining; flowers in axillary and lateral fascicles; drupe pentagonal. ♄. S. Native of St. Domingo, on the mountains. Sideróxylon pauciflòrum, Lam. ill. 2459. as is seen by Poir. suppl. 1. p. 445. no. 12. A'chras pentagòna, Poir. ency. 6. p. 533. Branches warted, cinereous. Segments of the calyx roundish, villous. Corolla white, hardly the length of the tube of the calyx: having the segments ovate, concave. Sterile filaments lanceolate. Drupe ovate, glabrous.

Pentagonal-fruited Bumelia. Tree 20 feet.

20 B. oblongifòlia (Nutt. gen. amer. 1. p. 135.) spiny; leaves smooth, oblong, obtuse, deciduous; flowers conglomerate, nearly sessile, very numerous; scales or sterile filaments trifid. ♄. H. Native of North America, on the Mississippi, near the lead mines of St. Louis; it is also abundant as far down the river as Natches. Tree, with numerous twisted branches. Calycine segments ovate, concave. Drupe purple. Wood fetid.

Oblong-leaved Bumelia. Fl. July, Aug. Clt. 1818. Tree 18 to 20 feet.

21 B. strigòsa (Spreng. syst. 1. p. 665.) somewhat spinose; leaves oblong, obtuse, shining above, but pale and clothed with adpressed bristles beneath. ♄. S. Native country unknown. Sideróxylon strigòsum, Willd. enum. suppl. p. 11. Flowers whitish.

Strigose Bumelia. Fl. July, Aug. Clt. 1818. Tree 20 ft.

22 B. crenula'ta (Spreng. syst. 1. p. 665.) leaves oblong-lanceolate, attenuated at the base, quite glabrous on both surfaces, crenulately serrated; branches glabrous, subspinose; peduncles 1-flowered, usually solitary. ♄. S. Native of Porto Rico.

Crenulated-leaved Bumelia. Shrub or tree.

† *Species not sufficiently known.*

23 B.? multiflòra (Rœm. et Schultes, syst. 4. p. 498.) spiny; leaves obovate-cuneated, obtuse, glabrous, coriaceous; peduncles divided, fasciculate, lateral. ♄. G. Native of the Cape of Good Hope. Sideróxylon multiflòrum, Lam. ill. no. 2465. Poir. suppl. 1. p. 446. no. 16. Habit, flowers, and fruit unknown.

Many-flowered Bumelia. Tree or shrub.

24 B.? PUNCTA'TA (Rœm. et Schultes, l. c.) unarmed; leaves oblong-oval, bluntish, glabrous, dotted beneath; flowers lateral, almost sessile. ♄. H. Native of Carolina. Sideróxylon punctàtum, Lam. ill. no. 2460. Poir. suppl. 1. p. 446. Drupes roundish, size of a pepper-corn, 1-seeded. The rest unknown.

Dotted-leaved Bumelia. Tree or shrub.

25 B.? ARGE'NTEA (Rœm, et Schultes, syst. 4. p. 499.) unarmed; leaves ovate, retuse, tomentose; flowers pedunculate, racemose. ♄. G. Native of the Cape of Good Hope. Sideróxylon argénteum, Thunb, prod. p. 36. Willd. spec. 1. p. 1090. Rœmèria argéntea, Thunb. in Rœm. arch. 2. p. 1.—Burm. dec. pl. afr. t. 92. f. 1. Leaves ovate-oblong, emarginately cleft, clothed with white tomentum, especially beneath. Perhaps a species of *Bádula*.

Silvery Bumelia. Shrub 2 to 3 feet.

26 B.? LU'CIDA (Rœm. et Schultes, l. c.) unarmed; leaves ovate-oblong, quite glabrous, shining above; flowers in axillary fascicles. ♄. S. Native of America. Sideróxylon lùcidum, Sol. in Lam. dict. 1. p. 246. no. 2. Sideróx. nítidum, Lam. ill. p. 42. no. 2457. Leaves coriaceous, 2 inches long. Flowers small, white.

Shining-leaved Bumelia. Tree or shrub.

27 B.? AUZU'BA (Rœm. et Schultes, l. c.) unarmed; leaves oblong, attenuated at both ends, shining, veiny; pedicels axillary, 1-flowered, alternate; fruit ovate, yellow, fleshy, full of a clammy juice, containing a nut very like an olive. ♄. S. Native of St. Domingo, where it is called *Acomat*. Sideróxylon Auzùba, Plum. mss. vol. 5. p. 124.

Auzuba Bumelia. Tree.

28 B.? CUNEIFÒLIA (Rudge, pl. guian. 1. p. 30. t. 47.) leaves cuneate-lanceolate, nerved, acuminated, quite glabrous, except the nerves, which are pubescent; flowers in axillary and lateral fascicles; anthers ovate, cuneated. ♄. S. Native of Guiana. Branches clothed with rusty down. Flowers small. Calycine segments tomentose. Segments of corolla obtuse. Stamens shorter than the corolla, sessile, obtuse.

Wedge-leaved Bumelia. Tree tall.

Cult. The hardy species of this genus thrive very well in a sheltered situation, or against a wall where they can be covered with a mat in severe frost; and cuttings of them, planted in sand under a hand-glass, strike root readily. For the culture and propagation of the stove and greenhouse species, see *Sersalísia*, p. 27.

V. NYCTERISI'TION (from *νυκτερις*, *nycteris*, a bat, and *σιτιον*, *sition*, food; flowers). Ruiz et Pav. gen. fl. per. et chil. p. 300. t. 5. fl. 2. t. 187. H. B. et Kunth, nov. gen. amer. 3. p. 238.—Chrysophýllum species of authors.

LIN. SYST. *Pentándria*, *Monogýnia*. Calyx 5-parted. Corolla with a short tube, and a 5-parted limb, without any scales inside the segments. Stamens 5, inserted in the top of the tube of the corolla and opposite to its segments. Ovarium 5-celled; cells 1-ovulate. Style short; stigma obtuse, slightly 5-toothed. Fruit fleshy, 5-celled, 5-seeded. Seeds albuminous, bony. Embryo erect.—Trees with the habit of *Bumèlia*. Leaves scattered, entire. Flowers disposed in axillary, umbellate fascicles; pedicels 1-flowered. This genus hardly differs from *Chrysophýllum*, unless in the 5-celled ovarium, and in the almost entire stigma.

1 N. ARGE'NTEUM (H. B. et Kunth, nov. gen. amer. 3. p. 238. t. 244.) branchlets downy; leaves elliptic-oblong, pale green and shining above and silvery beneath. ♄. S. Native of New Granada, near Jaen de Bracamoras. Chrysophýllum Granaténse, Spreng. syst. 1. p. 667. Buds silky. Leaves acute or obtuse, a little cuneated at the base. Flowers 6-9 together, about the size of those of the *Alatérnus*. Ovarium hairy.

Silvery Nycterisition. Tree.

2 N. FERRUGÍNEUM (Ruiz et Pav. fl. per. 2. p. 47. t. 187.) leaves oblong-ovate, with an emarginate acumen, shining above, but clothed with silky rusty down beneath, as well as the calyxes and branchlets. ♄. S. Native of Peru, in woods at Cuchero Chincao and Pillao. Chrysophýllum ferrugíneum, Spreng. syst. 1. p. 666. Corollas whitish yellow, clothed with rusty down.

Rusty Nycterisition. Clt. 1823. Tree 30 feet.

3 N. LANCEOLA'TUM (Blum. bijdr. 676.) branchlets clothed with rusty tomentum; leaves oblong-lanceolate, obliquely attenuated at the base, tomentose on the midrib beneath. ♄. S. Native of Java, in woods on the mountains, where it is called *Kilakkatang*.

Lanceolate-leaved Nycterisition. Tree 60 to 80 feet.

Cult. For culture and propagation see *Chrysophýllum*, p. 33.

VI. CHRYSOPHY'LLUM (from *χρυσος*, *chrysos*, gold, and *φυλλον*, *phyllon*, leaf; the leaves of most of the species are clothed with yellow silky down beneath). Lin. gen. 263. Schreb. gen. 355. Juss. gen. 152.—Cainìto, Plum. 9. Jacq. amer. 51.

LIN. SYST. *Pentándria*, *Monogýnia*. Calyx 5-parted. Corolla campanulately rotate, with a 5-parted spreading limb. Stamens 5, inserted in the tube of the corolla and opposite its segments, without any scales inside the segments. Ovarium 10-celled; cells 1-ovulate. Stigma almost sessile, somewhat peltately depressed, obsoletely 10-lobed. Fruit globose, 1-10-celled; cells 1-seeded; endocarp bony, brittle. Seeds albuminous.—Lactescent trees. Leaves alternate, quite entire. Flowers disposed in axillary umbellate fascicles.

* *Leaves clothed with silky, silvery, or golden tomentum beneath.*

1 C. CAINÌTO (Lin. spec. 278. Jacq. amer. p. 51. t. 37. f. 1. ed. pict. p. 30. t. 51.) leaves oblong, acute at the base and apex, quite glabrous above, but silky and rusty beneath. ♄. S. Native of the West Indian islands, and almost throughout South America within the tropics. Cainìto, Laet, amer. 390. Plum. gen. 10. t. 69. Sideróxylon Pacurèro, Loefl. itin. p. 204. A tall tree with a large head. Branches clothed with silky rusty down. Leaves $3\frac{1}{2}$ to 4 inches long. Flowers small, whitish. Fruit large, rather depressed, rose-coloured, mixed with green and yellow, having the skin smooth and glabrous: the flesh soft, clammy, sweet, and insipid. The Americans are very fond of it, but it is seldom eaten by Europeans.

Var. β, Jamaicénse (Jacq. amer. l. c. t. 52. pict. t. 31.) fruit purple, sub-ovate. ♄. S. Native of Jamaica.—Brown. jam. 171. t. 14. f. 2.—Sloane, hist. 3. p. 170. t. 229. Fruit with a green or purple rind; the pulp also purple, and rather better flavoured than the species. It is called Star Apple in Jamaica.

Var. γ, cœrùleum (Jacq. amer. l. c. t. 37. pict. t. 52.) fruit blue, globose. ♄. S. Native of Martinico. Both pulp and rind of the fruit entirely blue, of the same taste as the latter.

Var. δ, microphýllum (Jacq. amer. pict. p. 31. t. 53.) leaves smaller. ♄. S. Native of Cuba, about the Havanna. The tree scarcely grows above 10 feet high, and the leaves do not exceed $1\frac{1}{2}$ inch long.

Cainito, or Common Star Apple. Fl. May, June. Clt. 1737. Tree 30 to 50 feet.

2 C. AQUA'TICUM (H. B. et Kunth. nov. gen. amer. 3. p. 236.) leaves oblong, acuminated, obtuse at the base, quite glabrous and shining above, but clothed with rusty silky down beneath. ♄. S. Native of the Missions of the Orinoco, in inundated places on the banks of the river Atabapo, betwixt San Fernando and Javita. Branches angular, silky, brown. Leaves 3-4 inches long. Flowers and fruit unknown.

Aquatic Star Apple. Tree.

3 C. monopyre'num (Swartz. prod. p. 49. fl. ind. occ. 1. p. 480.) leaves oval or oblong, short-acuminated, clothed with golden-silky tomentum beneath; fruit ovate, 1-seeded. ♄. S. Native of Jamaica, Martinico, St. Domingo, &c. among bushes. Hook. bot. mag. 3303. C. olivifórme, Lam. dict. 1. p. 552. no. 2. C. Cainìto, Mill. dict. no. 1. C. Cainìto, β, Willd. spec. 1. p. 1083.—Burm. amer. t. 69. Branchlets flexible, clothed with rusty tomentum. Corolline segments ovate-acute. Fruit bluish, obtuse. Wood resembling that of box. Bark rufescent, dotted with white. Style crowned by 5 rufous stigmas. Called Damson plum by Browne.

One-seeded Star Apple. Fl.? Clt. 1812. Tr. 20 to 30 ft.

4 C. acumina'tum (Lam. ill. no. 2469. Poir. dict. suppl. 2. p. 15, but not of Wall.) leaves ovate, acuminate, with parallel stripes: pale, shining, and tomentose beneath. ♄. S. Native of Cayenne and St. Domingo. Branches terete. Leaves clothed with rusty, shining tomentum beneath. Calycine segments ovate, concave.

Acuminated-leaved Star Apple. Tree.

5 C. bícolor (Poir. suppl. 2. p. 15.) leaves ovate, rather acuminated, clothed with golden and silvery silky down beneath, but glabrous and shining above; fruit pear-shaped. ♄. S. Native of Porto Rico. Very nearly allied to *C. acuminàtum*, but the branches are more flexuous; the leaves have one half silvery and the other golden yellow beneath. Fruit size of a small nut, pulpy.

Two-coloured-leaved Star Apple. Tree.

6 C. angustifòlium (Lam. ill. 2. p. 44. no. 2470.) leaves lanceolate, shining, with parallel stripes, clothed with rusty silky down beneath; fruit olive-formed. ♄. S. Native of St. Domingo. Poir. suppl. 2. p. 16. Allied to C. monopyrènum; but the leaves resemble those of Olive or Privet, and are, therefore, much smaller. Fruit usually 2-seeded, irregular at the base.

Narrow-leaved Star Apple. Clt. 1819. Tree 20 feet.

7 C. arge'nteum (Jacq. amer. p. 53. t. 38. f. 1. ed. pict. p. 31. t. 54.) leaves ovate-oblong, falcately acuminated, glabrous and shining above, but clothed with silky silvery down beneath; fruit round. ♄. S. Native of Martinico. Fruit of a dirty purplish blue colour, size of an ordinary plum: containing a soft, bluish, edible pulp.

Silvery-leaved Star Apple. Fl.? Clt. 1758. Tree 20 feet.

8 C. microca'rpum (Swartz. prod. 1. p. 49. fl. ind. occ. 1. p. 482.) leaves ovate, acute, glabrous above, and downy beneath; fruit oblong, oblique, 1-seeded. ♄. S. Native of Hispaniola, on the banks of rivers. Distinguished from *C. glàbrum*, in the higher stature, in the leaves being downy and paler beneath. Corolla with a white tube, silky outside: with concave, obtuse segments. Fruit size of a gooseberry, fixed obliquely to the pedicel, of a very sweet, delicious taste.

Small-fruited Star Apple. Tree.

9 C. macrophy'llum (G. Don, in hort. trans. 5. p. 458. Loud. hort. brit. p. 69.) leaves large, oblong-lanceolate, clothed with rusty silky down beneath. ♄. S. Native of Sierra Leone. Leaves long and large. Fruit large.

Long-leaved Star Apple. Clt. 1824. Tree 50 to 60 feet.

10 C. obova'tum (G. Don, in hort. trans. 5. p. 458.) leaves obovate, tapering to the base, and acuminated at the apex, shining and green above, but clothed with silvery silky white tomentum beneath. ♄. S. Native of Sierra Leone. A small branchy tree.

Obovate-leaved Star Apple. Tree 10 to 12 feet.

11 C. a'lbidum; leaves elliptic-oblong, coriaceous, acuminated, shining above, but clothed with white down beneath; fruit roundish-ovate, pointed, 5-seeded. ♄. S. Native of the African island of St. Thomas. Flowers whitish. Perhaps a species of *Nycterisition*.

White-leaved Star Apple. Tree 50 to 60 feet.

12 C. Humboldtia'num (Rœm. et Schultes, syst. 4. p. 813.) leaves ovate, acuminated, acute, attenuated at the base, shining above, and clothed with rusty silky down beneath. ♄. S. Native of South America. Humb. et Bonpl. C. acuminàtum, Willd. herb. This species is unknown to Kunth.

Humboldt's Star Apple. Tree.

13 C. obtusa'tum (Willd. herb. ex Rœm. et Schultes, l. c.) leaves lanceolate, nerveless, acuminated, clothed with rusty silky down beneath. ♄. S. Native of South America, on the banks of the river Atabapo. Humb. et Bonp. Unknown to Kunth. Perhaps *C. aquáticum*, Kunth.

Bluntish-leaved Star Apple. Tree.

* * *Leaves glabrous on both surfaces.*

14 C. Michìno (H. B. et Kunth. nov. gen. amer. 3. p. 236.) leaves obovate, bluntish, acute at the base, quite glabrous, and of the same colour on both surfaces. ♄. S. Native of the province of Bracamoras, near Cavico and Matara, where it is called *Michino* by the natives. Branches terete, glabrous, fuscescent. Leaves approximate, 2-3 inches long. Fruit yellow outside, whitish and clammy inside; very grateful, edible.

Michino Star Apple. Tree 40 to 50 feet.

15 C.? rugòsum (Swartz. prod. p. 49. fl. ind. occ. 1. p. 484). leaves oblong, acuminated, glabrous on both surfaces; fruit nearly globose, wrinkled, acuminated. ♄. S. Native of the west of Jamaica, on the mountains. Leaves large, obtuse, undulated, paler beneath. Calyx and pedicels rusty. Corolla with a very short tube: and ovate, obtuse segments, furnished with 5 small secondary ones, between the others. Fruit size of a nut, yellowish brown; containing many oblong, compressed seeds. This is certainly not a species of *Chrysophýllum*, from the corollas being furnished with scales inside, as in *Bumèlia*, of which probably it is a species. It differs from other species of this genus, in the leaves, flowers, and fruit.

Wrinkled-fruited Star Apple. Tree.

16 C.? Macóucou (Aubl. guian. 1. p. 233. t. 92.) leaves glabrous on both surfaces, ovate-oblong, acuminated; fruit pear-shaped, yellow, glabrous, and smooth. ♄. S. Native of Guiana. Lam. dict. 1. p. 552. C. pyrifórme, Willd. spec. 1. p. 1084. Bark greyish yellow. Wood hard, white. Leaves pale green. Fruit by twos or fours, the whole length of the branches; having a fleshy, yellowish, thick rind, covering a nut, which is much excavated on one side, edible. Perhaps this, with *Bumèlia nervòsa*, and *C. rugòsum*, will form the genus named *Vitellària* by Gærtn.

Macoucou Star Apple. Tree 30 feet.

17 C. pomifórme (Bert. ex Spreng. syst. 1. p. 667.) leaves oblong, attenuated at both ends, and quite glabrous on both surfaces, opaque, finely and parallelly veined, coriaceous; pedicels very short, sub-aggregate; fruit apple-shaped. ♄. S. Native of Jamaica.

Apple-formed-fruited Star Apple. Tree.

18 C. sessiliflòrum (Poir. suppl. 2. p. 16.) leaves coriaceous, glabrous on both surfaces, obovate: with distant, alternate nerves; flowers sessile, fasciculate. ♄. S. Native of Cayenne. Form and size of the leaves that of *Bumèlia nervòsa*. Leaves shining above, and pale beneath. Flowers downy outside, sessile, and pedicellate.

Sessile-flowered Star Apple. Tree.

19 C. gla'brum (Jacq. amer. p. 53. t. 38. f. 2. ed. pict. p. 31. t. 55. Lin. spec. 278.) leaves ovate-oblong, quite glabrous on both surfaces; fruit elliptic and smooth. ♄. S. Native of Martinico. Mill. dict. no. 2. Leaves hardly 2 inches long. Fruit blue, form and size of a small olive, seldom eaten except by children.

Var. β; pauciflôrum (Lam. ill. no. 2473.) leaves ovate, acuminated, almost glabrous on both surfaces; flowers few together.

Glabrous Star Apple. Clt. 1823. Tree 15 feet.

20 C. Roxbu'rghii; leaves lanceolate, acuminated, glabrous on both surfaces; fruit globose, 5-seeded. ♄. S. Native of Silhet, where it is called *Pitakara*. C. acuminàtum, Roxb. fl. ind. 2. p. 346, but not of Lam. Leaves with parallel veins, 3-4 inches long. Pedicels recurved. Stigma 5-lobed. Fruit size of a small crab, yellow when ripe, smooth, and is greedily eaten by the natives of Silhet, although insipid; the pulp is tolerably firm, but excessively clammy, adhering to the lips or knife with great tenacity.

Roxburgh's Star Apple. Tree middle-sized.

21 C. nítidum (Meyer, esseq. p. 116.) leaves oval, drawn out at the apex, obtuse and emarginate, glabrous on both surfaces, shining above. ♄. S. Native of the continent of America, about Essequibo, in woods. Branches terete, clothed with rusty, adpressed, silky tomentum, when young. Leaves 3 inches long. Calyx tomentose, with roundish segments. Corolla downy: with ovate, obtuse, rather concave segments. Ovarium villous. Stigma crowned by 5 tubercles, full of liquid.

Shining-leaved Star Apple. Tree.

Cult. The species of Star Apple are grown in hot-houses, only for the sake of their beautiful foliage, which are either clothed with golden yellow, or silvery, silky, glossy down, beneath; for they cannot be grown for their fruit in this country, as they never bear until they attain to large trees. A mixture of sandy loam and peat is a good soil for them; and cuttings taken from ripened wood strike root in sand, under a hand-glass, in a strong moist heat.

VII. A'CHRAS (*αχρας, achras*, the Greek name of the wild pear.) Lin. gen. no. 438. Schreb. no. 538. Jacq. amer. p. 56. Juss. p. 152. R. Br. prod. p. 530. H. B. et Kunth. nov. gen. amer. 3. p. 239.—Sapòta, Plum. 4. Gærtn. fruct. 2. t. 104.

Lin. syst. *Pentándria, Monogýnia.* Calyx 6 rarely 5-parted. Corolla 6-cleft. Stamens 12, 6 of which are sterile and scale-formed, alternating with the other 6, which are fertile. Ovarium 12-6-celled. Style filiform; stigma obtuse. Fruit 12-6 seeded. Seeds or nuts compressed, bony, scraped lengthwise in front, albuminous.—Lactescent trees; with scattered, coriaceous, quite entire leaves; and axillary, 1-flowered peduncles. Fruit large, edible.

1 A. Sapòta (Lin. spec. 470.) leaves oblong-lanceolate, obtuse, veinless, glabrous; flowers solitary, hexandrous; peduncles and calyxes clothed with fine tomentum; calyx 6-parted. ♄. S. Native of South America, on the main land, within the tropics. About Cumana it is called *Nispero*. Jacq. amer. p. 57. t. 41. ed. pict. t. 41. Sapòta A'chras, Gærtn. fruct. 2. p. 103. t. 104. Mill. dict. no. 1. A'chras, Browne, jam. p. 200. t. 19. Loef. itin. p. 186. Plenck, icon. 277. Leaves 3-4 inches long. Flowers white, scentless. Bark of tree full of cracks. Fruit elliptic or globose, bigger than a quince, covered with a thick, brown, scabrous rind, which, when the fruit is ripe, becomes tough and yellowish; the flesh is yellow, it smells well, and the taste is agreeable to many.

Var. β; zapotílla (Browne and Jacq. l. c.) fruit roundish. ♄. S. Native of Jamaica, and many parts of South America. Sloane, hist. 2. p. 171. t. 230. p. 172. t. 169. f. 2.—Catesb. car. 2. t. 87. Fruit about the size of an apple, when ripe of a delicious mellow flavour. The kernels of the seeds are bitter, and may be used occasionally in strengthening emulsions. Called Sapodillo tree, or small Sapota.

Common *Sapota* Tree. Fl.? Clt. 1731. Tree 10 to 50 feet.

2 A. sessiliflòra (Poir. ency. 6. p. 531.) leaves cuneate-oblong, obtuse and emarginate, coriaceous, glabrous; flowers almost sessile, solitary. ♄. S. Native of the Mauritius. Calyx rather downy.

Sessile-flowered Sapota Tree. Tree.

3 A. costa'ta (Endlicher, prod. fl. ins. norf. p. 49.) leaves obovate-elliptic, bluntish, ribbed; pedicels and calyxes pilose; flowers pentandrous; sterile filaments linear, subulate; fruit 1-4-seeded. ♄. G. Native of Norfolk Island. Bauer, ill. pl. ins. norf. t. 161. Fruit about the size of a walnut.

Ribbed-leaved Sapota. Shrub or tree.

4 A. austra'lis (R. Br. prod. p. 530.) leaves elliptic-oblong, glabrous as well as the calyxes and peduncles; sterile filaments linear-subulate; ovarium 6-celled. ♄. G. Native of New South Wales. Calyx, as well as corolla, often 5-cleft.

Southern Sapota Tree. Fl.? Clt. 1827. Tree 20 feet?

Cult. For culture and propagation see *Chrysophýllum*, above.

VIII. LUCU'MA (the name of one of the species in Peru.) Juss. gen. p. 152. Gærtn. fruct. 3. p. 129. H. B. et Kunth. nov. gen. amer. 3. p. 239.—A'chras species, Lin. Jacq.

Lin. syst. *Pentándria Monogýnia.* Calyx 5-parted. Corolla 5-cleft. Stamens 10, 5 of which are sterile and scale-formed: the other 5 fertile, alternating with sterile ones. Ovarium 10-5-celled. Fruit 1-10-seeded; nuts or seeds bony, marked by a large umbilical areola, without albumen.—Lactescent trees, with scattered quite entire coriaceous leaves; and 1-flowered axillary or lateral peduncles, which are either solitary or 2-3 in a fascicle.

1 L. mammòsa (Gærtn. fil. fruct. 3. p. 129.) leaves obovate-lanceolate, and oblong, cuspidate, glabrous; flowers solitary. ♄. S. Native of South America, in many places within the tropics; and of many of the West India Islands, where it is also cultivated. A'chras mammòsa, Lin. spec. 1. p. 469. A'chras Sapòta màjor, Jacq. amer. 56. t. 182. f. 19. ed. pict. p. 32. t. 59. Sapòta mammòsa, Mill. dict. no. 2. Gærtn. fruct. 2. p. 104. About Javita it is called *Johoinco*.—Sloane, jam. 2. p. 124. t. 218.—Plukn. alm. p. 39. t. 268. f. 2. A tall tree, with a spreading head. Leaves 1-2 feet long, shining. Flowers small, whitish. Sterile filaments subulate. The Mammee Sapota, or American Marmalade, is a large oval or top-shaped fruit, covered with a brownish, rough skin, under which is a soft pulp, of a russet colour, very luscious, which is called natural marmalade, from its likeness to marmalade of quinces. In the West Indies, and parts of the main land of South America, the tree is commonly planted in gardens for its fruit. There is a variety of this tree called by P. Browne, the Bully tree, or Nisberry Bully tree, because it generally grows the tallest of all the trees in the woods; its fruit is small, and the wood is esteemed one of the best timbers in Jamaica.

Common or *Teated* Mammee Sapota. Clt. 1739. Tree 50 to 100 feet.

2 L. Caimìto (Rœm. et Schultes, syst. 4. p. 701.) leaves obovate-lanceolate, glabrous, coriaceous; flowers aggregate, tetrandrous; calyx glabrous; fruit oval, 1-seeded. ♄. S. Native of Peru, on the Andes. A'chras Caimìto, Ruiz et Pav. fl. per. 3. p. 18. t. 240. A lofty tree, with a frondose head. Fruit softer, with a better flavour than the preceding; pulp soft, yellow. Corolla ovate-tubular, yellowish. Calyx 4-parted, fulvous. The fruit is called *Caimitos*, and the tree *Caimito*, in Peru. The wood is yellow, and used for various useful purposes.

Caimito Mammee Sapota. Tree 50 to 100 feet.

3 L. Bonpla'ndii (Humb. mss. ex H. B. et Kunth. nov. gen. amer. 3. p. 240.) leaves obovate-oblong, obtuse, cuneated at the base, papery: having the nerves and veins, as well as the petioles and calyxes, downy. ♄. S. Native of Cuba, cultivated about the Havanna. Branchlets pilosely tomentose. Leaves 8-9 inches

long, and 2-3 broad. Calyx 9-12 parted; segments ovate, imbricate, pilose outside. Sterile stamens scale-formed, acuminated. Fruit ovate, 4-6 inches long.

Bonpland's Mammee Sapota. Clt. 1822. Tree 60 feet.

4 L. Campechia'num (H. B. et Kunth. l. c.) leaves oblong, somewhat acuminated, acute at the base, membranous, glabrous, shining; flowers 3 in a fascicle; calyxes and peduncles clothed with fine, canescent tomentum. ♄. S. Native of Mexico, about Campeche. Leaves 8-9 inches long, paler beneath. Segments of corolla and calyx obtuse. Sterile stamens scale-formed, oblong-lanceolate. Ovarium ovate, globose, having 5 cells; cells 1-ovulate. Habit of Chrysophy'llum macrophy'llum, Lam.

Campechy Mammee Sapota. Tree.

5 L. salicifòlium (H. B. et Kunth. l. c. p. 241.) leaves lanceolate, a little acuminated, narrowed at the base, membranous, glabrous, shining; flowers twin; calyxes and peduncles clothed with fine tomentum. ♄. S. Native of Mexico, where it is called *Sapote-borocho*. Leaves 5-6 inches long, and 1 inch broad, paler beneath. Sterile stamens lanceolate-linear, longer than the fertile ones. Ovarium ovate, hairy.

Willow-leaved Mammee Sapota. Clt. 1823. Tree.

6 L. Tema're (H. B. et Kunth. l. c.) leaves lanceolate, subacuminated, narrowed at the base, undulated, membranous, glabrous. ♄. S. Native about the Orinoco, in woods, where it is called *Temare*. Leaves 6-7 inches long, paler beneath. Fruit ovate, fleshy, clammy, 3-seeded. Very like the preceding species.

Temare Mammee Sapota. Tree.

7 L. obova'tum (H. B. et Kunth. l. c.) leaves obovate-elliptic, rounded at the apex, acute at the base, rather membranous, glabrous; flowers solitary, or 2-3 together; calyxes and peduncles clothed with fine rusty down. ♄. S. Native of Peru, near the town of Loxa, in the temperate regions, where it is called *Lucuma*. A'chras Lucùma, Ruiz. et Pav. fl. per. 3. p. 17. t. 239. Pers. syn. 1. p. 235. Tree with a globose head. Leaves 4 inches long. Flowers about the size of those of *A'chras Sapòta*. Segments of calyx and corolla greenish, roundish obtuse. Sterile stamens linear, a little ciliated. Fruit depressedly globose, green, glabrous, yellow and clammy inside, crowned by a scaly ring, 1-5 seeded, but usually 3-seeded. The wood is compact and white, and used for various economical purposes.

Obovate-leaved Mammee Sapota. Clt. 1822. Tree 20 to 40 feet.

† *A doubtful species.*

8 L. serpenta'ria (H. B. et Kunth. l. c. p. 242.) leaves obovate-oblong, or oblong, rounded at the apex, acute at the base, coriaceous, quite glabrous, shining above. ♄. S. Native of Cuba, near Regla, where it is called *Sapote de Coulevra*. A lactescent tree, with glabrous, hoary branches. Leaves 1-2 inches long. Fruit depressedly globose, edible, 5-seeded.

Serpent Mammee Sapota. Tree.

Cult. For culture and propagation see *Chrysophy'llum*, p. 33.

IX. INOCA'RPUS (from ις ινος, *is inos*, a fibre, and καρπος, *karpos*, a fruit; the nut is full of fibres.) Forst. gen. t. 33. Schreb. gen. no. 754. Thunb. nov. gen. 45. Juss. gen. 152. Gærtn. fruct. 3. t. 199 and 200. f. 1. Blum. bijdr. 551.

Lin. syst. *Decándria, Monogýnia.* Calyx tubular, bifid, deciduous. Corolla funnel-shaped, 5-6-cleft; segments long, linear. Stamens 10-12, disposed in two rows; filaments very short, adnate to the corolla inside; anthers didymous, dehiscing at the sides. Ovarium oblong, villous, containing one pendulous ovulum. Style none; stigma concave. Drupe large, a little compressed, ovate, incurved at top, containing a 1-seeded nut, which is covered with reticulated fibres. Albumen none.—A tree, with long, alternate, veiny, quite entire leaves; and axillary, spicate racemes of flowers.

1 I. edu'lis (Forst. fl. austr. no. 197. pl. escul. 50. no. 18. Lin. syst. 408. suppl. 239.) leaves oblong, sub-cordate at the base; racemes axillary, hairy; flowers small, bracteate. ♄. S. Native of the Society and Friendly Islands, and New Hebrides, in the South Seas; also of Amboyna and Java. Lam. ill. t. 362. —Rumph. amb. 1. t. 65. Forster describes this as a lofty tree, with brown, chinky bark. Leaves sub-distich, ovate-oblong, hardly cordate, blunt and retuse, seldom acute, a span long, and on young trees a foot. Flowers pale yellow. In Otaheite this tree is called *Hi*, and the fruit *Ratta*. In Mallicollo the name of the tree is *Nias;* and in Tanna, *Emmer*. In Cook's last voyage, 1. p. 393, the nuts are called *Eisi*. The kernel of these, which is kidney-shaped, and about an inch in diameter, is eaten roasted by the inhabitants of the Society and Friendly Islands, the New Hebrides, New Guinea, the Molluccas, &c. It is sweetish, but less pleasant than the chestnut, harder, and less farinaceous. The bark is astringent, and is used in dysentery. In New Guinea they smear the heads of their arrows with the expressed resinous juice.

Edible Otaheite-chestnut. Clt. 1793. Tree 40 to 50 feet.

Cult. See *Chrysophyllum*, p. 33, for culture and propagation.

X. MIMU'SOPS (from μιμω, *mimo*, an ape; and οψις, *opsis*, a face; so named on account of the form of the corolla.) Lin. gen. no. 478. Gærtn. fruct. t. 42. Juss. gen. 152. R. Br. prod. p. 530.

Lin. syst. *Octándria Monogýnia.* Calyx 8-6-parted; segments disposed in a twin order. Corolla with a double row of segments (f. 7. *e.*); outer row containing from 6 to 16 in number, which are either entire or divided; the inner row containing 6-8 entire segments. Antheriferous stamens 6-8, opposite the inner segments of the corolla, alternating with as many sterile ones (f. 7. *a.*) Ovarium 6-8-celled. Berry one or few-seeded, from abortion. Seeds nucumentaceous, albuminous.—Trees with alternate, quite entire, glabrous, coriaceous leaves; and axillary fascicles of 1-flowered pedicels. Flowers small, white. Fruit edible. Old bark of trees chinky.

1 M. parvifòlia (R. Br. prod. 531.) leaves oval, acuminated, glabrous on both surfaces; peduncles 1-3 together, exceeding the petioles a little, which are tomentose. ♄. S. Native of New Holland, within the tropic. Very like *M. Eléngi*, whose peduncles are more numerous, and shorter than the petioles, which are glabrous.

Small-leaved Mimusops. Clt. 1824. Tree.

2 M. acumina'ta (Blum. bijdr. p. 672.) leaves oval, acuminated, rather unequal at the base. ♄. S. Native of Java, on the Seribu mountains, where it is called *Genkot*.

Acuminated-leaved Mimusops. Tree 80 to 120 feet.

3 M. Ele'ngi (Lin. spec. 497.) leaves oval-lanceolate, or oblong, acuminated, glabrous; pedicels many together, shorter than the petioles, which are glabrous. ♄. S. Native of the East Indies, where it is much planted on account of its fragrant flowers, which come out chiefly in the hot season. Gærtn. fruct. 1. p. 198. t. 42. Roxb. cor. 1. p. 15. t. 14. Lam. ill. t. 300. Bacula, Roxb. asiat. res. 4. p. 273.—Rumph. amb. 2. p. 189. t. 63. Eléngi, Rheed. mal. 1. p. 34. t. 20.—Plukn. alm. 203.

FIG. 7.

—Breyn. cent. 20. t. 8.—Burm. zeyl. 27. Flowers middle-sized, drooping, white. Segments of corolla lanceolate, and a little torn at their tips. Berry ovate, with a slight groove on one side, dotted, yellow when ripe. *Elengi* is the Malabar name of the tree; *Bokul* is the Bengalese name; *Mulsari* is the Hindostanee name; *Pagadoo* of the Telingas.

Elengi Mimusops. Clt. 1796. Tree 15 feet.

4 M. Kau'ki (Lin. spec. 497.) leaves obovate, very blunt, silvery or hoary beneath, hardly 3 times as long as the petioles, crowded at the ends of the branches; flowers fascicled, hexandrous. ♄. S. Native of the East Indies and New Holland, within the tropic. Benectària, Forst. descrip. p. 82.—Rumph. amb. 3. t. 19. t. 8. Fruit oval, drooping, edible.

Kauki Mimusops. Clt. 1796. Tree 30 feet.

5 M. obtusifòlia (Lam. dict. 4. p. 186. Blum. bijdr. 675.) leaves oval-oblong, obtuse and emarginate, attenuated a little at the base, coriaceous, with revolute edges. ♄. S. Native of Java, in gardens, where it is called *Kambang Tanjong;* and of the Mauritius. Branches thick, like those of a species of *Achras*. Leaves crowded at the tops of the branches.

Blunt-leaved Mimusops. Tree.

6 M. hexa'ndra (Roxb. cor. 1. p. 10. t. 16.) leaves obovate, deeply emarginate, green and shining on both surfaces; pedicels 1-6 together, nearly as long as the petioles, which are smooth. ♄. S. Native of the East Indies, among the Circars. Leaves 3-5 inches long, and 1 to 2 broad. Calyx 6-parted. Corolla having the inner row of segments 6, and the outer 12. Antheriferous stamens 6. Berry size and shape of an olive, yellow. The wood of this species being remarkably heavy, is much used by the washermen to beetle their cloth on.

Hexandrous Mimusops. Clt. 1804. Tree 20 foot.

7 M. Balòta (Gærtn. fil. fruct. vol. 3. ex Blum. bijdr. 673.) leaves obovate, sub-emarginate. ♄. S. Java, in gardens.

Balota Mimusops. Fl. July. Tree 30 feet.

8 M. disse'cta (R. Br. prod. p. 530.) leaves obovate, bluntly emarginate, glabrous; peduncles crowded, length of petioles, which are glabrous. ♄. S. Native of the island of Tongatabu. A'chras dissécta, Forst. pl. escul. no. 13. fl. aust. 155. Lin. syst. 342. Flowers white. Fruit about the size of an olive, edible. Hardly distinct from *M. hexándra*, Roxb. Ovarium 6-celled. Flowers 8-cleft.

Dissected-flowered Mimusops. Clt. 1804. Tree 20 to 30 feet.

9 M. Manilka'ra; leaves obovate, obtuse, glabrous, on petioles an inch long; pedicels crowded, length of petioles; flowers 6-cleft. ♄. S. Native of Malabar and the Philippine islands. Manilkàra, Rheed. mal. 4. p. 53. t. 25. Flowers white, about half an inch in diameter. This tree is cultivated in Malabar for the fruit, which is of the form and size of an olive, succulent, the pulp of a sweetish acid flavour, containing only 1 or 2 seeds. The leaves are used for cataplasms to tumours, being bruised and boiled with the root of *Curcùma* and the leaves of ginger. It is supposed to be a native of the Philippine Islands, where it is called *Manilkara* and *Manil-gale*. It probably also grows in China, for the Dutch call it *Chineesche Irruyen*.

Manil-kara Mimusops. Tree.

10 M. lu'cida (Wall. cat. no. 4147.) leaves glabrous, rusty beneath, dark green and shining above, elliptic-lanceolate, with an obtuse acumen; pedicels axillary, aggregate; calyx having the 4 outer segments roundish and imbricate, shorter than the 4 inner ones; style exserted. ♄. S. Native of Penang.

Shining-leaved Mimusops. Tree.

Cult. For culture and propagation see *Chrysophýllum*, p. 33.

XI. IMBRICA'RIA (from *imbrico*, to cover with tiles; from the wood being used for roofing houses). Commers. Juss. gen. p. 152. Lam. ill. t. 300, R. Br. prod. 531.

Lin. syst. *Octándria, Monogýnia.* Calyx 8-parted, coriaceous: the segments disposed in a twin order. Corolla having the segments disposed in 3 rows, those in the middle row opposite those of the outer row, all trifid, 8 in each row.? Stamens 16, 8 antheriferous: and 8 sterile, filiform, inflexed, alternating with the fertile ones. Fruit large, globular, 8-celled, 8-seeded, many of the cells as well as seeds becoming abortive. Seeds irregularly crested towards the umbilicus.—Trees, natives of the Isle of Bourbon and the Mauritius; with entire, glabrous, coriaceous leaves; and axillary fascicles of white, pedicellate flowers.

1 I. Commersònii; leaves broad, obovate, rusty beneath, scattered, coriaceous, emarginate at apex, pale green and shining above; pedicels thick, angular, aggregate. ♄. S. Native of the Mauritius and Java, in gardens. Mimùsops Imbricària, Willd. spec. 1. p. 326. Blum. bijdr. 675.

Commerson's Imbricaria. Tree.

Cult. For culture and propagation see *Chrysophýllum*, p. 33.

XII. OMPHALOCA'RPUM (*ομφαλος, omphalos*, a navel, and *καρπος, karpos*, a fruit; the fruit is depressed and hollowed at the apex). Beauv. fl. d'ow. 1. p. 6. t. 5-6.

Lin. syst. *Polyándria, Monogýnia.* Calyx many-parted, squarrose; scales 11-12, imbricated, obtuse, villous outside. Corolla with a short tube: having the segments disposed in 2 rows, 6-7 in each row, those of the outer row equal, ovate: those of the inner row fringed and alternating with those in the outer row. Stamens 30-40, disposed in unequal series. Style simple, filiform; stigma simple, sub-capitate, scabrous. Fruit large, solid, woody, roundish, umbilicate about the style, many-celled; cells 1-seeded.—A tall tree, with lanceolate, shining leaves, and sessile, aggregate, or solitary pink flowers rising from the trunk.

1 O. proce'rum (Beauv. l. c.). ♄. S. Native of western Africa, in the kingdom of Warree, at Buonopozo, behind the kingdom of Galbar.

Tall Omphalocarpum. Tree very large.

Cult. See *Chrysophýllum*, p. 33. for culture and propagation.

XIII. BA'SSIA (named by König in honour of Ferdinand Bassi, Curator of the botanic garden at Bologna). Kœn. in Lin. gen. ed. Reich. no. 645. Schreb. 105. Juss. gen. 152. Gærtn. fruct. 2. p. 104. t. 104. f. 2.

Lin. syst. *Dodecándria Monogýnia.* Calyx 4-5-parted, coriaceous. Corolla campanulate, with an 8-parted limb; tube inflated, ovate, fleshy. Stamens 16, disposed in 2 rows; filaments subulate, combined at the base; anthers linear, sagittate, villous outside. Ovarium ovate, 6-8-celled. Style subulate; stigma acute. Fruit fleshy, 5-8-celled; cells 1-seeded. Seeds oblong, somewhat trigonal, exalbuminous.—Lactescent trees, with quite entire, smooth, coriaceous leaves; and axillary, solitary, or aggregate flowers.

1 B. longifòlia (Lin. syst. p. 44. mant. pp. 555. and 563.) leaves ovate-lanceolate, smooth; pedicels axillary, drooping, crowded round the ends of the branchlets; stamens 16-20, within the gibbous tube of the corolla. ♄. S. Native of Malabar, Coromandel, and Ceylon; in the former place it is called *Illipe*, and in the latter *Miele*. Gærtn. fruct. 2. t. 104. Lam. ill. t. 398. A lofty tree, with recurved branches, which are clothed with grey down. Leaves approximate at the tops of the branches, 6 inches long, deciduous. Peduncles at length elongated and drooping, crowded round the ends of the young shoots. Seeds smooth, shining yellow. This tree is called by the Tamuls *Illiepi* or *Illeepie*. The oil pressed from the fruit is used for lamps; it is the principal ingredient in making country soap. It is to the common people a substitute in place of ghee and cocoa-nut oil in their curries and other dishes.

They make cakes of it, and many of the poor get their livelihood by selling these sweet oil cakes. The cake, left after the oil is expressed, is used for washing the head, and is carried as a small article of trade to those countries where these trees are not to be found. The flowers, which fall in May, are gathered by the common people, dried in the sun, roasted, and eaten as food. They are also bruised and boiled to a jelly, and made into small balls, which they sell, or exchange for fish, rice, &c. The leaves are boiled with water, and given as a medicine in several diseases. The milk of the green fruit, and of the tender bark is given also as a medicine. The bark is a cure for the itch. The wood is as hard and as durable as teak, but not so easily worked, nor is it procurable of such a length. Squirrels, lizards, country dogs, and jackals eat the flowers, and the report is that the latter are apt to grow mad by too much feeding on them.

Long-leaved Bassia. Clt. 1811. Tree 40 feet.

2 B. sericea (Blum. bijdr. 674.) leaves oblong-lanceolate, acuminated, clothed with silky down beneath; peduncles axillary, crowded, 1-flowered, shorter than the petioles. ♄. S. Native of Java, in woods, in the province of Tjanjor, on the mountains of Parang. Perhaps sufficiently distinct from *B. longifòlia*.

Silky Bassia. Fl. July. Tree 40 to 50.

3 B. latifòlia (Roxb. cor. 1. p. 20. t. 19.) leaves oblong or elliptic; pedicels drooping, terminal; stamens 20-30, within the gibbous tube of the corolla, on short filaments. ♄. S. Native of the East Indies, on the mountains of Bengal and the Circars. *Madhaca* is the Sanscrit name, see asiat. res. vol. 2. p. 301. and 4. p. 280. *Ipie* is the Telinga name; *Mahva*, *Muhooa*, and *Muhoola* of the Bengalese. Corolla thick and fleshy, with a more than 8-lobed limb; lobes cordate. Leaves smooth above and whitish beneath, 4-8 inches long and 2-4 broad. Limb of corolla 7-14-parted. Berry 1-4-seeded. The wood is hard, very strong, and proper for naves of wheel carriages. The flowers are eaten raw by the natives of the mountainous parts of the Circars, and by jackals. An ardent spirit is distilled from them by the hill people, which is strong and intoxicating. The seeds yield a large quantity of oil by expression, which is used only by the poorer people to burn. On the apices of the flowers, before they open, there is frequently a drop of whitish, soft, tasteless resin to be found.

Broad-leaved Bassia. Clt. 1799. Tree 40 feet.

4 B. obova'ta (Forst. prod. no. 200.) leaves obovate; pedicels aggregate, terminal. ♄. S. Native of the Isle of Tanna.

Obovate-leaved Bassia. Tree.

5 B. cunea'ta (Blum. bijdr. 675.) leaves cuneate-oblong, bluntish, glabrous; peduncles subumbellate, axillary, 1-flowered, about equal in length to the petioles. ♄. S. Native of Java, on mounts Salak and Gede. Very nearly allied to *B. obovàta*.

Cuneated-leaved Bassia. Fl. Aug. Tree 60 to 80 feet.

6 B. Pa'rkii; leaves obovate, coriaceous. ♄. S. Native of Africa, in the kingdom of Bambara. This is the Shea tree mentioned by Mungo Park in his travels; of which he says, "the people were every where employed in collecting the fruit of the Shea trees, from which they prepare a vegetable butter. These trees," he says, "grow in abundance all over this part of Bambara. It is not cultivated by the natives, but grows wild in the woods, and in clearing woodlands for cultivation every tree is cut down but the Shea. The butter is obtained from the kernel of the fruit, first dried in the sun; and is prepared by boiling the kernel in water, which has somewhat the appearance of a Spanish olive. The kernel is enveloped in a sweet pulp, under a thin green rind, and the butter produced from it, besides the advantage of its keeping the whole year round without salt, is whiter, firmer, and, to my palate, of a better flavour than the best butter I ever tasted, made of cows' milk. The growth and preparation of this commodity appears to me to be one of the first objects of the natives in this and the neighbouring states, as it constitutes the main article of inland commerce. The butter serves also for every domestic purpose in which oil would otherwise be used; the demand for it is therefore great. *Shea Toulon* literally means, in the language of the Africans, tree-butter."—Park, trav. p. 26. pp. 202, 203.

Park's Bassia. African Butter Tree, or Shea Tree. Tree 30 to 40 feet.

7 B. butyra'cea (Roxb. asiat. res. 8. p. 477. fl. ind. p. 527. D. Don, prod. fl. nep. p. 146.) leaves obovate, tomentose beneath; pedicels aggregate, and are as well as the calyxes woolly; anthers glabrous, subulate at the apex. ♄. S. Native of Nipaul, at Narainhetty; and on the Almora hills. Leaves a span long and 4-5 inches broad, coriaceous, obovate, or obovate-oblong. Drupe oval. Corolla thin, 8-cleft. Stamens 30-40, on longish filaments. *B. butyràcea* is called *Fulwah* or *Phulwarah* in Almorah. It produces a pure vegetable butter. The kernels of the fruit are bruised into the consistence of cream, which is then put into a cloth bag, with a moderate weight laid upon it, and left to stand till the oil or fat is expressed, which becomes immediately of the consistence of hogs'-lard, and is of a delicate white colour. Its uses in medicine are much esteemed in rheumatism and contractions of the limbs. It is also used by the natives of rank perfumed as an unction. The pulp of the fruit is eaten by some.

Buttery Bassia. Clt. 1823. Tree 30 to 40 feet.

8 B.? du'bia (Gærtn. fruct. 2. t. 105.). ♄. S. Native of the East Indies.—Rumph. amb. 3. t. 184.? Seeds large, half-moon shaped, shiny, bony, of a dark chestnut colour, except the rugged, pale, almost white, umbilical area. It is not said whether the seeds are albuminous or exalbuminous, in which case the genus to which this tree belongs is very doubtful.

Doubtful Bassia. Tree.

9 B. villòsa (Wall. cat. no. 4165.) leaves broad-oblong-obovate, obtuse, villous beneath, glabrous and green above; pedicels aggregate, and are, as well as the flowers, villous. ♄. S. Native on the Taong Dong mountains, near Ava.

Villous Bassia. Tree.

10 B.? polya'ntha (Wall. cat. no. 4166.) glabrous; leaves coriaceous, elliptic-oblong, or oblong-obovate, acutish, rusty beneath; pedicels aggregate, rusty, and are, as well as the calyxes downy; petals entire. ♄. S. Native of Silhet.

Many-flowered Bassia. Tree.

Cult. For culture and propagation see *Chrysophýllum*, p. 33.

XIV. LABA'TIA (so named after J. Baptiste Labat, a Dominican friar, a great writer and traveller; author of Voyage aux Antilles, Paris. 1721 and 1743. 12mo.; Haye, 1724. 4to.; Voyages en Espagne et en Italie, Paris, 1730. &c.). Swartz, prod. p. 32. (exclusive of Poutèria, Aubl.) fl. ind. occ. 1. p. 264. Mart. nov. gen. bras. 2. p. 70.

Lin. syst. *Tetrándria, Monogýnia.* Calyx 4-parted, the 2 outer segments the largest. Corolla tubularly urceolate, 4-cleft, furnished with as many scales (abortive stamens), in the incisures between the lobes. Stamens 4, inserted in the bottom of the corolla. Anthers ovate. Berry hard, roughish, 4-celled, rarely 2-celled. Seeds with a thick crustaceous testa, attached to parietal placentas.—Evergreen trees. Leaves sub-alternate, crowded towards the tops of the branches, quite entire, firm, exstipulate, furnished with shining pili, which are attached by their middle. Flowers small, axillary, aggregate, on short pedicels. Fruit brownish.

1 L. macroca'rpon (Mart. nov. gen. bras. 1. p. 71. t. 160.)

leaves oblong-lanceolate; flowers on short pedicels; berry large, roughish from powder. ♄. S. Native of Brazil, in the province of Rio Negro, on the shady banks, in humid places, of the river Japura. Corolla white, hardly higher than the calyx. Leaves a span long.

Large-fruited Labatia. Tree 50 feet.

2 L. SESSILIFLÒRA (Swartz, prod. p. 23. fl. ind. occ. 1. p. 264.) leaves oblong-lanceolate, acuminated, silvery, but of a golden silky colour in the young state; flowers small, sessile, usually solitary, in the axils of the leaves on the older branches. ♄. S. Native of Hispaniola. Flowers white.

Sessile-flowered Labatia. Shrub 8 feet.

Cult. For culture and propagation see *Chrysophy'llum*, p. 33.

XV. POUTE'RIA (called in Guiana *Pourama-Pouteri* by the Caribs). Aubl. guian. 1. p. 86. t. 33.—Labàtia species, Swartz.

Lin. syst. *Tetrándria, Monogýnia.* Calyx 4-parted. Corolla inserted in the bottom of the calyx, tubularly ventricose, 4-cleft, furnished with a bristle (abortive stamens) in each of the incisures between the lobes. Stamens 4, inserted in the bottom of the corolla. Stigma 4-cleft. Capsule ovate, hispid, 4-valved, each valve containing an almond-formed arillate seed. —A tree, furnished with tufts of leaves at the tops of the branches. Flowers aggregate, axillary, pedicellate, usually 1-3 together.

1 P. Guiane'nsis (Aubl. l. c.). ♄. S. Native of Guiana, in forests by the river Sinemari. Labàtia Guianénsis, Swartz. Bark wrinkled. Wood hard, compact, whitish. Leaves alternate, glabrous, ovate-oblong, firm, ending in a blunt point; the largest 8 inches long and 3 wide. Corollas greenish.

Guiana Pouteria. Fl. Nov. Tree 40 feet.

Cult. For culture and propagation see *Chrysophy'llum*, p. 33.

XVI. PHELLI'NE (φελλινη, from φελλος, *phellos*, cork; because of the cells of the capsule being corky). Labill. sert. cal. 35. t. 38.

Lin. syst. *Tetrándria, Monogýnia.* Calyx small, 4-toothed, permanent. Corolla subrotate, 4-parted. Stamens 4, inserted in the bottom of the corolla. Style short. Stigma 4-toothed. Capsule 4-celled: cells corky, dehiscing inside. Seeds solitary.—A shrub, with linear-lanceolate, sub-spatulate, alternate leaves, which are crowded at the tops of the branches, acuminated, a little toothed, glabrous, glaucous beneath, and with thickish reflexed edges. This genus is nearly allied to *Poutèria*, Aubl. and *Labàtia*, Swartz.

1 P. comòsa (Labill. l. c.). ♄. G. Native of New Caledonia.

Tufted-leaved Phelline. Shrub 8 feet.

Cult. For culture and propagation see *Sersalisia*, p. 27.

XVII. MONTA'BEA (Aimont-Abou is the Guiana name of the first species) Aubl. guian. 2. p. 680. t. 274.—Mutàbea, Gmel.—Cryptóstomum, Willd.—Acósta, Ruiz et Pav. gen. pl. per. et chil. p. 1. t. 1.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, ventricose at the base: with 5 unequal obtuse segments. Corolla funnel-shaped, with a very short tube, fixed to the mouth of the calyx; segments 5, unequal, oblong, obtuse, mucronulate. Nectary monophyllous, closing the corolla, or stamens 5, combined into 1 filament, fixed to the superior part of the tube of the corolla, 5-toothed, incurved at top, with an anther on each of the teeth. Stigma globose, obtuse. Berry 3-5-celled, 3-5-seeded. Seeds involved in pulp, arillate, umbilicate, on one side.—Sarmentose shrubs, with alternate, entire leaves; and short, few-flowered, axillary peduncles. Flowers small, white.

1 M. Guiane'nsis (Aubl. guian. 2. p. 680. t. 274.) branches sarmentose, unarmed; leaves elliptic, acuminated, glabrous; peduncles short, 4-5-flowered; anthers 5. ♄. S. Native of Guiana and Cayenne, in fields. Mutàbea Guianénsis, Gmel. syst. 1. p. 1009. Cryptóstomum laurifòlium, Willd. spec. 1. p. 1061. Stems sarmentose, twisted. Leaves 4 inches long and 1½ broad. Flowers small, white, smelling like those of *Lilac*. Berry yellow, 3-celled, 3-seeded.

Guiana Montabea. Shrub 6 feet, rambling.

2 M. Aco'stæ (Rœm. et Schultes, syst. 527.) branches sarmentose, prickly; prickles recurved; leaves oblong, acuminated, glabrous; anthers 8, combined; fruit 5-celled, 5-seeded. ♄. S. Native of Peru, in groves, at Cuchero and Chincao. Acósta aculeàta, Ruiz et Pav. fl. per. 1. p. 5. t. 6. Spikes crowded. Flowers white. Fruit yellow, size of an apple. Seeds fulvous. From the similitude of the fruit to that of *Achras Caimìto*, it is called *Caimito de Monte*, and is edible, and grateful to the taste.

Acosta's Montabea. Fl. May. Shrub sarmentose.

Cult. See *Chrysophy'llum*, p. 33, for culture and propagation.

Order CXLVI. EBENA'CEÆ (so called from containing the Diόspyrus *Ebénum*, the true Ebony.) Vent. tabl. 443. R. Br. prod. p. 524. Guaiacànæ, part I. p. 155. Ebenàceæ, Tribe Diospỳreæ, D. C. et Dub. fl. fr. 320.

Flowers polygamous or dioecious, rarely hermaphrodite. Calyx 3-6 parted, nearly equal, permanent. Corolla monopetalous, hypogynous, regular, rather coriaceous, for the most part downy outside, and glabrous inside, deciduous; limb 3-6-parted, imbricate in æstivation. Stamens definite, epipetalous or hypogynous; filaments double the number of the segments of the corolla, sometimes 4 times that number; sometimes equal in number to the segments, and alternating with them; in hermaphrodite flowers the filaments are simple; in polygamous and dioecious ones, they are double, having both the segments bearing anthers, the inner segment usually shorter than the outer one; anthers fixed by the base, lanceolate, 2-celled, dehiscing lengthwise, sometimes bearded; pollen smooth, globose. Ovarium sessile, many-celled, not girded by a disk; cells 1-2 seeded; ovula hanging from the top of the cells. Style divided, rarely simple; stigmas bifid or trifid. Berry globose or oval, usually few-seeded, by abortion: having the bark or rind sometimes separating. Testa of seed membranous; proper membrane obsolete. Albumen conforming to the seed, cartilaginous, white. Embryo slender, rather oblique, straight, white, usually longer than half the length of the albumen; cotyledons foliaceous, rather veiny, lying on each other, sometimes a little separate; radicle terete, middle-sized or long, tending to the umbilicus; plumule inconspicuous. —Non-lactescent trees and shrubs, with wood heavy as the Ebony. Leaves alternate, ex-stipulate, quite entire, coriaceous, broadish, having the petioles obsoletely articulated to the branches. Inflorescence axillary; peduncles solitary, those bearing the male flowers divided, and those bearing the female flowers usually simple and 1-flowered, all minutely bracteate.

This order is nearly allied to *Olèinæ*, with which it agrees in the interior structure and placentation of the seeds; but it differs in the leaves being alternate, in the inflorescence being always axillary, and in the flowers being unisexual, and in the sta-

mens being double, &c., while the flowers of *Olèinæ* are hermaphrodite, and the stamens simple.

Some of the order are hardy trees or shrubs, with deciduous leaves and white flowers, natives of woods, mountains, and banks of streams, in North America, Europe, and New Holland. Others are tropical evergreens. Of the latter, many of the *Diospỳri* produce edible fruit; as, for example, the *Mabola* of the Philippine Islands, which is as large as a peach; and the *Kaki* of Japan, which resembles an apricot. All these fruits are remarkable for their extreme austerity before maturity, and the necessity of letting them decay like the medlars before they are fit for the table. These are also distinguished for the excessive hardness of their wood, and for the black colour it sometimes acquires when old, as the Ebony. The bark of *Diospỳros Virginiàna* is used in North America in intermittent fevers.

Synopsis of the genera.

1 Diospy`ros. Flowers polygamous. Calyx deeply 4-cleft, sometimes 3-6 cleft. Corolla urceolate, with the same number of divisions as in the calyx. Stamens in the male flowers, twice the number of the segments of the corolla.

2 Embryópteris. All as in *Diospỳros*, except in the stamens of the male flowers being 4 times the number of the segments of the corolla.

3 Para`lea. Calyx 4-cleft. Corolla thick, with a short tube and a 4-cleft limb. Stamens in the male flowers 4 times the number of the segments of the corolla, with simple filaments; in the hermaphrodite flowers about 8, and the ovarium 8-celled, 8-seeded.

4 Roye`na. This genus differs from *Diospỳros* in the flowers being hermaphrodite, and usually 5-cleft, in the filaments being simple, and in the ovarium being 4-6-8-celled.

5 Diplone`ma. Flowers polygamous; stamens in the male flowers 4 times the number of the segments of the corolla; filaments double; anthers bearded. Ovarium 4-6-celled.

6 Diclidanthe`ra. Flowers hermaphrodite, pentamerous. Corolla funnel-shaped; anthers sessile, 2-valved from the base, probably double. Berry 5-celled; cells 1-seeded; some of the cells abortive.

7 Cargíllia. Flowers polygamous. Calyx semi-4-cleft. Corolla with a 4-cleft limb. Stamens 8; filaments double. Ovarium 4-celled.

8 Ma`ba. Flowers dioecious. Calyx semi-trifid. Corolla urceolate, 3-cleft. Stamens 3-6; filaments simple, or the alternate ones are twin. Ovarium 3-celled.

I. DIOSPY`ROS (from *διος, dios*, divine; and *πυρος, pyros*, wheat; divine wheat; called by Pliny Granum Jovis, or Jupiter's Wheat.) Lin. gen. no. 1161. Juss. gen. 156. Gærtn. fruct. 2. p. 478. t. 179. R. Br. prod. p. 525.—Ebénus, Comm.—Guaiacàna, Tourn. 371.

Lin. syst. *Polygàmia, Dioècia.* Flowers polygamous. Calyx deeply 4-cleft, sometimes 3 or 6-cleft. Corolla urceolate, 4-cleft, sometimes 3 or 6-cleft. Male flowers having the stamens inserted by pairs into the base of the corolla, twice the number of its segments, with double or twin filaments, and the rudiment of a pistil. Hermaphrodite flowers, having fewer and sterile stamens. Ovarium 8-12-celled; cells 1-seeded. Berry globose, with a spreading calyx, which is at length reflexed. Albumen horny. Trees and shrubs. Flowers white, or pale yellow.

* *Leaves downy beneath.*

1 D. lòtos (Lin. spec. 1510.) leaves oblong, acuminate, downy beneath; leaf-buds hairy inside. ♄. H. Native of the southern parts of Caucasus, woods of Hyrcania, and the whole coast of the Caspian, Italy, and Mauritania. Willd. spec. 4. p. 407. Mill. icon. t. 116. Pall. fl. ross. 1. p. 20. t. 58.—Wangh. amer. 84. t. 28. f. 58. Ger. emac. 1495. f. 1.—Park. theatr. 1523. f. 3. Flowers small, reddish white. Fruit size of a cherry, yellow when ripe, sweet with astringency; it is recommended as a cure for diarrhœa.

European *Lotos*, or Common Date Plum. Fl. July. Clt. 1596. Tree 20 to 30 feet.

2 D. pube'scens (Pursh. fl. amer. sept. 1. p. 265.) leaves oblong, acute, downy beneath; petioles long; fruit few-seeded. ♄. H. Native of North America, in the lower counties of Virginia, Carolina, and Georgia. Though Michx. in his abr. for. makes this as only a variety of *D. Virginiàna;* Pursh considers it a distinct species, not only on account of the difference in the structure of the fruit, but in the shape and downiness of the leaves.

Downy-leaved Date Plum. Fl. April. Clt. 1812. Tree 20 to 30 feet.

3 D. Orixe'nsis (Klein. ex Willd. l. c.) leaves oblong, obtuse at the base, acutish at the apex, glabrous above, and clothed with fine soft down beneath. ♄. S. Native of the East Indies.

Orixa Date Plum. Tree.

4 D. tomentòsa (Roxb. fl. ind. 2. p. 532.) dioecious; all the tender parts downy; leaves opposite and alternate, oval, entire; male peduncles 3-flowered: calyx and corolla gibbous, 4-toothed: stamens 12; female flowers having the calyx and corolla 5-parted; berry 5-seeded. ♄. S. Native of the northern parts of Bengal; and is the Ebony of that country. *Kakindoo* is the Sanscrit name; and *Kyou* is the Bengalese name. Leaves deciduous. Male flowers whitish. Styles 2. Berry size of a pigeon's egg, yellow when ripe, and filled with a soft edible pulp.

Tomentose Date Plum. Tree tall.

5 D. hirsu`ta (Lin. syst. 918. suppl. 440.) branches and underside of leaves villous; leaves elliptic, obtuse; flowers aggregate, sessile. ♄. S. Native of Ceylon. Hardly distinct from *Royèna.*

Hairy Date Plum. Clt. 1820. Tree 20 feet.

6 D. chloróxylon (Roxb. cor. 1. p. 38. t. 49.) spiny; leaves oval, villous beneath. ♄ S. Native of the East Indies, on the coast of Coromandel, among the Circars. Branches furnished with strong spines. Male flowers with about 12 stamens, and 16 anthers; and the hermaphrodite ones with 8 single filaments. Styles 4. Berry 2-3-seeded. The tree is called *Nella-woolimera* by the Telingas.

Green-wooded Date Plum. Clt. 1822. Tree.

7 D. cordifòlia (Roxb. l. c. t. 50.) spiny; leaves ovate-lanceolate, cordate, downy beneath. ♄. S. Native of the East Indies, every where. Spines strong, usually branched. Male flowers with 8 double filaments; hermaphrodite flowers with 12 single filaments. Styles 4. Berry 8-seeded. *Tumala* is the Sanscrit name of the tree; *Kok-woolimera* is the Telinga name; and *Bun Gaub* the Bengalese name.

Heart-leaved Date Plum. Clt. 1794. Tree.

8 D. salicifòlia (Willd. spec. 4. p. 407.) leaves lanceolate, obtuse, acute at the base, downy beneath, hoary while young. ♄. S. Native of South America.

Willow-leaved Date Plum. Tree.

9 D. deca'ndra (Lour. coch. p. 227.) leaves ovate-lanceo-

late, woolly; flowers quadrifid or quinquefid. ♄. G. Native of Cochin China. Flowers white. Berry large, nearly globular, umbilicate, pulpy, yellowish when ripe. The fruit has an austerity mixed with its sweetness, with a disagreeable smell; it is, however, eaten and sold in the markets, in the northern provinces of Cochin China. The wood, when of sufficient age, is excellent for cabinet and all elegant work, being of a compact, fine, regular grain, heavy, very white, veined with black, and sometimes black at the heart.

Decandrous Date Plum. Tree 30 to 40 feet.

10 D. pube'scens (Pers. ench. 2. p. 625.) leaves linear-lanceolate, downy beneath, as well as the branches. ♄. S. Native of the Cape of Good Hope. D. hirsùta, Pers. The leaves of this, and *D. lycioìdes*, are small and sub-fasciculate, and therefore have not the habit of the other species. They are closely allied to *Royèna*.

Downy Date Plum. Tree.

11 D. rugulòsa (R. Br. prod. p. 526.) leaves elliptic-acuminated, tomentose beneath, and a little wrinkled, simple and bluntish at the base; flowers quadrifid. ♄. S. Native of New Holland, within the tropic.

Wrinkled Date Plum. Clt. 1823. Tree.

12 D. psidioìdes (H. B. et Kunth. nov. gen. amer. 3. p. 254.) leaves obovate-oblong, rounded at the apex, acute at the base, glabrous and shining above, clothed with fine down beneath; flowers trifid. ♄. S. Native of Peru, near Guayaquil, on the shores of the Pacific Ocean. Leaves 4 inches long. Fruit solitary, at first yellow, then red, edible, with an ungrateful smell, and an insipid taste, 6-celled; an inch in diameter.

Guava-like Date Plum. Tree 12 to 20 feet.

13 D. Acapulce'nsis (H. B. et Kunth. l. c.) leaves obovate-lanceolate, acute, cuneated at the base, hairy on both surfaces, but more particularly beneath; flowers trifid. ♄. S. Native of New Spain, near Acapulco. D. salicifòlia, Willd. spec. 4. p. 1112? Leaves canescent beneath, $2\frac{1}{2}$ inches long. Berry solitary, size of the preceding, nearly globose.

Acapulco Date Plum. Tree 12 to 20 feet.

14 D. conduplica'ta (H. B. et Kunth. l. c.) leaves elliptic-oblong, obtuse, acute at the base, conduplicate, smoothish above, but downy beneath, especially on the nerves and veins; flowers trifid. ♄. S. Native of Peru, near Guayaquil. Leaves 4 to $4\frac{1}{2}$ inches long, paler beneath. Peduncles 3-flowered. Corolla greenish, clothed with silky hairs. Stamens 5-8, unequal.

Conduplicate-leaved Date Plum. Tree 12 to 20 feet.

15 D. macrophy'lla (Blum. bijdr. p. 670.) leaves elliptic-oblong, acuminated, rounded at the base, and sometimes subcordate, coriaceous, glabrous, tomentose on the midrib beneath, as well as on the branchlets; racemes axillary, rarely supra-axillary, few-flowered; lower female flowers almost solitary, 5-cleft. ♄. S. Native of Java, on the Seribu and Parang mountains, &c., called *Kitjallung* by the natives.

Long-leaved Date Plum. Fl. Feb. Tree 60 feet.

16 D. pilosiu'scula (Wall. cat. no. 4132.) leaves obovate-lanceolate, acuminate, rounded at the base, pilose on the mid-rib and margins while young; pedicels lateral, solitary; calyx pilose: segments 4, lanceolate, acuminated; young branches villous. ♄. S. Native of Silhet.

Rather Hairy Date Plum. Shrub or tree.

* * *Leaves glabrous.*

17 D. obtusifòlia (Willd. spec. 4. p. 1112. H. B. et Kunth. l. c. t. 247.) leaves oblong, obtuse, acute and revolute at the base, glabrous, shining above; flowers quinquefid. ♄. G. Native of Mexico, near Cuernavaca, where it is called *Sapote Negro*, by the natives. Leaves 4-5 inches long. Stamens 10-12. Fruit depressedly globose, 3-4 inches in diameter, black, edible.

Obtuse-leaved Date Plum. Tree tall.

18 D. serra'ta (Hamilt. mss. ex D. Don, prod. fl. nep. p. 143.) leaves lanceolate, acuminated, serrated, glabrous; petioles short, and are, as well as the branchlets, villous; pedicels lateral, aggregate, drooping, and are, as well as the calyxes, hairy; stigmas 3, long, acute; flowers quinquefid. ♄. G. Native of Nipaul, at Narainhetty, where it is called, by the Newar people, *Yelang*. Termstroe'mia bifària, Hamilt. mss. Leaves 2-4 inches long. Ovarium 6-celled. Berry 3-celled, many-seeded. Perhaps a distinct genus.

Serrated-leaved Date Plum. Tree large.

19 D. cerasifòlia (D. Don, prod. fl. nep. p. 144.) leaves elliptic, acuminated, glabrous; petioles short, and are, as well as the branchlets, downy; pedicels lateral, drooping, aggregate, and are, as well as the calyxes, downy; stigmas 3, acute; flowers quinquefid. ? ♄. G. Native of Nipaul, at Narainhetty. D. fœmínea, Hamilt. mss. This species agrees in character with the preceding, and will probably, with it, constitute a new genus.

Cherry-leaved Date Plum. Tree.

20 D. frute'scens (Blum. bijdr. p. 668.) leaves oblong, acuminated, acutish at the base, glabrous, shining; fascicles of flowers crowded, axillary and lateral; flowers quadrifid. ♄. S. Native of Java, on the banks of the river Tjisedanie, near Rompien, in the province of Buitenzorg.

Var. β; leaves elliptic-oblong, bluntly acuminated; ultimate branches downy. ♄. S. Native of the Island of Nusæ Kambanga, where it is called *Tallak*.

Shrubby Date Plum. Fl. May, Nov. Shrub.

21 D. Virginia'na (Lin. spec. 1510.) leaves ovate-oblong, acuminated, glabrous, shining above, and paler beneath, reticulately veined; petioles short, and curved, and are, as well as the branchlets, downy; leaf-buds glabrous; flowers quadrifid, rarely quinquefid. ♄. H. Native of Virginia, Carolina, and Pennsylvania, in woods; or from New York to Louisiana. Mill. fig. 126. Wats. dendr. brit. 146.—Park. par. 570. t. 569. f. 6. Guajacàna, Catesb. car. 2. t. 76.—Pluk. alm. 244. f. 5. Flowers pale yellow. Fruit form and size of a date, or common plum, golden yellow when ripe. It is austere when fresh, like the medlar; but when mellowed by the frost, it is then very sweet and glutinous, with very little austerity. In North America it makes a palatable liquor with malt; there is also a spirit distilled from it. The wood is very hard, but brittle and white: it is very good for joiners' tools, such as planes, &c., but it soon rots if exposed to the weather. It is known in North America by the name of *Pishamin* or *Presimon*.

Virginian Date Plum. Fl. July. Clt. 1829. Tree 20 feet.

22 D. Loureiria'na; leaves ovate-lanceolate, smooth, with oblique prominent ribs; flowers solitary, terminating, quinquefid, rarely quadrifid. ♄. G. Native of Cochinchina. Diospyros Lòtos, Lour coch. p. 226. Flowers pale. Fruit downy, half an inch in diameter, round, 8-seeded, with very little pulp.

Loureiro's Date Plum. Shrub 6 feet.

23 D. dígyna (Jacq. schœnbr. 3. p. 35. t. 313.) leaves oblong, acute at both ends, glabrous; flowers digynous, drooping; corolla much longer than the calyx. ♄. S. Native of the Celebes. Flowers white, quinquefid.

Digynous-flowered Date Plum. Tree 20 feet.

24 D. cauliflòra (Blum. bijdr. p. 668.) leaves oblong-lanceolate, acuminated, acute at the base, glabrous; male flowers axillary; hermaphrodite ones digynous, crowded into lateral fascicles; flowers semi-quadrifid. ♄. S. Native of Java, on calcareous mountains, where it is called *Prellek*. Nearly allied to *D. dígyna*.

Stem-flowered Date Plum. Fl. June, July. Shrub.

25 D. sylva'tica (Roxb. cor. 1. p. 37. t. 47.) leaves oblong or oval, acute at both ends, glabrous; female flowers trigynous, erect; corolla of hermaphrodite flowers about equal in length to the calyx; berry 8-seeded. ♄. S. Native of the East Indies, among the Circars. Corolla whitish. Male flowers with about 18 single anthered filaments. *Tella-goda* is the Telinga name of the tree.

Wood Date Plum. Clt. 1812. Tree.

26 D. reticula'ta (Willd. spec. 4. p. 1112.) leaves ovate or elliptic, obtuse; rounded at the base, glabrous and shining on both surfaces, coriaceous, finely reticulated beneath; calyxes villous. ♄. S. Native of the Mauritius.

Reticulated-leaved Date Plum. Clt. 1824. Tree 20 feet.

27 D. ebena'ster (Retz. obs. 5. p. 33.) leaves bifarious, oval-oblong, coriaceous, glabrous on both surfaces; leaf-buds glabrous; flowers quadrifid. ♄. S. Native of the East Indies, in woods, about Calcutta, Amboina, &c. D. Ebènum, Lin. suppl. 440. Hebenáster, Rumph. amb. 3. p. 13. t. 6. Berry yellow when ripe. The wood of this tree is compact, hard, and heavy, whitish next the bark, but towards the middle very black, this blackness gradually tinges the whole body in the same manner as resin of fir. This is said to be the true Ebony, but there is no doubt but the Ebony of commerce is the wood of several species.

Ebony-like Date Plum, or Common Ebony. Clt. 1772. Tree 40 feet.

28 D. oblónga (Wall. cat. no. 4124.) leaves oblong-lanceolate, glabrous, on short petioles, acuminated; flowers axillary, aggregate; calyx 5-cleft, villous inside. ♄. S. Native of Penang. D. frondòsa, and D. nervòsa, Wall. cat. no. 4125 and 4126, hardly appear to be more than varieties of this species.

Oblong-leaved Date Plum. Shrub.

29 D. Sapòta (Roxb. fl. ind. 2. p. 535.) leaves bifarious, oblong, entire, obtuse, polished; filaments 8-10, in both male and hermaphrodite flowers; berry globular, with a few irregular shaped seeds. ♄. S. Native of the Mauritius. Sapotte-nigra, Sonn. voy. nov. guin. p. 45. t. 14, 15, and 16. Berry size of a large orange. Introduced by the late Hyder Ally, into his garden at Seringapatam.

Sapota Date Plum. Tree.

30 D. ramiflòra (Roxb. fl. ind. 2. p. 535.) leaves lanceolate, glossy; hermaphrodite and male flowers in fascicles from the large woody branches; calyx and corolla from 5- to 6-parted; style 5-6-cleft; berry containing from 10 to 20 seeds. ♄. S. Native of the eastern frontier of Bengal, where it is called *Oori-Gaub*, also *Goolul*. It supplies the natives with a strong, hard wood. Leaves 6-10 inches long. Filaments 10-12 in the female flowers, but the males are still unknown. It is probably a species of *Embryópteris*.

Branch-flowered Date Plum. Tree large.

31 D. melanóxylon (Roxb. cor. 1. p. 36. t. 46.) leaves oblong-lanceolate, acute at the base, and obtuse at the apex, nearly opposite, coriaceous, finely veined, glabrous, but villous when young, as well as the branches; flowers 5-cleft. ♄. S. Native of the East Indies, Java, where it is called *Tremble Kibarasma*, and *Kiklor*. Calyx and corolla 5-cleft; male peduncles 3-6-flowered. Styles 3-4; male flowers with about 12 anthers; and female flowers decandrous. This is one of the species which produces Ebony; it is called *Tumballi* by the Tamuls, *Tindoo* by the Hindoos, and *Tumida* by the Telingas; but several other species also produce Ebony, as *D. tomentòsus*, *D. ebénum*, and *D. ebenáster*, &c. It is only the centre of large trees that is black and valuable, which part is more or less in quantity according to the age of the tree. The outside of the wood is soft and white, which time and insects soon destroy, leaving the black untouched. The ripe fruit is eaten by the natives; it has an astringent taste, and is not very palatable. The bark is also astringent; powdered and mixed with pepper, it is given for dysentery by the native doctors.

Black-wooded Date Plum. Clt. 1817. Tree.

32 D. lanceæfòlia (Roxb. fl. ind. 2. p. 537.) leaves bifarious, lanceolate, polished; flowers sessile; male ones crowded in heads; filaments 16, simple. ♄. S. Native of Silhet, where it is called *Goolul*, and where it furnishes the natives with a durable timber, for the construction of their habitations. Stigma 8-cleft. Flowers quadrifid and quinquefid.

Lance-leaved Date Plum. Tree large.

33 D. ebe'num (Retz. obs. 3. p. 5. t. 31.) leaves bifarious, ovate-lanceolate or oblong, acuminated, glabrous; leaf-buds hairy; male flowers sub-racemose, with about 20 anthers; hermaphrodite flowers octandrous, solitary; stigma 4-cleft. ♄. S. Native of Ceylon, in woods. D. glabérrima, Rothb. in nov. act. hafn. 2. p. 540. t. 5. Hebenáster, Rumph. amb. 3. p. 13. t. 6.?

Ebony Date Plum. Clt. 1792. Tree 30 to 40 feet.

34 D. marítima (Blum. bijdr. p. 669.) leaves oblong, obtuse, acutish at the base, and furnished with 2 depressed glands at the base beneath, coriaceous, glabrous, shining; flowers axillary, sessile, male ones crowded, hermaphrodite ones almost solitary; flowers obliquely 4-5-cleft. ♄. S. Native of Java, on the south shore.

Sea-side Date Plum. Fl. Oct. Nov. Shrub.

35 D. monta'na (Roxb. cor. 1. p. 37. t. 48.) leaves ovate-oblong, rounded at the base, acute at the apex, glabrous; male flowers with 8 double filaments; berry 8-seeded. ♄. S. Native of the East Indies, among the Circars, where it is called *Yerra-goda* by the Telingas. Female flowers with about 4 sterile stamens.

Mountain Date Plum. Clt. 1822. Tree.

36 D. mabòla (Roxb. hort. beng. p. 41. Lindl. bot. reg. 1139.) leaves oblong, acute at both ends, deep green above, silky beneath, as well as the branchlets; fascicles of flowers disposed in racemes; stamens 12, in the male flowers. ♄. S. Native of the Philippine Islands. Cavanillea Philippénsis, Desr. in Lam. dict. 3. p. 663. t. 454. Wood black, very compact. Corollas sweet-scented, pale yellow, silky outside. The fruit called *Mabola* is brown, with a pink-coloured, fleshy rind, about the size of a quince: its flavour is said to be agreeable, the pulp is firm and white. The tree is cultivated in the Isle of France, for its fruit.

Mabola Date Plum. Clt. 1822. Tree 8-10 feet.

37 D. obova'ta (Jacq. schœnbr. 3. p. 34. t. 312.) leaves membranous, obovate, obtuse, glabrous on both surfaces; flowers quadrifid, octandrous; berries 4-seeded. ♄. S. Native of Jamaica and St. Domingo. D. tetraspérma, Swartz. prod. 62. fl. ind. occ. 2. p. 678. Corolla orange-coloured.

Obovate-leaved Date Plum. Clt. 1796. Shrub 3 to 6 feet.

38 D. undula'ta (Wall. cat. no. 4136.) leaves glabrous, shining, deep green, oblong, acuminated, on short petioles; flowers axillary, sessile, solitary; calyx villous, 4-lobed; fruit globular. ♄. S. Native of the Burman empire, at Amherst. Leaves 6-10 inches long.

Undulated-leaved Date Plum. Shrub or tree.

39 D. amœ'na (Wall. cat. no. 4139.) leaves lanceolate, or oblong-lanceolate, acuminated, glabrous; flowers lateral and axillary, sessile, solitary, clothed with rusty down; calyx propped by scales. ♄. S. Native of the East Indies. Leaves 7-9 inches long.

Pleasant Date Plum. Shrub or tree.

40 D. ehretioìdes (Wall. cat. no. 4137.) leaves glabrous, oblong-roundish or oblong, rusty beneath; peduncles lateral and axillary, trichotomous, downy: lateral branches 3-flowered, the middle one 1-flowered. ♄. S. Native of the Burmese Empire at Moalmeyne. Leaves 8-10 inches long, and 4-6 broad.

Ehretia-like Date Plum. Shrub or tree.

41 D. stricta (Roxb. fl. ind. 2. p. 539.) leaves ovate-lanceo-

late; male peduncles 3-6-flowered; male flowers with 16 stamina, on a convex receptacle. ♄. S. Native of Tipperah. A tall, slender tree, with a straight trunk, as in firs. The female tree is unknown.

Straight Date Plum. Tree tall.

42 D. bractea'ta (Roxb. fl. ind. 2. p. 539.) leaves oblong, acute; style 4-cleft; berry 8-seeded. ♄. S. Native of Dooab. The male tree has not been found.

Bracteate-flowered Date Plum. Tree.

43 D. loba'ta (Lour. cochin. p. 227.) leaves ovate-lanceolate, glabrous on both surfaces; peduncles 1-flowered; berries 8-lobed; flowers quadrifid. ♄. G. Native of Cochinchina. Leaves small. Corolla white, with a 4-cornered tube. Stigma deeply 4-cleft. Berry pale yellow, about an inch in diameter, having a sweetish austere pulp, without any smell.

Lobed-fruited Date Plum. Clt. 1822. Shrub 8 feet.

44 D. densiflòra (Wall. cat. no. 4140.) leaves oblong, glabrous, coriaceous; peduncles branched, or in clusters, many-flowered; fruit globose. ♄. S. Native of Moalmyne and Martaban. Leaves 5-8 inches long, and 4-5 broad.

Dense-flowered Date Plum. Shrub.

45 D. lycioìdes (Desf. in ann. mus. cah. 36. p. 448.) leaves small, lanceolate, flat, obtuse, glabrous, smooth, subfascicled. ♄. G. Native of the Cape of Good Hope. Flowers hermaphrodite. Hardly distinct from *Royèna*.

Lycium-like Date Plum. Clt. 1806. Shrub.

46 D. vaccinoìdes (Lindl. ex Hook. exot. fl. 139.) leaves ovate, obtuse, shining above, villous beneath, and on the edges; flowers solitary, axillary, quadrifid, tetrandrous; fruit ovate, 3-celled, 3-seeded; calycine segments ovate, subulate, pilose, with coloured edges; corolla sub-campanulate, with ovate, undulated segments. ♄. G. Native of China, Penang, and Singapore. Lodd. bot. cab. 1549. Perhaps a species of Maba, with quadrifid flowers. Stigma quite simple. Corolla white. A small evergreen shrub.

Whortle-berry-like Date Plum. Fl. April, May. Clt. 1823. Shrub 2-3 feet.

47 C. heterophy'lla (Wall. cat. 4138.) leaves variable in size and shape, roundish or oblong-obovate, emarginate, smaller than in most other species: calycine lobes obtuse, reflexed. ♄. S. Native of Ava. Allied to the preceding.

Variable-leaved Date Plum. Shrub.

† *Species hardly known.*

48 D. melanìda (Poir. ency. 4. p. 431. Pers. ench. 2. p. 625.) leaves ovate, petiolate; berries sub-globose, depressed, 10-celled; calyx pentagonal, with a reflexed mouth. ♄. S. Native of the Isle of France. Ebènus melanìda, Commers.

Black-wooded Date Plum. Tree.

49 D. leucome'las (Poir. l. c.) leaves ovate-elliptic, subcordate; calyx 6-toothed, girding the berry one half of its length, which is 2-celled. ♄. S. Native of the Isle of France.

White and Black-wooded Date Plum. Tree.

50 D. nodòsa (Poir. l. c.) leaves ovate-lanceolate, glabrous; flowers quinquefid; fruit globose, solitary. ♄. S. Native of the Isle of France.

Knotted Date Plum. Tree.

51 D. chrysophy'llos (Poir. l. c. p. 433.) leaves oblong, shining and rufescent beneath; flowers solitary, quinquefid; calyx hairy; fruit pear-formed. ♄. S. Native of the Isle of France.

Golden-leaved Date Plum. Tree.

52 D. angula'ta (Poir, l. c. p. 436.) leaves ovate, obtuse, coriaceous; flowers quinquefid; fruit angular. ♄. S. Native of the Isle of France.

Angular-fruited Date Plum. Tree.

53 D. edu'lis (Lodd. cat. p. 9. 1830.) nothing is known of this plant but the name.

Edible-fruited Date Plum. Tree.

Cult. The hardy species of *Diospyros* grow to large shrubs in this country, therefore they should be planted in the back of shrubberies; they are easily increased both by layers and seeds. The greenhouse and stove species require the same treatment as other stove and greenhouse shrubs; a mixture of loam, sand, and peat, is the best soil for them; and they are readily increased by ripened cuttings, in sand under a hand-glass; those of the stove species should be placed in a moist heat.

II. EMBRYO'PTERIS (*εμβρυον, embryon*, an embryo, and *πτερυξ, pteryx*, a wing; in reference to the embryo being winged.)

Gærtn. fruct. 1. p. 145. t. 29. Roxb. cor. 1. p. 49. t. 70. —Cavaníllea, Lam.—Diospy'ros species of authors.

Lin. syst. *Polygàmia, Dioècia.* This genus differs alone from *Diospyros*, in the stamens of the male flowers being 4 or 6 times the number of the segments of the corolla.—Trees with entire leaves; male peduncles 3-4-flowered, and the female ones 1-flowered.

1 E. gelatinífera (Roxb. cor. 1. p. 49. t. 70. Willd. spec. 4. p. 836.) leaves lanceolate; stamens 16-20 in the male flowers, and 1-4 in the female flowers; flowers quadrifid; styles 4; berry 8-seeded. ♄. S. Native of the East Indies. Embry. peregrìna, Gærtn. fruct. 1. p. 145. t. 29. Cavaníllea Philippénsis, Lam. dict. 3. p. 636. See Juss. ann. mus. 5. p. 418. Diospyros Embryópteris, Pers. ench. 2. p. 624. Ker. bot. reg. t. 499. D. glutinòsa, Kœn. A middle-sized tree, with long leaves. Flowers whitish. Stigma cruciate, sessile. The fruit is eaten by the natives when ripe, but cannot be said to be palatable, on account of its strong astringency. Sir W. Jones says the tree is generally known in Bengal by the name of *Gaub;* and that the Sanscrit name is *Tindooka;* and that the astringent, viscid juice of the fruit is used all over that country for paying the bottoms of boats. The unripe fruit contains a very large proportion of tannin. The infusion is employed to steep fishing nets in, to make them more durable, and probably adds to their strength. The wood is but of indifferent quality, and not much used.

Glue-bearing Embryopteris. Fl. Jul. Clt. 1818. Tr. 25 ft.

2 E. díscolor; leaves oblong-lanceolate, acute, rounded at the base, of a silky glaucous colour beneath, and downy; flowers quadrifid; stamens 24. ♄. S. Native of the Philippine Islands. Diospyros díscolor, Willd. spec. 4. p. 1108. Stigma sessile. Perhaps only a variety of the preceding. Branches and corolla villous. Leaves almost a foot long. Berry 4-6-seeded.

Two-coloured-leaved Embryopteris. Clt. 1823. Tree 20 feet.

3 E. racemòsa; leaves from oblong to lanceolate, obtuse, glossy; both male and female flowers in axillary comose racemes, the former with 20-30 stamens, the latter with 12-16; stigma 4-cleft; berry round, smooth, 4-seeded. ♄. S. Native of Silhet, where it is called *Goolul*, and where the fruit is eaten by the natives. Diospyros racemòsa, Roxb. fl. ind. 2. p. 536.

Racemose-flowered Date Plum. Tree small.

4 E. Loureiria'na; leaves broad-lanceolate; flowers quadrifid; stamens 20; berries pea-shaped, 8-seeded. ♄. G. Native of Cochinchina. Diospyros dodecándra, Lour. coch. p. 228. Corolla white, with a sub-globose tube. Berry pale, with a sweetish, astringent, edible, but pleasant pulp. The wood is like that of the false Ebony, *Diospyros Ebenáster*, but has not the black veins. The trees are much used as supports to the Black Pepper plants.

Loureiro's Embryopteris. Tree large.

5 Ka'ki (Lin. syst. 918. Thunb. jap. 157. Lour. coch. 226. Roxb. fl. ind. 2. p. 527.) leaves bifarious, ovate-elliptic, acuminated, elliptic-oblong, or obovate, cordate at the base,

downy on both surfaces; branches tomentose; male peduncles usually 3-flowered; male flowers with about 20 stamens, and female 8; flowers quadrifid; style 4-cleft; stigmas bifid. ♄. G. Native of China, Cochinchina, and Japan; and is also cultivated in those countries, as also in Bengal. D. Chinénsis, Blum. cat. hort. buit. p. 110. and act. soc. batav. 9. p. 167. Kouis or Kaki, Kæmpf. amœn. t. 106. Fruit globose, 8-celled, size of a small orange, yellow when ripe, abounding in yellow, fleshy, edible pulp; it is tolerably pleasant, but by no means equal to a good apple; eaten plentifully occasions diarrhœa. They are preserved in the same manner as the fig, by sprinkling meal or sugar over them. There is a variety of this species with an ovate fruit.

Kaki Embryopteris. Clt. 1789. Tree 12 to 20 feet.

Cult. See *Diospyros*, p. 41., for culture and propagation.

III. PARA'LEA (*Parala* is the Caribbean name of the tree). Aubl. guian. 1. p. 576. t. 231. R. Br. prod. p. 526.

Lin. syst. *Polygàmia, Dioècia.* Flowers polygamous. Calyx 4-toothed; teeth acute. Corolla fleshy, with a short tetragonal tube, and a 4-parted limb; segments acute. Stamens 18, inserted within the tube of the corolla at its base; anthers small, roundish. Ovarium wanting in the male flowers, but in place of it there is a villous, rufous corpuscle. Fruit and seeds unknown.—A tall tree, with a branched top. Leaves alternate, quite entire, glabrous, but tomentose along the margins. Flowers disposed in axillary fascicles: with villous rufescent scales.

1 P. Guiane'nsis (Aubl. guian. l. c.). ♄. S. Native of Guiana. Branches downy. Leaves ovate-oblong, acute. Flowers sweet-scented. Corolla fulvous.

Guiana Paralea. Tree tall.

Cult. For culture and propagation see *Diospyros*, p. 41.

IV. ROYE'NA (named by Linnæus in honour of Adrian Van Royen. He and his son David were successively professors of botany at Leyden). Lin. gen. no. 555. Gærtn. fruct. 2. p. 80. t. 94. Juss. gen. 156. R. Br. prod. p. 526.

Lin. syst. *Decándria, Digýnia.* Flowers hermaphrodite. Calyx 5-cleft. Corolla with a 5-parted revolute limb. Stamens 10, length of the tube of the corolla; filaments simple; anthers oblong, acute. Ovarium usually 4-celled, but sometimes 6-8-celled; cells 1-seeded. Berry fleshy. Seeds triangular or plano-convex.—Shrubs, natives of the Cape of Good Hope, with entire leaves; and axillary or lateral, solitary or aggregate, 1-flowered pedicels. Flowers white.

1 R. lu'cida (Lin. spec. 568.) leaves ovate, roughish, shining above. ♄. G. Native of the Cape of Good Hope. Lam. ill. t. 370. f. 1.—Herm. par. 232. t. 232.—Comm. hort. 1. p. 187. t. 96.—Pluk. phyt. t. 63. f. 4. and t. 317. f. 5. Berry globular, red above and pale below, containing a firm, whitish flesh, almost like that of an apple.

Lucid-leaved African Bladder-nut. Fl. May, June. Clt. 1690. Shrub 5 to 10 feet.

2 R. villòsa (Lin. spec. 568. Thunb. prod. 83.) leaves cordate-oblong, tomentose beneath; branches villous. ♄. G. Native of the Cape of Good Hope. R. scàbra, Burm. prod. 13.

Villous African Bladder-nut. Fl. June, July. Clt. 1774. Shrub 5 to 10 feet.

3 C. gla'bra (Lin. spec. 568. Thunb. prod. 80.) leaves lanceolate, glabrous. ♄. G. Native of the Cape of Good Hope. —Comm. hort. 1. p. 125. t. 65.—Plukn. phyt. t. 321. f. 4. Fruit roundish, purple.

Glabrous African Bladder-nut. Fl. Sept. Clt. 1731. Sh. 4 to 6 feet.

4 R. pa'llens (Willd. spec. 2. p. 632.) leaves oblong-obovate, obtuse, glabrous. ♄. G. Native of the Cape of Good Hope.

Pale African Bladder-nut. Fl. June, July. Clt. 1789. Sh. 4 to 6 feet.

5 R. cunea'ta (Lam. dict. 6. p. 322.) leaves somewhat obovate-oblong, downy, nerveless; branches villous. ♄. G. Native of the East Indies, ? but probably of the Cape of Good Hope. Flowers solitary. Calyx white. Corolla purple. R. pubéscens, Willd. enum. p. 457. Ker. bot. reg. 500. Flowers whitish green.

Cuneated-leaved African Bladder-nut. Fl. July, Aug. Clt. 1752. Shrub 4 to 6 feet.

6 R. hirsu'ta (Lin. spec. 568.) leaves oblong-lanceolate, villous. ♄. G. Native of the Cape of Good Hope. Lam. ill. t. 370. f. 2. Jacq. coll. suppl. 110. t. 13. f. 1.—Lin. hort. cliff. 163.—Boerh. lugdb. 2. p. 235. Leaves an inch long. Flowers of a worn out dirty purple colour.

Hairy African Bladder-nut. Fl. July, Aug. Clt. 1752. Shrub 6 to 8 feet.

7 R. angustifòlia (Willd. spec. 2. p. 633.) leaves lanceolate, acute at both ends, rather pilose beneath. ♄. G. Native of the Cape of Good Hope.

Narrow-leaved African Bladder-nut. Fl. June, July. Clt. 1789. Shrub 4 to 6 feet.

8 R. latifòlia (Willd. enum. suppl. p. 23.). This species has not yet flowered in the gardens; consequently nothing more is known of the plant than the name.

Broad-leaved African Bladder-nut. Fl. June, July. Clt. 1816. Shrub 4 to 6 feet.

Cult. The species thrive in a mixture of loam, peat, and sand; and slips, taken from ripened wood, strike root readily in sand, under a hand-glass.

V. DIPLONE'MA (from διπλοος, *diploos*, double, and νημα, *nema*, a filament; filaments double). Royèna polyándra of authors.

Lin. syst. *Polygàmia, Dioècia.* This genus differs from *Royèna* in the flowers being polygamous, in the stamens of the male flowers being 4 times the number of the segments of the corolla, in the filaments being double, and in the anthers being bearded. Ovarium 4-6-celled.—Shrubs with entire leaves and axillary 1-flowered pedicels.

1 D. ellíptica; leaves elliptic, glabrous; flowers quinquefid.? ♄. G. Native of the Cape of Good Hope. Royèna polyándra, Lin. suppl. 240.

Elliptic-leaved Diplonema. Fl. June, July. Clt. 1774. Sh. 4 to 6 feet.

2 D. ambígua; leaves obovate, rather villous, coriaceous; corolla 6-7-cleft, with obtuse segments. ♄. G. Native of the Cape of Good Hope. Royèna ambígua, Vent. malm. t. 17. Flowers yellowish, with reflexed segments. Branchlets hairy.

Ambiguous Diplonema. Fl. June, July. Clt. 1815. Shrub 4 to 6 feet.

Cult. For culture and propagation see *Royèna*, above.

VI. DICLIDANTHE'RA (from δικλις, *diklis*, double doors, and ανθηρα, *anthera*, an anther; in reference to the anthers dehiscing by two valves). Mart. nov. gen. bras. 2. p. 139.

Lin. syst. *Pentándria, Monogýnia.* Flowers hermaphrodite. Calyx 5-parted. Corolla funnel-shaped, with a 5-cleft limb. Anthers 5, sessile in the throat, 2-valved from the base. Ovarium sub-5-celled; cells 1-seeded. Stigma capitate, depressed. Berry 5-seeded or 2-3-seeded from abortion.—Small shrubs or trees, with hard wood, and elongated, often pendulous branches; with scattered, petiolate, quite entire, thickish leaves; racemose, bracteate flowers; and cream or milk-coloured co-

rollas, which become purplish on drying. Calyx sub-globose at the base; segments bluntish. Corolla not widened at the throat, but naked; with narrow, bluntish, imbricate segments.

1 D. penduliflòra (Mart. nov. gen. bras. 2. p. 140. t. 196.) branches pendulous; petioles biglandular; leaves oblong, glabrous; calyxes smoothish, 3 times shorter than the corolla, which is villous inside; calycine segments linear. ♄. S. Native of Brazil, in the province of Rio Negro, along the river Solimoes. Habit of *Celástrus scándens*.

Pendulous-flowered Diclidanthera. Tree 10 to 20 feet.

2 D. laurifòlia (Mart. l. c. p. 141. t. 197.) branches loose; petioles glandless, downy; leaves oblong, downy along the middle nerve; calyxes downy, twice shorter than the corolla, which is glabrous; calycine segments oblong. ♄. S. Native of Brazil, in the province of Rio Janeiro, near Sebastianople.

Laurel-leaved Diclidanthera. Shrub 5 feet.

Cult. For culture and propagation see *Diospyros*, p. 41.

VII. CARGI'LLIA (named in memory of James Cargill, M. D., of Aberdeen, who lived in the time of Caspar Bauhin, and who described, for the first time, some marine Algæ in his Theatrum Botanicum, particularly the *Fùcus esculéntus*, *F. palmàtus*, *F. digitàtus*, and *U'lva pavònia*). R. Br. prod. p. 526.

Lin. syst. *Polygàmia, Dioècia.* Flowers polygamous. Calyx semi-quadrifid. Corolla with a 4-cleft limb. Male flowers having the stamens inserted in the base of the corolla, but sometimes also hypogynous, double the number of the segments of the corolla; filaments double. Hermaphrodite or female flowers having fewer stamens than the male, and these barren. Ovarium 4-celled; cells 2-seeded. Berry globose, girded by the adpressed cup-shaped calyx at bottom.—Evergreen trees, with entire, glabrous leaves: and axillary, 1-flowered pedicels.

1 C. la'xa (R. Br. prod. 526.) leaves oblong, a little undulated, glabrous, almost of the same colour on both surfaces; calyxes of the male flowers 4-toothed, one half shorter than the tube of the corolla; style 3-4-parted; branchlets loose. ♄. G. Native of New Holland, within the tropic.

Loose-branched Cargillia. Clt. 1827. Tree.

2 C. austra'lis (R. Br. prod. p. 527.) leaves oblong, glabrous, obtuse at the apex, acute at the base, pale beneath; calyx in the male flower 4-cleft, equal in length to the tube of the corolla; style undivided. ♄. G. Native of New South Wales. Hook. bot. mag. 3274. Corolla white.

Southern Cargillia. Clt. 1816. Tree 15 feet.

Cult. For culture and propagation see *Royèna*, p. 42.

VIII. MA'BA (the vernacular name of *M. elliptica* in Tongatabu). Forst. gen. t. 16. Juss. in ann. mus. 5. p. 418. Juss. gen. 418.—Ferrèola, Kœnig. and Roxb.

Lin. syst. *Dioècia, Triándria.* Flowers dioecious. Calyx semi-trifid. Corolla urceolate, trifid. Male flowers with hypogynous stamens, double in number to the segments of the corolla, rarely equal that number: with simple and double filaments alternating with each other. Female flowers without any stamens. Ovarium 3-celled; cells 2-seeded. Berry oval, rarely globose, girded by the cup-shaped calyx at the base.—Shrubs or trees with entire leaves: and axillary, 1-flowered pedicels.

1 M. ellíptica (Forst. gen. p. 122. t. 16. fl. austr. 366.) leaves elliptic, glabrous; flowers triandrous, by threes. ♄. S. Native of the Friendly Islands. Lam. ill. t. 803. Young leaves and branches villous. Calyxes downy.

Elliptic-leaved Maba. Shrub.

2 M. laurìna (R. Br. prod. p. 517.) leaves oval-oblong, veiny, bluntish at the base, shining, and are, as well as the branches, glabrous; male and female flowers solitary; alternate filaments double. ♄. S. Native of New Holland, within the tropic.

Laurel-like Maba. Fl. July, Aug. Clt. 1824. Shrub.

3 M. obova'ta (R. Br. l. c.) leaves obovate, rather retuse, opaque and glabrous in the adult state: but the young ones, petioles, and branches are downy; calyxes downy; alternate filaments double; berries sessile, solitary, oval. ♄. S. Native of New Holland, within the tropic.

Obovate-leaved Maba. Shrub.

4 M. buxifòlia (Juss. ann. mus. 5. p. 418. Pers. ench. 2. p. 606.) leaves obovate, glabrous in the adult state; calyxes downy; flowers solitary or aggregate, hexandrous; filaments all simple. ♄. S. Native of the East Indies, on the mountains. Ferrèola buxifòlia, Roxb. cor. 1. p. 35. t. 45. Flowers yellowish.

Box-leaved Maba. Clt. 1810. Shrub.

5 M. hu'milis (R. Br. l. c.) leaves oval-obovate, rather retuse, attenuated at the base, glabrous, as well as the branchlets, even in the young state; berries solitary, oval, about equal to half the length of the leaves, and are, as well as the calyxes, glabrous. ♄. S. Native of New Holland, within the tropic.

Humble Maba. Shrub.

6 M. gemina'ta (R. Br. l. c.) leaves oval or obovate, marginate, rather veiny, somewhat attenuated at the base, quite glabrous, even in the young state, as well as the branchlets; berries oval, twin, 4-5 times shorter than the leaves, and are, as well as the calyxes, clothed with fine down. ♄. S. Native of New Holland, within the tropic.

Twin-berried Maba. Shrub.

7 M. littòrea (R. Br. l. c.) leaves oval-oblong, rather retuse, attenuated at the base, shining; branchlets glabrous; berries solitary, oval-oblong, 4 times longer than the calyx, which is obsoletely lobed, and 4 to 5 times shorter than the leaves. ♄. S. Native of New Holland, within the tropic, on the shore.

Shore Maba. Shrub.

8 M. reticula'ta (R. Br. l. c. p. 528.) leaves obovate or oval, retuse, reticulately veined, with sub-recurved edges, glabrous in the adult state, as well as the branchlets; alternate filaments double; berry depressedly globose. ♄. S. Native of New Holland, within the tropic.

Reticulated-leaved Maba. Shrub.

9 M. compa'cta (R. Br. l. c.) leaves obovate and oval, rather retuse, compact, reticulated, flat, and are, as well as the branches, glabrous; berries depressedly globose; calyx of the fruit obsoletely lobed, reflexed, silky inside. ♄. S. Native of New Holland, within the tropic.

Compact Maba. Shrub.

10 M.? Ebenóxylon; leaves small, lanceolate, hard, flat, glabrous as well as the branches; peduncles terminal, many-flowered; berry ovate, acutish; calyx wanting, and nectarium stellate (ex Lour.). ♄. S. Native of Cochinchina, in vast woods. Ebenóxylon, Lour. coch. p. 613. Caju-arang. Rumph. amb. 3. p. 1. t. 1. Wood hard, heavy, with a black heart, and is the ebony of Cochin-china. Berry reddish yellow (ex Lour.), small, 1-celled, 3-seeded. Flowers triandrous.

Ebony-wood Maba. Tree large.

Cult. See *Royèna*, p. 42. for culture and propagation.

Order CXLVII. OLE'INÆ (so called on account of its containing plants agreeing with *O'lea* in important characters.) Hoffm. et Link, fl. port. p. 1806. R. Br. prod. p. 522. Jasmíneæ, part. Juss. gen. p. 104. Lilàceæ, Vent. tabl. 1. p. 306.

Flowers hermaphrodite, sometimes dioecious. Calyx 1-leaved, divided, permanent. Corolla hypogynous, monopetalous,

4-cleft (f. 8. *b.*, f. 9. *a.*); sometimes 4-petalled: petals connected by pairs to the middle of the filaments, rather valvate in æstivation; sometimes wanting. Stamens 2, alternating with the segments or petals of the corolla. Anthers 2-celled; cells dehiscing lengthwise. Ovarium simple, girded by no glandular disk, 2-celled; cells 2-seeded. Ovula pendulous, collateral. Style simple, or wanting; stigma bifid, or undivided. Fruit drupaceous, baccate, or capsular, often 1-seeded by abortion. Seeds with dense copious albumen. Embryo middle-sized, longitudinal, straight. Cotyledons foliaceous, half free; radicle superior; plumule inconspicuous.—Trees and shrubs. Leaves opposite, simple, rarely pinnate. Flowers racemose or panicled, terminal or axillary, with opposite unibracteate pedicels.

The bark of the ash is so bitter, as to be highly celebrated as a febrifuge, and is even compared with quinquina for effect. The sweet purgative called manna is a discharge from the bark of several species of *O'rnus* and *Fráxinus*. The sweetness of this substance is not due to the presence of sugar, but to a distinct principle called mannite. Olive oil is expressed from the pericarp of *O'lea Europæ'a*.

Synopsis of the genera.

TRIBE I.

OLIE'Æ. *Corolla short, monopetalous, campanulate or urceolate, 4-cleft. Stamens 2, with short filaments, and erect anthers. Fruit drupaceous.*

1 LIGU'STRUM. Corolla funnel-shaped, having the tube exceeding the calyx. Stamens inclosed. Style very short; stigma bifid. Berry globose, containing 2 chartaceous nuts.

2 PHYLLY'REA. Corolla short, campanulate. Stamens a little exserted. Stigma thickish. Berry globose, having one of the cells usually abortive.

3 O'LEA. Calyx tubular, 4-toothed. Segments of corolla ovate. Stamens a little exserted. Style very short; stigma bifid, with emarginate segments. Drupe 2-celled, one of the cells abortive; nut oblong.

4 NORÓNHIA. Corolla globular, thick, deeply 4-parted. Anthers lying in the substance of the corolla. Style wanting. Drupe containing a two-celled putamen; one of the cells abortive. Albumen none?.

5 PACHYDE'RMA. Corolla globose, coriaceous, with a semi-4-cleft border. Stamens inserted above the base of the corolla. Ovarium 2-celled. Stigma almost sessile, obtuse. Berry only 1-seeded. Albumen fleshy.

6 MYXOPY'RUM. Corolla globose, coriaceous, plicate inside, with a 4-cleft border. Stamens inserted in the middle of the tube, with very short filaments. Ovarium 2-celled. Drupe 1-2-celled, containing 1-4 angular 1-seeded nuts.

7 CHIONA'NTHUS. Calyx 4-parted. Segments of corolla elongated, linear. Stamens inclosed. Style short; stigma trifid. Drupe containing a striated, 1-seeded nut.

8 CHONDROSPE'RMUM. Calyx 4-toothed. Segments of corolla linear, clavate, vertical; throat closed by the anthers. Style short; stigma trifid. Fruit 2-celled, 1 seeded.

TRIBE II.

SYRÍNGEÆ. *Corolla funnel-shaped, or campanulate, 4-5-parted. Stamens 2, short. Fruit capsular, 2-celled.*

9 SYRÍNGA. Calyx tubular, short, 4-toothed. Corolla funnel-shaped, with an elongated tube, and a 4-parted limb. Stamens inclosed. Style filiform; stigma thickish, bifid. Capsule oblong, 2-celled, 2-valved; valves contrary to the dissepiment. Seeds solitary, compressed; with membranous margins.

10 FORSY'THIA. Calyx 4-parted. Corolla sub-campanulate, 4-cleft. Stamens equal in length to the calyx, as well as the style; stigma 2-lobed. Fruit capsular.

11. FONTANE'SIA. Calyx 4-parted. Corolla of 2 petals. Stamens elongated, and stigma bifid. Capsule papery, indehiscent; cells 1-seeded.

TRIBE III.

NOTELÆ'IÆ. *Calyx 4-parted, or 4-cleft. Corolla of 4 petals. Stamens 2. Fruit drupaceous.*

12 NOTELÆ'A. Calyx 4-cleft. Petals ovate, connected by pairs to the filaments at the base. Drupe containing a single chartaceous 1-seeded putamen.

13 LINOCIE'RA. Calyx 4-toothed. Petals linear, connected by pairs to the filaments at the base. Drupe 2-celled.

TRIBE IV.

FRAXINIE'Æ. *Flowers polygamous. Calyx 4-parted, or wanting. Corolla of 4 petals, 4-parted, or wanting. Stamens 2, short; anthers dehiscing externally. Stigma nearly sessile, bifid. Fruit 2-celled, compressed, winged at the top, usually 1-seeded.*

14 FRA'XINUS. Flowers polygamous. Petals wanting. Samara 1-celled.

15 O'RNUS. Flowers hermaphrodite or polygamous. Calyx 4-parted. Petals 4. Samara 2-celled.

Tribe I.

OLIE'Æ. Calyx 4-toothed or 4-cleft. Corolla short, monopetalous, campanulate, urceolate, or funnel-shaped. Stamens 2, with short filaments and erect anthers. Fruit drupaceous.

I. LIGU'STRUM (said to be from *ligo*, to tie, in reference to its flexible branches.) Tourn. inst. t. 367. Lin. gen. no. 9. Schreb. gen. no. 23. Gærtn. fruct. 2. p. 72. t. 92. Juss. gen. p. 106. Lam. ill. 1. t. 7.

LIN. SYST. *Diándria, Monogy'nia.* Calyx short, tubular, 4-toothed. Corolla funnel-shaped, with the tube exceeding the calyx, and the limb 4-parted. Stamens 2, with short filaments, inserted into the tube of the corolla. Style very short; stigma obtuse, bifid. Berry globose, containing 2 chartaceous 1-seeded nuts. Albumen hardish. Embryo inverted.—Shrubs with opposite leaves; and terminal, compound, thyrsoid racemes of white flowers.

1 L. VULGA'RE (Trag. hist. 1005. Lin. spec. 1. p. 10.) leaves elliptic-lanceolate, glabrous; racemes compound, coarctate. ♄. H. Native of Europe, in hedges and woods; common in many parts of Britain. Smith, engl. bot. 764. Curt. lond. t. 300. Œd. fl. dan. 1141. Smidth, æst. baumz. 3. t. 147.

Lam. ill. 1. t. 7. Bull. herb. t. 295. Mill. fig. 162. L. Germánicum, Bauh. hist. 475. The flowers are sweet scented, white at first, but soon changing to a reddish brown. Berries dark purple, almost black.

The common privet, in old English authors, is also called Prim, Print, Primprint, from its regular appearance when clipped. In German, Dutch, Danish, and Swedish, it is called *Liguster;* in French, *Troene;* in Italian, *Ligustro;* in Spanish, *Alhena;* in Portuguese, *Alfena.*

In point of utility and ornament, few shrubs exceed the privet. Its chief use is to form such hedges as are required in divided gardens, for shelter or ornament; and for this purpose the Italian or Evergreen Privet is usually preferred. It bears clipping well, and is not liable to be disfigured by insects; and having only fibrous roots, it robs the ground less than almost any other shrub. It is one of the few plants that will thrive in the smoke of London; it also grows well under the drip of trees. The wood is hard, and fit for timber. From the pulp of the berries a rose-coloured pigment may be prepared. With the addition of alum they dye wool and silk of a good durable green; for this purpose they must be gathered as soon as they are ripe; they continue on the shrub till spring, and in times of scarcity are eaten by different sorts of birds, particularly the bulfinch. The following varieties are in the gardens.

Var. α, leucocárpum. The white-berried Privet.

Var. γ, xanthocárpum. The yellow-berried Privet.

Var. δ, sempervírens. L. Itálicum, Mill. The Italian or Evergreen Privet.

Var. ε, variegàtum. The variegated-leaved Privet. The leaves are edged with white or yellow.

Var. ι, angustifòlium. The narrow-leaved Privet.

Common Privet. Fl. June, July. Britain. Shrub 6-10 feet.

2 L. Sine'nse (Lour. coch. 19.) leaves lanceolate, tomentose; racemes coarctate. ♄. H. Native of China, near Canton. Vahl, enum. 1. p. 35. Branches diffuse. Flowers white. Calyx cup-shaped. Berries very small, brown.

Chinese Privet. Shrub 6-8 feet.

3 L. Japónicum (Thunb. fl. jap. p. 17. t. 1.) leaves oblong-ovate, somewhat acuminated, glabrous; racemes compound; peduncles and pedicels spreading. ♄. H. Native of Japan. Vahl, enum. 1. p. 35. L. latifòlium, Vitm. summ. 1. p. 21. Lin. syst. 56. Branches wrinkled, glabrous. Calyx tubular, truncate. Flowers white. Leaves grooved along the middle above, with a corresponding raised line beneath.

Japan Privet. Shrub 6-8 feet.

4 L. spica'tum (Hamilt. mss. ex D. Don, prod. fl. nep. p. 107.) leaves elliptic, acute, hairy beneath, as well as the branchlets; flowers crowded, almost sessile, spicate, disposed in a thyrse, having the axis very hairy; bracteas minute. ♄. H. Native of Nipaul, on the mountains. Hook. bot. mag. 2921. L. Nepalénse, Wall. in Roxb. fl. ind. 1. p. 151. pl. rar. asiat. 3. p. 17. t. 231. L. lanceolàtum, herb. Lamb. Flowers white. L. vestìtum, Wall. appears to be nothing but a variety of this species; the thyrse is more crowded, more densely hairy, as well as the young leaves, branchlets, &c.

Spicate-flowered Privet. Fl. June, July. Clt. 1823. Shrub 6-8 feet.

5 L. pube'scens (Wall. cat. no. 1742. pl. rar. asiat. 3. p. 44.) leaves lanceolate, acutish, rather glabrous; branches without dots, downy at tops; berries oblong, pruinose, panicled. ♄. H. Native of the Burmese Empire, on Mount Taong Dong.

Downy Privet. Shrub.

6 L. bracteola'tum (D. Don, prod. fl. nep. 107.) leaves ovate-lanceolate, acute, glabrous as well as the branches; flowers disposed in bracteate panicles; peduncles very hairy; bracteoles linear lanceolate. ♄. H. Native of Nipaul. L. Japónicum, Hamilt. mss. Phillýrea bracteolàta, Herb. Lamb. The *L. Japónicum*, Thunb. differs from this, in the leaves being ovate and bluntish, in the flowers being pedicellate, and in the peduncles and pedicels being glabrous.

Bracteolate-flowered Privet. Shrub.

7 L. lu'cidum (Ait. hort. kew. 1. p. 19.) leaves ovate-oblong, acuminated, shining above; panicles thyrsoid, spreading much. ♄. H. Native of China. Sims, bot. mag. 2565. Leaves broad. Flowers white. This tree affords a kind of waxy matter.

Shining Privet, or Wax Tree. Fl. Sept. Oct. Clt. 1794. Tree 10 to 20 feet.

Cult. All species of Privet are of easy culture, and will grow in any kind of soil. Cuttings root without difficulty. *L. lùcidum* requires some protection in severe weather.

II. PHILLY'REA (from *φυλλον, phyllon*, a leaf; shrubs leafy.) Dioscor. Tourn. inst. 367. Lin. gen. no. 19. Vaill. acad. sc. p. 197. t. 13. f. 35-37. Juss. gen. 106. Gærtn. fr. 2. p. 11. t. 92. Vent. tabl. 2. p. 313. Lam. ill. 1. t. 8.

Lin. syst. *Diándria, Monogy'nia.* Calyx small, tubular, 4-toothed, permanent. Corolla short, campanulate, rotate, 4-cleft, deciduous. Stamens a little exserted; with short filaments. Style simple; stigma thickish. Drupe globose, containing a 2-celled nut; one of the cells usually abortive. Seed solitary in each cell. Albumen rather farinaceous or fleshy.—Evergreen shrubs and trees. Leaves opposite. Racemes axillary. Flowers greenish-white. Drupes black, globose.

1 P. angustifòlia (Lin. spec. 1. p. 10. Vahl, enum. 1. p. 36.) leaves linear-lanceolate, quite entire. ♄. H. Native of Italy and Spain. Lam. ill. t. 8. f. 3. P. oblìqua, Tenore, syll. p. 9. P. mèdia, Tenore. fl. nap. 3. p. 6. Branches beset with elevated dots. Leaves obsoletely veined.

Var. α, lanceolàta (Ait. hort. kew. 1. p. 11.) leaves lanceolate; branches erect. ♄. H. P. no. iv. Clus. hist. 1. p. 52.

Var. β. rosmarinifòlia (Ait. hort. kew. 1. p. 11.) leaves lanceolate-subulate, elongated; branches straight. ♄. H. P. no. v. Clus. hist. 1. p. 52. *Rosemary-leaved Phillyrea.*

Var. γ, brachiàta (Ait. hort. kew. 1. p. 11.) leaves oblong-lanceolate, shorter than in the other varieties; branches divaricate. ♄. H. *Dwarf Phillyrea.*

Narrow-leaved Phillyrea. Fl. May, June. Clt. 1597. Shrub 8-10 feet.

2 P. me'dia (Lin. spec. p. 10.) leaves lanceolate, quite entire, or a little serrated in the middle, triple-nerved, veiny. ♄. H. Native of the south of Europe. Kerner, t. 774. P. latifòlia, var. ε, mèdia, Lapeyr. pl. pyr. p. 4. P. ligustrifòlia, Mill. dict. no. 4. P. læ'vis, Tenore, syll. p. 9. P. latifòlia, var. α, ligustrifòlia, Poll. pl. ver. 1. p. 7.

Var β, virgàta (Ait. hort. kew. 1. p. 11.) leaves lanceolate, branches erect. ♄. H.

Var. γ, buxifòlia (Ait. hort. kew. 1. p. 11.) leaves oval-oblong, bluntish. ♄. H.

Intermediate or Lance-leaved Phillyrea. Fl. May, June. Clt. 1597. Shrub 10-15 feet.

3 P. ligustrifòlia (Ait. hort. kew. 1. p. 11.) leaves oblong-lanceolate, sub-serrated in the middle, obsoletely-veined; branches erect. ♄. H. Native of the south of Europe, as of Spain and the south of France. P. virgàta, Willd. enum. 1. p. 12. P. mèdia var. α, Willd. spec. 1. p. 42. Phillýrea, iii. Clus. hist. p. 52.—Lob. icon. 2. p. 131. Very like *P. péndula*, Ait.

Privet-leaved Phillyrea. Fl. May, June. Clt. 1596. Shrub 10-15 feet.

4 P. pe'ndula (Ait. hort. kew. 1. p. 11.) leaves oblong-lanceolate, acute, obsoletely serrated at the apex, veiny; branches

drooping. ♄. H. Native of the south of Europe. P. mèdia, γ, Willd. spec. 1. p. 43.

Drooping Phillyrea. Fl. May, June. Clt. 1597. Shrub 10-15 feet.

5 P. oleæfòlia (Ait. hort. kew. 1. p. 11.) leaves oblong-lanceolate, almost quite entire, obtuse, narrowed at the base, veiny. ♄. H. Native of the south of Europe. P. mèdia, δ, Ait. hort. kew. 1. p. 11. P. racemòsa, Link. jahrb. 1. p. 160. —Plukn. t. 310. f. 5. Branches erectish.

Olive-leaved Phillyrea. Fl. May, June. Clt. 1597. Shrub 10-15 feet.

6 P. læ'vis (Ait. hort. kew. 1. p. 12.) leaves elliptic-oblong, almost entire, veiny, bluntish. ♄. H. Native of the south of Europe, and north of Africa. P. latifòlia, var. α, Willd. spec. 1. p. 43.—Lob. icon. 132. f. 2.—Duh. arb. t. 125. P. latifòlia, Mill. dict. no. 1. Leaves an inch or more long, a little narrowed at the base, blunt, with a small mucrone at the apex.

Smooth Phillyrea. Fl. May, June. Clt. 1597. Shrub 10 to 20 feet.

7 P. latifòlia (Lin. spec. 10.) leaves ovate, rounded at the base, serrated, veiny. ♄. H. Native of the south of Europe. Smith, fl. græc. t. 2. P. latifòlia, β. serràta, Poll. fl. ver. 1. p. 7. P. latifòlia, β, Ten. fl. nap. 3. p. 6. P. spinòsa, Ten. syll. p. 9. no. 2. P. latifòlia, β, spinòsa, Seg. ver. 2. p. 273. Young leaves subcordate at the base.

Broad-leaved Phillyrea. Fl. May, June. Clt. 1597. Tree 23 to 30 feet.

8 P. oblìqua (Ait. hort. kew. 1. p. 12.) leaves lanceolate-oblong, serrated, acute at both ends, veiny, bent obliquely. ♄. H. Native of the south of Europe. P. latifòlia, γ, Willd. spec. 1. p. 43. P. coriàcea, Link. jahrb. 1. p. 155. Phillýrea, ii. Clus. hist. l. c. Leaves like those of *Myrìca*.

Oblique-leaved Phillyrea. Fl. May, June. Clt. 1597. Shrub 10 to 20 feet.

9 P. spinòsa (Mill. dict. no. 3. Ait. hort. kew. 1. p. 12.) leaves ovate-oblong, rounded at the base, acute, sharply and cuspidately serrated, glabrous, flat, veiny. ♄. H. Native of the south of Europe. P. ilicifòlia, Willd. enum. 1. p. 13. P. latifòlia, β, spinòsa, Willd. spec. 1. p. 43. P. latifòlia, longifòlia, Link. jahrb. 1. p. 54. Phillýrea, i. Clus. hist. 51.—Pluk. phyt. t. 310. f. 4.

Spiny or Holly-leaved Phillyrea. Fl. May, June. Clt. 1597. Shrub 10 to 20 feet.

10 P. strícta (Bertol. fl. ital. p. 43.) leaves all flat, elliptic; superior ones bluntly serrated; extreme branches twiggy; racemes dense-flowered, drooping; peduncles shorter than the leaves; drupe obtuse, umbilicate. ♄. H. Native of Bononia. P. latifòlia, Maur. cat. 13. p. 36. P. latifòlia, Ten. fl. nap. 3. p. 6. syll. p. 9. no. 1.

Straight Phillyrea. Shrub.

Cult. The species of this genus were cultivated very early in our gardens; these were formerly either planted against walls, to which they were trained, to cover them; or, if they were placed as standards, their branches were clipped into various forms, like other evergreen trees of that day; but they are now used to form clumps in parks, to plant round the borders of woods, or to stand singly on lawns, where they have a very fine effect in winter, when other trees are destitute of leaves. They are generally increased by layering down branches in autumn.

III. O'LEA (ελαια, *elaia*, the olive, which is itself, from λειος, *leios*, smooth. Olea is commonly used for the tree; Oliva for the fruit; and Oleum for the oil of the fruit; but this is not constant.) Tourn. inst. t. 370. Lin. gen. no. 20. Vaill. mem. par. 1722. Juss. gen. 105. Gærtn. fruct. 1. t. 93. Lam. ill. 1. t. 8. Vent. tabl. 2. p. 312. and 4. p. 101. t. 9. f. 1.

Lin. syst. *Diándria*, *Monogy'nia*. Calyx small, tubular, 4-toothed, permanent. Corolla funnel-shaped, with a short tube, and 4 ovate segments, deciduous. Stamens 2, a little exserted. Style short; stigma bifid, with emarginate or entire segments. Drupe containing a 1-2-celled, 1-2-seeded, oblong nut; one of the cells often abortive. Albumen fleshy.—Evergreen trees, with opposite leaves; and axillary and terminal panicles of small white flowers.

1 O. olea'ster (Hoffmansegg, fl. port. 1. p. 387.) leaves oblong, mucronate, quite entire, hoary beneath while young; branches spinescent. ♄. F. Native of Portugal, in the vicinity of Lisbon, and other parts of that kingdom; south of France, Spain, and Italy. O. Europæ'a, var. α, Lin. spec. 1. p. 11. Vahl. enum. 1. p. 44. Sibth. et Smith, fl. græc. 1. t. 3. Stev. and Church, med. bot. 1. t. 15. O. Europæ'a commùnis, Ait. hort. kew. 1. p. 13. Lin. hort. cliff. 4. O. sylvéstris, Mill. dict. no. 3. —Blackw. icon. t. 213. Branches rather quadrangular, hoary. Leaves green above, and with a few scattered scales beneath. The leaves are shorter and stiffer than the cultivated olive; and the fruit small, and of no value.

Wild Olive. Fl. June, Aug. Clt. 1821. Shrub 4 to 5 feet.

2 O. satìva (Hoffmansegg. fl. port. 1. p. 388.) leaves lanceolate, mucronate, quite entire, hoary beneath; branches angular, but not spinescent. ♄. H. Native of the south of Europe. O. Europæ'a, Lin. spec. 1. p. 11. Vahl. enum. 1. p. 39. Brot. fl. lus. 1. p. 10. All. pedem. 1. p. 121. no. 449. Wulf. in Rœm. arch. 3. p. 311. Woodv. med. bot. p. 369. t. 136. Plenck, icon. t. 11. O. Europæ'a longifòlia, Lodd. bot. cab. 456. O. lancifòlia, Mœnch. O. polymórpha, Risso. Leaves long-lanceolate, green above; and hoary from small scales beneath.

The cultivated olive is said to have come originally from Asia, and grows abundantly about Aleppo and Lebanon. It is naturalized in different parts of the south of France, Spain, and Italy; and is found in hedges and woods. The var. *longifòlia* is that chiefly cultivated in the south of France and Italy; var. *latifòlia* is chiefly cultivated in Spain; its fruit is near twice the size of the common Olive of Provence or Italy, but the oil is so rank of flavour as to be too strong for most English palates. The oil, and fruit in a pickled state, are chiefly from Languedoc. Leghorn, and Naples, to England; the best oil is from Leghorn, and the best pickles from Genoa and Marseilles. The tree is branchy, and of so great longevity, that some plantations in Italy, as at Terne, are supposed to have existed from the time of Pliny. It delights in schistous, calcareous steeps, and does not thrive in elevated situations, or at a distance from the sea. The best oil is produced from fruit grown in calcareous soils. Olive oil may be said to form the cream and butter of Spain and Italy; and the tree has been celebrated in all ages, as the bounteous gift of heaven, and as the emblem of peace and plenty. In Gibbon's Decline and Fall, chap. i. he quotes Pliny for the following fact. The Olive, in the Western World, followed the progress of peace, of which it was considered as the symbol. Two centuries after the formation of Rome, both Italy and Africa were strangers to that useful plant; it was naturalized in those countries, and at length carried into the heart of Spain and Gaul. Its usefulness, the little culture it requires, and the otherwise barren situations which it renders productive, quickly spread it over the western face of the Appenines. The suckers are removed from the parent tree at all seasons, but is best done in spring and autumn, when the grounds are ploughed, and sometimes if the trees are thinly scattered, sown with corn and lupines, otherwise the earth is merely loosened round the roots, and, in some cases, manure is then laid round them. The young Olive plant bears at 2 years

old; in 6 years it begins to repay the expense of cultivation, even if the ground is not otherwise cropped; after that period, in good years, the produce is the surest source of wealth to the farmer, as the tree rivals the oak in longevity; so that the common proverb here is, that if you want to leave a lasting inheritance to your children, plant an Olive. There is an old Olive tree near Gerecomio, which last year yielded 240 English quarts of oil; yet its trunk is quite hollow, and its empty shell seems to have barely enough hold in the ground to secure it against mountain storms. *Maria Graham's Three Months near Rome*, p. 49. The culture of the Olive abroad may be said to resemble that of grass orchards in Britain. It is propagated by suckers, large cuttings, or truncheons, planted in trenches, four feet deep, into which it is still the custom to deposit stones for encouraging moisture about the roots, as described by Virgil (Georg. ii. 346.) It is also propagated by chips of the root, in the following manner. An old tree is cut down, and the stock is cut into pieces of nearly the size and shape of a mushroom, and which, from that circumstance, are called novoli. Care is taken that each novolo shall have a small portion of bark. After being dipped in manure, the novoli are planted thick in a bed, and covered with earth to the depth of three inches; they soon throw up shoots, and are transplanted at the end of one year, and in three more are fit to be finally removed to the Olive plantation. With protection against frost, it may be maintained against a wall in the latitude of London. In Devonshire some trees have stood many winters as standards, though without ripening their fruit.

Olive oil is drawn from the Olives in Provence and Italy, by presses or mills. The fruit is gathered, when at the utmost maturity, in November, when it begins to redden. They are put under the mill as soon as gathered; and care is taken that the mill-stones are set at such a distance, that they do not crush the nut of the olives. The pulp covering the stone, and containing the oil in its cells, being thus prepared, is put into bags made of rushes, and moderately pressed; and thus is obtained, in considerable quantity, a greenish, semi-transparent oil, which, from its superior excellence, is called Virgin oil. The marc remaining after the first pressure is broken to pieces, is moistened with water, and returned to the press, upon which there flows out a mixture of oil and water, which spontaneously separates from the rest. This oil, though inferior to the former, is of good quality, and fit for the table. The marc is again broken to pieces, soaked in water, and fermented in large cisterns, and is again submitted to the press, by which is obtained a third oil, that is valuable to the soap-boiler and other manufacturers. The Spanish Olives, instead of being gathered, are beaten down, so that the ripe and unripe ones are mixed; and to these are added such as have fallen of themselves, and are, therefore, more or less decayed. All these are thrown together in a heap, and soon ferment. The olives in this state are ground and pressed, and thus is produced, with little trouble, a large quantity of oil, of a rank and disagreeable flavour. It is possible that the Spaniards derive the process from the Moors. We find the same method described in Jackson's History of Morocco. The best oil comes from Provence; but that which we have in this country is generally from Lucca and Florence. When recently drawn, virgin oil has a bland, almost mucilaginous taste, with a slight, but agreeable flavour; it freezes at about 36 or 38° Fahr., and this disposition to freeze, renders it improper for lamps. The oil is sometimes adulterated with the oil of poppy-seed, and soon becomes rancid.

Pickled Olives are prepared from unripe fruit, by repeatedly steeping them in water, to which quicklime, or any alkaline substance, is sometimes added, to shorten the operation. Afterwards they are soaked in pure water, and then taken out and bottled in salt and water, with or without an aromatic. They are eaten abroad as a whet before, and during the principal meals, and in this country chiefly as a dessert. They are supposed to excite appetite, and promote digestion. The finest kind of the prepared fruit is called by the merchants Picholini, after one Picholino, an Italian, who first discovered the art of pickling Olives.

Medical properties and uses.—The medicinal properties of olive oil are those of a demulcent, emollient, and laxative. In catarrh, and other pulmonary affections, it has been used as a demulcent, in the form of an emulsion; but the oil of almonds is more generally employed. It is occasionally recommended to be internally administered for worms, and to lubricate and sheath the mucous membrane of the stomach from the action of acid poisons. Olive oil enters into the composition of plasters, liniments, cerates, ointments, and enemas. It is applied externally to prevent the contagious influence of the plague.

Var. β, *longifòlia* (Ait. hort. kew. 1. p. 13.) leaves linear-lanceolate, flat, silvery beneath. ♄. F. Native of the south of Europe. Lodd. bot. cab. t. 456. O. Gállica, Mill. dict. no. 1. The inhabitants of the south of France chiefly cultivate this variety, from which they make the best oil. The young fruit is also most esteemed when pickled. Of this there are several sub-varieties. The long-leaved European Olive.

Var. γ, *ferrugínea* (Ait. hort. kew. 1. p. 13.) leaves lanceolate, acute at both ends, shining and rusty beneath; panicles lateral. ♄. F. Native of the Cape of Good Hope and the Mauritius. Perhaps a distinct species.

Var. δ, *latifòlia* (Ait. hort. kew. 1. p. 13.) leaves oblong, flat, hoary beneath. ♄. F. Native of the south of Europe. O. Hispánica, Mill. dict. no. 2. O. satìva, Bauh. pin. 472.—Blackw. t. 199. O'lea, Dodon. pempt. 821. This variety is chiefly cultivated in Spain. The fruit is almost twice the size of the Provence olive, or *Var.* β, *longifòlia*, but of a strong rank flavour; and the oil is too strong for most English palates.

Var. ε, *oblìqua* (Ait. hort. kew. 1. p. 13.) leaves oblong, bent obliquely, pale beneath. ♄. F. Native of the south of Europe.

Var. ζ, *buxifòlia* (Ait. l. c.) leaves oblong-ovate; branches spreading, divaricate. ♄. F. Native of the south of Europe.

Var. η, *Cajetàna* (Pentagn. istit. 2. p. 19.) leaves ovate-lanceolate; flowers racemose. ♄. F. Native of the south of Europe.

* *The following are the varieties of olive cultivated in Spain, and described in Herrera agricult. gen.* 1818. *p.* 351. *by Don Roxas Clemente y Rubio.*

Var. 1. *ovàta* (Clem. l. c.) leaves small; fruit small, obovate.

Var. 2. *ovàlis* (Clem. l. c.) leaves small; fruit oval, small, very black. Ol. Eur. ovàta, Gouan.

Var. 3. *tènax* (Clem. l. c.) leaves narrow, hardly silvery on the back; fruit tough.

Var. 4. *argéntea* (Clem. l. c.) leaves middle-sized, silvery beneath, but green and shining above; fruit globose, middle-sized, very black. O. Europ. præ'cox. Gouan.

Var. 5. *Arolénsis* (Clem. l. c.) leaves obtuse, narrow, less intensely green and shining above, and narrower than in no. 8. Fruit rounder, black, mottled with white and violaceous marks.

Var. 6. *pomifórmis* (Clem. l. c.) fruit globose, larger than any other variety, very black. Leaves broader and smoother than in no. 9. O. Europ. sphæ'rica, Gouan.

Var. 7. *regàlis* (Clem. l. c.) branches less vertical than in no. 9.; leaves larger, having the nerves more prominent. Fruit form of a filbert, black, more globose than in no. 9. Ol. Europ. Hispánica, Roz.

Var. 8. *Hispalénsis* (Clem. l. c.) wood less hard and more white than in no. 1., and the leaves are more lucid beneath, and broader, and the branches are longer and more erect. Fruit of a dark violet colour, cherry shaped. O. Europæ'a règia, Roz.

Var. 9. *máxima* (Clem. l. c.) trunk and branches as in no. 7. Leaves larger than any of the other varieties, not very green, but with manifest veins. Fruit large, acuminated. O. Europ. amygdalìna, Gouan.

Var. 10, *ceratocárpa* (Clem. l. c.) fruit more or less arched, sometimes semicircular, an inch and more long, but never thick. O. Europ. odoràta, Gouan.

Var. 11, *rostràta* (Clem. l. c.) branches and leaves as in no. 9. Fruit not much acuminated, nor very black; long and middling thick.

Var. 12, *empéltre* (Arias) trunk dwarf, with smooth bark. Leaves pale green, rather broad.

Var. 13, *hérbequin* (Arias.) dwarf, with pendulous branches.

Cultivated Olive. Fl. Ju. Aug. Clt. 1570. Tr. 20 to 30 ft.

2 O. la'ncea (Vahl, enum. 1. p. 40. Lam. ill. 1. p. 29.) leaves narrow-lanceolate, acuminated, quite entire, of the same colour on both surfaces; racemes panicled, terminal. ♄. S. Native of the Isle of France. Branches dotted. Drupe oblong, acute. Blum., in his bijdr. p. 682., says the leaves have depressed glands in the axils of the veins beneath. O. exasperàta, Willd. enum. suppl. hardly differs from this, unless in the leaves being less acute and a little larger.

Lance-leaved Olive. Fl. Jul. Aug. Clt. 1819. Tr. 20 ft.

3 O. America'na (Lin. syst. 57. mant. 24. Vahl. enum. 1. p. 41.) leaves elliptic-lanceolate; thyrse rather compound, axillary, narrow; bracteas ovate, permanent, connate. ♄. H. Native of Carolina, Florida, &c. Michx. hist. arb. amer. 3. t. 6.—Catesb. car. 1. t. 61. Branches rather tetragonal. Leaves 4 inches long, rather coriaceous, shining. Flowers by threes, almost sessile. Fruit purple, globose, containing an edible nut. Corolline segments revolute. Perhaps a distinct genus.

American Olive. Fl. June. Clt. 1758. Tree.

4 O. Cape'nsis (Lin. spec. 11. Thunb. fl. cap. 1. p. 39.) leaves oblong; flowers disposed in racemose, terminal panicles. ♄. G. Native of the Cape of Good Hope. Ker. bot. reg. 613. O. buxifòlia, Mill. dict. Branches rather tetragonal, from decurrent lines. Leaves coriaceous, dense, and rigid, decussate, always paler beneath. Corollas white. Drupe rather wrinkled, size of a pea.

Var. β, *coriàcea* (Ait. hort. kew. 1. p. 13.) leaves ovate-oblong, stiff, flat; petioles red. ♄. G.—Dill. hort. elth. 193. t. 160. f. 194.—Burm. afr. p. 234. t. 81. f. 2.

Var. γ, *undulàta* (Ait. l. c.) leaves elliptic, waved; petioles green. ♄. G. O. undulàta, Jacq. hort. schœnbr. 1. t. 2. Lodd. bot. cab. 379. O. laurifòlia, Lam. ill. 1. p. 29.—Burm. afr. 233. t. 81. f. 1.

Cape Olive. Fl. June, Sept. Clt. 1730. Tree tall.

5 O. exce'lsa (Ait. hort. kew. 1. p. 14. ed. 2. 1. p. 22.) leaves elliptic, acute; bracteas perfoliate: lower ones cup-shaped and permanent, superior ones large, foliaceous, and deciduous. ♄. F. Native of Madeira. Vahl, symb. 3. p. 3. enum. 1. p. 42. O. exasperàta, Jacq. hort. schœnbr. 3. t. 252. Branches rough from small tubercles. Leaves 2-3 inches long and 1½ broad, sometimes 3 in a whorl, paler beneath. Panicles trichotomous, many-flowered. Flowers rather large. Drupe oval, size of a pea, purplish brown.

Tall Olive. Fl. May. Clt. 1784. Tree.

6 O. ape'tala (Vahl, symb. 3. p. 3. but not of Andr. Endlicher, prod. fl. ins. norf. p. 56.) racemes axillary, shorter than the leaves. ♄. G. Native of Norfolk Island. Bauer, ill. pl. ins. norf. t. 172.

Apetalous Olive. Shrub.

FIG. 8.

7 O. fra'grans (Thunb. fl. jap. p. 18. t. 2.) leaves elliptic-lanceolate, a little serrated; pedicels 1-flowered, axillary, and lateral, aggregate from scaly buds. ♄. G. Native of Japan, China, and Cochinchina. Vahl, enum. 1. p. 43. Sims. bot. mag. t. 1552. Osmánthus frà-grans, Lour. coch. p 29. Moksei, Kæmpf. amœn. 5. p. 844. Quaifa, Osb. itin. engl. ed. 2. p. 14. Branches and branchlets trichotomous. Leaves 2 inches long, acuminated, shining above and pale beneath. This tree is cultivated much in China, Cochinchina, and Japan in the gardens, for the sake of its sweet-scented flowers, which are said to be put into teas to give them flavour. Flowers yellowish or almost white. (f. 8.)

Fragrant Olive. Fl. June, Aug. Clt. 1771. Sh. 6 to 10 ft.

8 O. panicula'ta (R. Br. prod. p. 528.) leaves lanceolate-elliptic, acuminated, quite entire; ultimate peduncles of the panicle 3-flowered. ♄. G. Native of New South Wales; and of New Holland, within the tropic.

Panicled-flowered Olive. Fl. July. Clt. 1825. Tree 10 ft.

9 O. Heynea'na (Wall. cat. no. 2823.) leaves broad, oblong, acuminated, attenuated at the base, repandly toothed; peduncles lateral and axillary, solitary, trichotomous, each fork or branch bearing almost sessile flowers at the apex; fruit oblong. ♄. G. Native of the East Indies.

Heyne's Olive. Shrub or tree.

10 O. compa'cta (Wall. cat. no. 2819.) leaves elliptic, acuminated, glabrous, quite entire; panicle thyrsoid, terminal, glabrous; flowers crowded. ♄. G. Native of Kamaon and Sirmore. Tube of corolla hardly longer than the calyx. Perhaps a species of *Ligústrum*.

Compact Olive. Shrub or tree.

11 O.? grandiflòra (Wall. cat. no. 2820.) leaves ovate, acuminated, quite entire, glabrous; branchlets warted; panicles thyrsoid, terminal, downy; corolla funnel-shaped. ♄. G. Native of Nipaul. Phillýrea grandiflòra, Wall. herb. Perhaps a species of *Ligústrum*.

Great-flowered Olive. Tree.

12 O. salicifòlia (Wall. cat. no. 2821.) glabrous, leaves lanceolate, acuminated, quite entire, rather glaucous; panicles axillary and terminal. ♄. G. Native of Silhet, on the mountains.

Var. β; leaves broader, obovate-lanceolate, acuminated, sometimes furnished with 1 or 2 teeth on each side. ♄. S. Native along with the species.

Willow-leaved Olive. Shrub or tree.

13 O. Lindle'i (Wall. cat. no. 6305.) glabrous; branches warted; leaves lanceolate, attenuated at both ends; panicles thyrsoid, terminal, downy. ♄. G. Native of Silhet. Calyx small, obsoletely toothed. Corolla funnel-shaped, with a longish tube.

Lindley's Olive. Shrub.

14 O. attenua'ta (Wall. cat. no. 2839.) glabrous; leaves ovate-oblong, entire, acuminated, or obovate, coriaceous, pale beneath; panicles terminal, divaricate; corolla spreading, 4-petalled; fruit oblong. ♄. G. Native of the Burman empire, on the banks of the river Martaban.

Attenuated-leaved Olive. Shrub or tree.

15 O. clava'ta; leaves ovate-oblong, entire, smooth; branches drooping; panicles terminal. ♄. G. Native of China. Phillýrea paniculàta, Roxb. fl. ind. 1. p. 100. O.

Roxburghiàna, Spreng. 1. p. 34, but not of Rœm. et Schultes. Leaves glaucous beneath. Drupe obliquely obovate, size of a French bean, containing a solitary nut and the rudiment of another. Stigma entire, clavate. Corolla funnel-shaped, small, white. Very like a species of *Ligústrum*.

Clavate-stigmaed Olive. Tree 20 feet.

16 O. CUSPIDA'TA (Wall. cat. no. 2817.) glabrous; leaves oblong-lanceolate, attenuated at both ends, cuspidate at the apex, rusty beneath; panicles terminal and axillary. ♄. G. Native of Kamaon.

Cuspidate Olive. Shrub or tree.

17 O. MARÍTIMA (Wall. cat. no. 2813.) glabrous; leaves ovate, acuminated, coriaceous, sometimes repandly toothed; panicles terminal, thyrsoid. ♄. S. Native of Singapore and Malacca.

Sea-side Olive. Shrub or tree.

18 O. ROBU'STA (Wall. cat. no. 2822.) leaves ovate-oblong, entire, acuminated, glabrous; panicles terminal, large and spreading, villous. ♄. S. Native of Silhet, where it is called *Bhooee-moora* by the natives, whom it furnishes with very hard durable wood. Philly'rea robústa, Roxb. fl. ind. 1. p. 101. Young roots dotted with whitish specks. Panicle villous. Stigma emarginate. Berries subcylindrical.

Robust Olive. Fl. June, July. Clt. 1824. Tree large.

19 O. GLANDULÍFERA (Wall. cat. no. 2811.) glabrous; leaves elliptic-oblong, long-acuminated, entire; panicles terminal and axillary. ♄. G. Native of Nipaul and Kamaon, &c.

Gland-bearing Olive. Shrub or tree.

20 O.? PAUCIFLÒRA (Wall. cat. no. 2812.) leaves broad-elliptic, rounded at both ends, or attenuated at the base, rather rusty beneath; panicles axillary and terminal: having the outer divisions of the panicle 2-flowered. ♄. S. Native of Penang. Leaves sometimes attenuated at both ends, and acuminated.

Few-flowered Olive. Tree.

21 O. ACUMINA'TA (Wall. cat. no. 2809.) glabrous; leaves oblong-lanceolate, acuminated, quite entire, attenuated at both ends; fascicles of flowers axillary; pedicels 1-flowered, rising from scaly buds; petals narrow. ♄. S. Native of Sirmore, Penang, Nipaul, Silhet, &c. Fruit oblong. Perhaps a species of *Notelæ'a*.

Acuminated-leaved Olive. Tree 20 feet.

22 O. MICROCA'RPA (Vahl, enum. 1. p. 43.) leaves elliptic, acuminated, serrated; racemes terminal. ♄. G. Native of Cochin-china. Philly'rea I'ndica, Lour. coch. p. 19. *O. rígida*, Hort. cels. A middle-sized, much-branched tree, with spreading, twisted branches. Leaves small, glabrous, reflexed. Drupe small, round, black.

Small-fruited Olive. Shrub or tree.

23 O. ROXBURGHIA'NA (Rœm. et Schultes, syst. 1. p. 77.) leaves oblong, quite entire, glabrous; panicles axillary and extra axillary; bracteas deciduous; lobes of stigma divaricate. ♄. G. Native of the Circar mountains. O. paniculàta, Roxb. fl. ind. 1. p. 104. but not of R. Br. Leaves waved. Segments of corolla oblong, concave: with sharp, incurved points. Leaves 5 inches long and 2 broad.

Roxburgh's Olive. Fl. Aug. Sept. Clt. 1820. Tree small.

24 O. DIOÍCA (Roxb. fl. ind. 1. p. 105.) leaves oblong, serrated; panicles axillary; flowers dioecious. ♄. G. Native of Silhet and Chittagong; in the former country it is called *Atta-jam*. Tetrapìlus brachiàtus, Lour. coch. p. 611.? Leaves tapering to both ends, smooth, 4-8 inches long, and 2-4 broad. Female flowers without a corolla. Drupe, in size and colour, much like a common sloe. This olive grows to a pretty large tree, the timber of which is reckoned excellent, and put to many uses by the natives.

Dioecious Olive. Fl. Mar. Clt. 1818. Tree 30 to 40 feet.

25 O. WIGHTIA'NA (Wall. cat. no. 2815.) leaves elliptic, attenuated at both ends, acuminated at the apex, distantly toothed from below the middle, glabrous; panicles terminal and axillary, divaricate, glabrous. ♄. S. Native of the East Indies. O. dioíca, var. Wight. herb. Leaves broad, very like those of *O. dioíca*.

Wight's Olive. Tree or shrub.

26 O. VERRUCÒSA (Link. enum. 1. p. 33.) branchlets warted; leaves lanceolate, white beneath; fruit nearly globose. ♄. G. Native of the Cape of Good Hope. O. Europæ'a, Thunb. prod. p. 2. fl. cap. 1. p. 37. O. satìva, var. *a*, verrucòsa, Rœm. et Schultes, syst. 1. p. 69. O. Africàna, Mill. dict.—Burm. afr. p. 237. t. 83. f. 2. Branches somewhat tetragonal at the top. Leaves obtuse, with an acumen, entire, greyish beneath. Panicle ternately compound. Bracteas opposite, deciduous. Drupe size of a pea, hardly fleshy.

Warted-branched Olive. Fl. April, May. Clt. 1814. Tree 40 feet.

Cult. Most of the species of olive are admired for the fragrance of their flowers in our greenhouses. The soil best suited to them is a mixture of peat and loam. Ripened cuttings strike root readily in sand, under a hand-glass, those of the stove species in heat. They may also be increased by grafting on the common privet. *O. oleáster* and *O. satìva* will endure our winters against a south wall.

IV. NORO'NHIA (in honour of C. Noronha, a traveller in Madagascar, Isle of France, &c.). Pet. Th. gen. mad. no. 7. Poir. in nouv. dict. des sc. nat. Bojer, in Hook. bot. misc. 2. p. 167.—O'lea species, Vahl.

Lin. syst. *Diándria, Monogýnia.* Calyx small, 4-cleft, Corolla globular, thick, deeply 4-cleft. Anthers 2, at the bottom of the tube of the corolla, and lying in its substance. Ovarium small, conical, 2-celled, 4-seeded. Style none. Drupe oblong or roundish, containing a 2-celled nut; testa solid. Seed solitary, with a superior radicle? and thick cotyledons, without albumen.—Small trees, with opposite leaves and axillary racemes of flowers.

1 N. CE'RNUA; glabrous; leaves oblong-lanceolate, very blunt, sometimes emarginate; racemes simple, axillary, solitary, twin or tern; flowers drooping. ♄. S. Native of the Mauritius. O'lea cérnua, Vahl, symb. 3. p. 3. O. obtusifòlia, Lam. ill. 1. p. 28. Branches marked with elevated dots. Leaves with reflexed edges. Bracteas ovate, solitary at the base of the pedicels, and twin under each calyx. Flowers twice the size of those of the common olive.

Drooping-flowered Noronhia. Clt. 1816. Tree 20 feet.

2 N. EMARGINA'TA (Poir. l. c. Hook. l. c. t. 88.) leaves obovate, emarginate; racemes axillary. ♄. S. Native of Madagascar. N. chartàcea, Stadm. mss. N. Bìnia, Pet. Th. gen. med. no. 7. O'lea emarginàta, Vahl. enum. 1. p. 42. Lam. dict. 4. p. 545. ill. t. 8. f. 2. Branches glabrous. Leaves 2-4 inches long, glabrous, shining. It is grown in the gardens of the Mauritius, under the name of *Ponai des Indes*. Fruit size of a walnut, edible. There appear to be two species confused under this name, one with coriaceous emarginate leaves, and terminal panicled racemes of flowers; and another with chartaceous emarginate leaves, and axillary racemes of flowers.

Emarginate-leaved Noronhia. Fl. Aug. Sept. Clt. 1825. Tree 20 feet.

Cult. See *O'lea*, above, for culture and propagation.

V. PACHYDE'RMA (from παχυς, *pachys*, thick, and δερμα, *derma*, a skin; berries). Blum. bijdr. p. 682.

Lin. syst. *Diándria, Monogýnia.* Calyx obsoletely 4-toothed. Corolla globose, coriaceous, with a half 4-cleft border. Stamens 2, very short, inserted above the base of the corolla.

Ovarium 2-celled; cells biovulate. Stigma almost sessile, obtuse. Berry nearly dry, 1-seeded. Albumen fleshy. Embryo inverted-—This genus is nearly allied to *O'lea*, but it differs from that genus in the globose corolla, undivided stigma, and baccate fruit.—A tree with opposite leaves, and terminal panicles of flowers.

1 P. Java'nicum (Blum. l. c.) leaves oblong-lanceolate, acuminated, acutish at the base, quite entire, glabrous, rather veiny, on short petioles; panicles terminal, brachiate, length of leaves. ♄. S. Native of Java, in woods on mount Salak, where it is called *Patjar-gunung*.

Java Pachyderma. Tree.

Cult. See *O'lea*, p. 49. for culture and propagation.

VI. MYXOPY'RUM (from *μυξα*, *myxa*, mucus, and *πυρην*, *pyren*, a nut; nuts covered with mucilage). Blum. bijdr. p. 683.

Lin. syst. *Diándria*, *Monogýnia*. Calyx small, quadrifid. Corolla globose, coriaceous, plicate inside; limb quadrifid. Stamens 2, inclosed; filaments very short, inserted in the middle of the tube. Ovarium 2-celled; cells 3-ovulate. Stigma thick, sessile, angular at the side, and bicuspidate at the apex. Drupe coriaceous, 1-2-celled, containing 1-4 angular, 1-seeded nuts, which are covered with mucilage. Albumen horny. Embryo erect.—A climbing shrub, with tetragonal branches; opposite elliptic-oblong, 3-nerved, glabrous leaves, which are sometimes serrated at the apex; and axillary and lateral panicles of flowers. Nearly allied to *Norónhia*.

1 M. nervòsum (Blum. l. c.). ♄. ◡. S. Native of Java, in calcareous places near Kuripan, and at the foot of mount Salak.

Nerved-leaved Myxopyrum. Shrub cl.

Cult. See *O'lea*, p. 49. for culture and propagation.

VII. CHIONA'NTHUS (from *χιων*, *chion*, snow, and *ανθος*, *anthos*, a flower; in reference to the snow white flowers of the species). Lin. gen. no. 21. Juss. gen. 105. Gærtn. fruct. 1. t. 39. Lam. ill. t. 9. f. 2.

Lin. syst. *Diándria*, *Monogýnia*. Calyx small, 4-parted, or 4-toothed. Corolla with a short tube and a 4-parted limb; segments of the limb long and linear. Style hardly any; stigma 2-lobed. Anthers almost sessile. Drupe baccate, containing a striated nut. Seeds albuminous.—Trees, having the branchlets compressed at top. Leaves opposite, simple, entire. Racemes simple or compound, terminal or axillary. Flowers snow white. This genus differs principally in the figure of the segments of the corolla from *O'lea*.

1 C. Virgínica (Lin. spec. p. 11.) racemes terminal; peduncles 3-flowered; flowers pedicellate; leaves lanceolate, glabrous. ♄. H. Native of North America. Lodd. bot. cab. 1204. Duh. arb. 1. p. 165. t. 63.—Catesb. car. 1. t. 68. Leaves resembling those of a laurel; the flowers come out in May, hanging in long bunches, from whence the inhabitants call it *Snow-drop-tree*; and from the corolla being cut into narrow segments they also give it the name of *Fringe-tree*. Drupe purplish.

Var. α, *latifòlia*; leaves ovate-elliptic, having the nerves downy beneath. ♄. H. Native of Carolina.—Catesb. car. t. 69.—Kern. t. 607. Leaves oval-lanceolate, coriaceous, glabrous; panicles dense; drupes oval. Pursh, fl. amer. sept. 1. p. 8.

Var. β; *angustifòlia* (Ait. hort. kew. ed. 2. vol. 1. p. 23.) leaves lanceolate, glabrous. ♄. H. Ch. trífida, Mœnch.

Var. γ, *marítima* (Pursh. fl. amer. sept. 1. p. 8.) leaves obovate-lanceolate, membranous, pubescent; panicles very loose; drupes elliptic. ♄. H. Native of North America, by the seaside.

Virginian Fringe-tree. Fl. May, July. Clt. 1796. Tree 10 to 30 feet.

2 C. axilla'ris (R. Br. prod. p. 523.) spikes axillary, very short; leaves oblong-elliptic, acute. ♄. G. Native of New Holland, within the tropic. Flowers white.

Axillary-flowered Fringe-tree. Fl. May, July. Clt. 1810. Shrub.

3 C. incrassa'ta (Swartz, prod. 13. fl. ind. occ. 1. p. 24.) branches of panicle decussate or fastigiate; flowers pedicellate; corollas tetragonal, with erect, thickened segments; leaves oblong. ♄. G. Native of Jamaica, in woods on the mountains. Leaves rather coriaceous, with a short, obtuse acumen. Ultimate peduncles 3-flowered. Corollas white, with terete, subclavate segments.

Thickened Fringe-tree. Tree tall.

4 C. pube'scens (H. B. et Kunth, nov. gen. amer. 3. p. 233.) panicles terminal, short, trifid: with 3-flowered peduncles; corollas red, with linear segments; leaves elliptic-oblong, bluntish, coriaceous, clothed with soft down beneath. ♄. G. Native of New Granada, near Gonzanama, Llanos de Trigo-Bamba, and Salto del Frayle, where it is called *Arupo* by the natives. Panicles rising before the leaves, downy, corymbformed.

Downy Fringe-tree. Fl. Oct. Tree 20 feet.

Cult. The *Ch. Virgínicus* is a fine large ornamental shrub. It thrives best in a moist light loamy soil. It is generally increased by seed received from America; by layering it is difficult, if the soil be not moist. By grafting or budding it on the common ash it succeeds very well. The greenhouse kinds grow freely in a mixture of sand, loam, and peat; and ripened cuttings of them will strike root in sand, under a hand-glass, in a little heat.

VIII. CHONDROSPE'RMUM (from *χονδρος*, *chondros*, a lump, and *σπερμα*, *sperma*, a seed; form of seed). Wall. cat. 2837. and 2838.—Chionánthus species, Wall. in Roxb. fl. ind. 1. p. 108.

Lin. syst. *Diándria*, *Monogy'nia*. Calyx urceolate, 4-toothed; teeth lanceolate, acute, with purple edges. Corolla funnel-shaped, rather fleshy, having a large obscurely 4-sided tube, which is longer than the calyx; and a 4-parted spreading limb, which is longer than the tube; segments linear-clavate, blunt, vertical, and thickened at their apexes; throat closed by the anthers. Stamens 2, inserted above the base of the tube; anthers fleshy, with 2 marginal cells; situated between the 2 opposite fissures of the border, hardly elevated above the tube. Ovarium ovate, 2-celled. Ovulum solitary, inserted by its base?—A rambling evergreen shrub, with ash-coloured, separating bark; large, opposite, 3-nerved leaves; and axillary and terminal, brachiate panicles of small, greenish yellow flowers.

1 C. smilacifòlium (Wall. cat. no. 2837.). ♄. ◡. S. Native of the forests of Chittagong, where it is called *Chunalata*; also of the Burmese empire, on mount Taong Dong, if C. coriàceum, Wall. cat. no. 2838. be the same. Chionánthus smilacifòlia, Wall. fl. ind. 1. p. 108. Ligústrum laurifòlium, Roxb. hort. beng. p. 32. Branches and peduncles 4-sided. Leaves 5-7 inches long, and 3 broad, 3-nerved, coriaceous, pale beneath, undulated, and bullated between the principal nerves; nerves and veins much elevated beneath, and uniting a little above the base. Flowers small, almost scentless. The erect position of the ovula seems to indicate its belonging to the order *Jasmíneæ*. The æstivation of the corolla is valvate.

Smilax-leaved Chondrospermum. Shrub cl.

Cult. For culture and propagation see *O'lea*, p. 49.

Tribe III.

SYRI'NGEÆ. Corolla funnel-shaped or campanulate, 4-parted. Stamens 2, short. Fruit capsular, 2-celled.

IX. SYRI'NGA (*συριγξ*, *syrinx*, a pipe; the branches are long and straight, and are filled with medulla; hence the old name of the lilac, pipe-tree. Linnæus places it among poetical names. The story of the nymph Syrinx in Ovid is well known. The English name of the genus is from lilac or lilag, the Persian word for a flower). Lin. gen. no. 22. Gærtn. fruct. 1. t. 49. Lìlac, Tourn. inst. t. 372. Juss. gen. p. 105. Lìla, Flieder.

Lin. syst. *Diándria*, *Monogýnia*. Calyx small, 4-toothed. Corolla funnel-shaped, with a 4-parted limb. Stamens 2, inclosed. Stigma bifid. Capsule ovate, compressed, 2-celled, 2-valved, 2-seeded; valves navicular, with a narrow dissepiment in the middle.—Shrubs with simple leaves; and thyrsoid terminal panicles of flowers, which are oppositely branched. Flowers purple or white.

1 S. vulga'ris (Lin. spec. 11.) leaves ovate-cordate, acuminated. ♄. H. Native of Persia, and of Hungary, in chalky precipices in the Cverna valley, and mount Domoglet, as well as the whole group of rocks along the Danube. Lam. ill. t. 7. Schmidt, œstr. baum. t. 77. Duham. arb. 2. t. 138. Schkuhr, handb. 1. t. 2. Lìlac vulgàris, Gærtn. Leaves glabrous, shining, broad. The common lilac, now so plentiful in every plantation, was a great rarity in the year 1597.

Var. α, *cærùlea*. The common blue lilac.—Ger. emac. 1399. f. 2.—Clus. hist. 1. p. 56.—Besl. eyst. t. 1. f. 2.—Park. par. 407. t. 409. f. 4. theat. 1467. f. 1.

Var. β, *violàcea*. The common purple lilac. Curt. bot. mag. 183. Mill. fig. t. 163.

Var. γ, *álba*. The common white lilac.

Common Lilac. Fl. May. Clt. 1590. Shrub 8 to 10 feet.

2 S. Emòdi (Wall. cat. no. 2831.) leaves elliptic-oblong, glaucous beneath, attenuated at the base, and acuminated at the apex. ♄. H. Native of Kamaon, towards the Himalaya. Branches warted. Thyrse terminal, panicled. Capsules almost cylindrical. Bud scales permanent at the base of the year's shoots. Flowers apparently purple.

Emodi Lilac. Shrub 8 to 10 feet.?

3 S. Josikæ'a (Jacq. in bot. zeit. 1831. t. 67. Rchb. pl. crit. no. 1049. t. 780.) leaves elliptic-lanceolate, acute, ciliated, wrinkled, glabrous, on short petioles, white beneath. ♄. H. Native of Transylvania. Hook. bot. mag. t. 3278. Lindl. bot. reg. 1733. Flowers purple.

Josika's Lilac. Fl. April, May. Clt. 1832. Sh. 6 to 8 ft.

4 S. Chine'nsis (Willd. spec. 1. p. 48. berl. baum. 498.) leaves ovate-lanceolate. ♄. H. Native of China. S. dùbia, Pers. ench. 1. p. 9. Lilàceum Rothamagénse, Renault, fl. de l'orn. p. 100. S. mèdia, Dum. Cours. 1. p. 709. Flowers purple. An intermediate plant between *S. vulgàre* and *S. Pérsica*. In Belgium there is a hybrid between this and *S. vulgàre*, called *Lilac de Merli*, which is probably *S. Rothamagénsis*, Turp. et Poit. fl. de Par.

FIG. 9.

Chinese Lilac. Fl. May, Ju. Clt. 1795. Sh. 4 to 5 ft.

5 S. Pe'rsica (Lin. spec. 11.) leaves small, lanceolate, entire. ♄. H. Native of Persia. Curt. bot. mag. 486. Mill. fig. 164. f. 1. Lìlac mìnor, Mœnch. Lìlac Pérsica, Lam.—Munting. t. 57.—Pluk. phyt. 227. f. 8. Flowers purple. (f. 9.)

Var. β, *álba*; leaves lanceolate, entire; flowers white.

The White Persian Lilac.

Var. γ, *laciniàta* (Mill. dict. no. 3. fig. t. 164. f. 2.) leaves jagged or pinnatifid; flowers purple. ♄. H. Lin. hort. cliff. 6. Lodd. bot. cab. 1107. Munting, t. 56.—Tourn. inst. 602. S. capitàta, Gmel. itin. 3. p. 304. t. 32. f. 1.—Schmidt, arb. 2. p. 79. The cut-leaved Persian Lilac.

Persian Lilac. Fl. May, June. Clt. 1640. Sh. 4 to 6 ft.

6 S. villòsa (Vahl, enum. 1. p. 38.) leaves oblong, acute at both ends, villous beneath. ♄. H. Native of China, on mountains about Pekin. Thyrse terminal. Perhaps the same as Ligústrum Sinénse, Lour.

Villous Lilac. Shrub.

Cult. The species of *Lilac* are well known elegant shrubs. They are very proper for shrubberies, and are increased very readily by layers, or by suckers from the root.

X. FORSY'THIA (named after William Forsyth, his Majesty's gardener at Kensington; author of Observations on the Diseases of Trees, with an account of a particular method of cure. London, 1791, &c.) Vahl, enum. 1. p. 39.—Syrínga species, Thunb.—Lìlac species, Lam.

Lin. syst. *Diándria*, *Monogýnia*. Calyx 4-parted. Corolla sub-campanulate, quadrifid. Stamens equal in length to the calyx, with short filaments and oblong anthers. Style length of calyx; stigma 2-lobed.—An ascending depending shrub, with tetragonal branches: and oval, serrated, simple, or ternate leaves. Flowers 1-2-3 together, yellow. Calycine segments lanceolate.

1 F. suspe'nsa (Vahl. enum. 1. p. 39.). ♄. F. Native of Japan, where it is often cultivated for the elegance of its flowers. Syrínga suspénsa, Thunb. fl. jap. 19. t. 3. Lìlac perpénse, Lam. dict. 3. p. 515. Réngio, Kœmpf. amœn. 5. p. 907.

Suspended Forsythia. Shrub hanging.

Cult. For culture and propagation see *Bolivaria*, p. 58.

XI. FONTANE'SIA (named after M. Renè Louiche Desfontaines, author of Flora Atlantica, 2 vols. 4to. Paris. 1798-1799, and several other works). Labill. pl. syr. dec. 1. p. 9. t. 1. Lam. ill. 1. t. 22.

Lin. syst. *Diándria*, *Monogýnia*. Calyx 4-6 parted, permanent. Corolla 4-6-parted, deciduous. Stamens 2, elongated. Stigma bifid, hooked. Capsule a 2-4-winged, 2-celled, papery, indehiscent samara; cells 1-seeded.—An evergreen shrub, with lanceolate leaves, and axillary racemes of whitish-yellow flowers. Habit of *Philly'rea mèdia*. This genus seems to be a connecting link between the tribe *Fraxinièæ* and *Olièæ*.

1 F. phillyreoìdes (Labill. syr. dec. 1. p. 9. t. 1.). ♄. F. Native of Syria, between Laodicea and mount Cassius, and of Sicily. Lodd. bot. cab. 1308. Leaves acute at both ends.

Phillyrea-like Fontanesia. Fl. Aug. Clt. 1787. Shrub 10 to 14 feet.

Cult. This shrub will stand in the open air, in a sheltered situation, such as against a south wall, with a little protection in severe winters, although it is generally treated as a greenhouse plant. It may either be increased by cuttings, under a hand-glass, or by layering.

Tribe IV.

NOTELÆ'IÆ. Calyx 4-parted or 4-cleft. Corolla of 4 petals. Stamens 2. Fruit drupaceous or capsular.

XII. NOTELÆ'A (from *νοτος*, *notos*, south, and *ελαια*, *elaia*, an olive; in reference to the genus being allied to *O'lea*, and from its native country). Vent. choix. t. 25. R. Br. prod. p. 527.—Rhyzospérmum, Gærtn. fruct. 3. p. 232. t. 224.

Lin. syst. *Diándria, Monogýnia.* Calyx 4-toothed. Corolla of 4 petals; petals ovate, connected by pairs to the filaments at the base. Stigma bifid. Drupe containing a chartaceous, 1-seeded putamen. Albumen wrinkled.—Small evergreen trees or shrubs, with the habit of olive. Leaves quite entire. Flowers white, in axillary racemes.

1 N. longifòlia (Vent. choix. t. 25.) leaves lanceolate, reticulately veined on both surfaces, more or less downy beneath, dotless; calycine segments unequal; stigma bifid. ♄. G. Native of New South Wales. O'lea apétala, Andr. bot. rep. 316. There are varieties of this shrub with lanceolate, acuminated, and elliptic leaves, which are either smoothish beneath or clothed with copious soft down.

Long-leaved Notelæa. Fl. Mar. June. Clt. 1790. Shrub.

2 N. punctà'ta (R. Br. prod. p. 528.) leaves lanceolate, attenuated at the base, veiny above, quite glabrous, but dotted beneath and obsoletely veined. ♄. G. Native of New Holland, within the tropic.

Dotted-leaved Notelæa. Fl. June, July. Clt. 1826. Sh.

3 N. ova'ta (R. Br. l. c.) leaves ovate, glabrous, without dots; calycine segments equal; stigma sessile, undivided. ♄. G. Native of New South Wales.

Ovate-leaved Notelæa. Fl. June, July. Clt. 1824. Shrub.

4 N. ligu'strina (Vent. choix. t. 456.) leaves narrow-lanceolate, elongated, petiolate, quite glabrous, with simple margins, dotted beneath, having the veins on both sides obsolete. ♄. G. Native of Van Diemen's Land. Racemes length of leaves.

Privet-like Notelæa. Fl. July, Aug. Clt. 1807. Shrub.

5 N. microca'rpa (R. Br. prod. p. 524.) leaves linear-lanceolate, elongated, attenuated at the base, almost sessile, quite glabrous, obsoletely dotted beneath, and having the veins manifest above. ♄. G. Native of New Holland, within the tropic. The drupe in this species is smaller than a pea, while in *N. ligústrina* it is larger.

Small-fruited Notelæa. Shrub.

6 N. Posu'a (D. Don, prod. fl. nep. p. 107.) leaves elliptic-oblong, acuminated; pedicels axillary, drooping, glomerate, 1-flowered; calycine teeth equal; stigma capitate. ♄. G. Native of Nipaul, at Narainhetty. O'lea Posùa, Hamilt. mss. O'lea Buchanàni, Herb. Lamb. Leaves 4-5 inches long, and $1\frac{1}{2}$ or 2 broad.

Posua Notelæa. Shrub.

† *A doubtful species.*

7 N. rígida (Desf. arbr. 1. p. 120.) leaves stiff, broad-lanceolate, quite entire; racemes axillary. ♄. G. Native of Van Diemen's Land, where it was collected during the expedition of Baudin.

Stiff-leaved Notelæa. Fl. July, Aug. Clt. 1821. Shrub.

Cult. The species of this genus thrive well in a mixture of loam and peat; and ripened cuttings root freely under a handglass, in sand.

XIII. LINOCIE'RA (named by Swartz, after Geofroy Linocier, a physician at Tournon, in the Vivaraes; author of L'Histoire des Plantes, Paris, 1584. 12mo.). Swartz in Schreb. gen. no. 1709. p. 178. fl. ind. 1. t. 2. Gærtn. fruct. t. 215. Thouínia, Swartz, prod. 14.—Chionánthus, spec. Jacq. Lin. and Swartz.—Mayèpea, Aubl.—Ceránthus, Schreb. gen. 1. p. 14.

Lin. syst. *Diándria, Monogýnia.* Calyx 4-toothed. Corolla of 4 linear petals, much longer than the calyx, which are connected by pairs to the filaments at the base. Anthers 2, elongated; filaments short. Stigma 2-cleft. Drupe 2-celled; cells 1-seeded.—Evergreen trees, with entire leaves, and trichotomous panicles of white or yellow flowers.

* *Species natives of South America.*

1 L. ligu'strina (Swartz, fl. ind. occ. 1. p. 49.) flowers panicled, pedicellate; petals reflexed; leaves lanceolate. ♄. S. Native of Jamaica and Hispaniola. Vahl, enum. 1. p. 46. Thouínia ligústrina, Swartz, prod. 15. Branches beset with elevated dots. Leaves 2-3 inches long, shining, obtuse at top. Petals obtuse, concave, white.

Privet-like Linociera. Clt. 1820. Tree.

2 L. latifòlia (Vahl 1. p. 46.) flowers panicled, axillary; peduncles 3-flowered; flowers sessile; leaves elliptic, acuminated. ♄. S. Native of St. Domingo and the Antilles. Chionánthus Domingénsis, Lam. ill. 1. p. 30. It differs from the preceding in the leaves being broader, firmer, and less shining and acuminated; in the petals being broader and thinner. Drupe oblong, size of a pea.

Broad-leaved Linociera. Tree.

3 L. glomera'ta (Pohl, pl. bras. 2. p. 98. t. 164.) racemes compound; peduncles many-flowered; flowers sessile; petals linear-lanceolate, hardly broader at the base; leaves oblong, acuminated, glabrous above, but densely clothed with yellowish tomentum beneath in the axils of the nerves. ♄. G. Native of Brazil, in the province of Minas Geraes, in the district of the New Mines, or Minas Novas, among bushes in dry mountainous places. Flowers yellow.

Glomerate-flowered Linociera. Shrub 5 to 8 feet.

4 L. compa'cta (R. Br. prod. p. 523. Ait. hort. kew. ed. 2. vol. 1. p. 23.) racemes compound and decompound; peduncles 3-flowered; flowers almost sessile; petals attenuated, subulate. ♄. S. Native of the West Indies. Chionánthus compácta, Swartz, prod. p. 13. Vahl, enum. 1. p. 44. Chionánthus Caribæ'a, Jacq. coll, 2. p. 110. t. 6. f. 1. Swartz, fl. ind. 1. p. 22. Ceránthus, Schreb. gen. 1. p. 14. Ceránthus Screbèri, Gmel. syst. 1. p. 26.—Pluk. alm. 224. f. 2. Leaves lanceolate-elliptic, acuminated, often a hand long. Calyxes villous. Petals snow white. Anthers acute.

Compact Linociera. Clt. 1793. Tree 15 to 20 feet.

5 L. ? tetra'ndra (R. Br. prod. p. 523.) panicles trichotomous, axillary; flowers pedicellate, tetrandrous; petals ovate, attenuated, subulate; leaves elliptic-lanceolate, acute. ♄. S. Native of Guiana. Chionánthus tetrándra, Vahl, enum. 1. p. 45. Mayèpea Guianénsis, Aubl. guian. 1. p. 81. t. 31. Chionánthus incrassàta, Willd. spec. 1. p. 47. Chion. Guianénsis, Pers. ench. 1. p. 5. Calyx villous. Anthers obtuse. Petals white, concave, terminated by a thread. Fruit size of an olive, violaceous, 1-seeded, bitter. The flowers exhale a grateful scent. Perhaps a genus of *Rhámneæ*.

Tetrandrous Linociera. Shrub 6 to 7 feet.

** *Species natives of Asia.*

6 L. dichótoma (Wall. cat. no. 2825.) racemes axillary, composed of 3-flowered peduncles; leaves large, cuneate-lanceolate, recurved, entire, glabrous. ♄. S. Native of Coromandel. Chionánthus dichótomus, Roxb. fl. ind. 1. p. 107. A smooth, dichotomous shrub. Racemes solitary, shorter than the leaves. Flowers small, white, scentless. Calyx villous. Segments of corolla hardly joined at the base. Drupe ovate or obovate, purple, size of a currant. Albumen none.

Dichotomous Linociera. Shrub 7 to 10 feet.

7 L. ramiflòra (Wall. cat. no. 2824.) panicles ovate, below the leaf-bearing shoots, smooth; leaves broad-lanceolate or oblong, entire, acute, glabrous. ♄. S. Native of the Moluccas. Chionánthus ramiflòrus, Roxb. fl. ind. 1. p. 106. Leaves about 6 inches long. Flowers numerous, small, yellow. Segments of the corolla lanceolate, with incurved edges. Drupe oblong.

Branch-flowered Linociera. Fl. March, April. Tree.

8 L. macrophy'lla (Wall. cat. 2826.) racemes compound, axillary, composed of 3-5-flowered branches or peduncles; leaves elliptic, tapering to both ends, on long subalate petioles, entire, glabrous. ♄. S. Native of Silhet. Leaves 8-10 inches long, and 4-6 broad. Very like *L. ramiflòra*.

Large-leaved Linociera. Tree or shrub.

9 L. Malaba'rica (Wall. cat. no. 2828.) peduncles compound, axillary, aggregate, downy as well as the calyxes, with 3-flowered branches; leaves elliptic, obtuse, short-acuminated, sometimes tapering to the base, coriaceous, glabrous. ♄. S. Native of Malabar. Chionánthus Malabáricus, Herb. Heyne.

Malabar Linociera. Tree or shrub.

10 L. monta'na; racemes compound, axillary, crowded, much shorter than the leaves; leaves elliptic-oblong, acuminated, entire, glabrous. ♄. S. Native of Java, in woods on the mountains of Parang and Salak, where it is called *Kiburiet*. Chionánthus montànus, Blum. bijdr. p. 681.

Mountain Linociera. Tree.

11 L. oblónga (Wall. cat. no. 2843.) peduncles lateral and axillary, trichotomously branched; leaves oblong-lanceolate, acuminated, tapering to the base, pale beneath, glabrous. ♄. S. Native of the Burmese empire, on mount Taong Dong.

Oblong-leaved Linociera. Tree or shrub.

12 L. terniflòra (Wall. cat. no. 2845.) leaves oblong-lanceolate, acuminated, glabrous: having the veins converging at top: acumen obtuse; peduncles racemose, branched, lateral, and axillary: with 3-flowered branches. ♄. S. Native of the Burmese empire, on the banks of the Saluen river.

Tern-flowered Linociera. Tree or shrub.

13 L. cotinifòlia (Vahl, enum. 1. p. 47.) racemes sub-compound; peduncles 3-flowered; flowers pedicellate; leaves villous beneath. ♄. S. Native of Ceylon. Chionánthus cotinifòlia, Willd. spec. 1. p. 47. Chionánthus Zeylánica, Lam. ill. 1. p. 30. t. 9. f. 2. Houtt. syst. 1. p. 204. t. 5. f. 1. Very nearly allied to *L. latifòlia*. Flowers reddish.

Cotinus-leaved Linociera. Clt. 1818. Tree.

14 L. purpu'rea (Vahl, enum. 1. p. 47.) racemes axillary, usually compound; peduncles 3-flowered, drooping; bracteas ovate; petals channelled; leaves obovate-lanceolate or elliptic, tapering at both ends, and are, as well as the calyxes, glabrous. ♄. S. Native of Ceylon. Chionánthus purpùrea, Lam. Chionánthus Zeylánica, Lin. fl. zeyl. no. 14. spec. 11. exclusive of the synonymes. Roxb. fl. ind. 1. p. 107. Thouínia nùtans, Lin. suppl. 89.—Pluk. alm. t. 241. f. 4.—Burm. zeyl. 31. Branches covered with elevated black dots. Leaves $1\frac{1}{2}$-2 inches long, a little attenuated at the base, with a short acute acumen. Petals shorter than in the rest, purplish.

Purple-flowered Linociera. Tree.

15 L.? fla'vicans (Willem. herb. maur. p. 3. Vahl, enum. 1. p. 47.) panicles axillary; petals ovate; leaves obovate, retuse. ♄. S. Native of the Mauritius. Thouínia flávicans, Willemet. Pedicels thickened at top, furnished with 2 minute bracteas at the forks. Calycine segments triangular. Corolla coriaceous, yellow. Petals erect, concave.

Yellowish-flowered Linociera. Shrub.

Cult. See *Notelæ'a* for culture and propagation, p. 52.

Tribe V.

FRAXINIE'Æ. Flowers polygamous. Calyx 4-parted, or wanting. Corolla of 4 petals, 4-parted, or wanting. Stamens 2, short; anthers dehiscing externally. Stigma nearly sessile, bifid. Fruit a 2-celled, compressed samara, winged at the top, usually 1-seeded.

XIV. FRA'XINUS (from φρασσω, *phrasso*, to hedge or enclose; the ash was formerly used for forming hedges). Tourn. inst. 343. Lin. gen. no. 1160. Mich. gen. 107. Juss. gen. 105. Schkuhr, handb. t. 375. Lam. ill. t. 858. Gærtn. fruct. 1. t. 49.

Lin. syst. *Polygàmia, Dioècia.* Flowers polygamous. Calyx none, or 4-parted or 4-toothed. Corolla none. Stamens 2, in the male flowers. Anthers sessile or on short filaments, dehiscing outwardly. Female flowers the same, except that they have no stamens. Stigma bifid. Fruit or samara 2-celled, compressed, winged at top; cells 1-seeded.—Trees with opposite, unequally pinnate, rarely simple leaves; and lateral racemes of greenish-yellow flowers.

* *Flowers naked.*

1 F. exce'lsior (Lin. spec. p. 1509.) leaflets almost sessile, lanceolate-oblong, acuminate, serrated, cuneated at the base; flowers naked; samara obliquely emarginate at the apex. ♄. H. Native of Europe. Willd. spec. 4. p. 1099. Fl. dan. 969. Smith, engl. bot. 1692. Svensk, bot. 175. F. apétala, Lam. fl. fr. Lam. ill. 858. f. 1. F. rostràta, Guss. pl. rar. p. 374.—Blackw. t. 328.—Dodon, penph. 771.—Lob. icon. 2. t. 107. f. 2. F. órnus, Scop. carn. no. 1249. F. apétala, Lam. fl. fr. F. eròsa, Pers. F. crìspa, Bosc. The leaves have generally 5 pairs of leaflets, from 4 to 6. The flowers are produced in loose spikes, from the sides of the branches. There are not only female flowers, and hermaphrodite ones, but also male ones.

The Ash, in German and Dutch, is called *Esche* or *Asche*; in Danish and Swedish, *Ask;* in French, *Le Frene;* in Italian, *Frassino;* in Spanish, *Fresno;* in Portuguese, *Freixo;* in Russian, *Jas*, *Jasen*, or *Jassen*. The English name is from the Saxon Æsa. Ray says it has its name from the colour of the bark. Its usual time of flowering is March and April; of leafing, from April 22d to May 15th. The timber of the ash is next in value to the oak, and in some places equal to it: it is hard and tough, and of excellent use to the coachmaker, wheelwright, and cartwright, for ploughs, axle-trees, fellies, harrows, and many other implements of husbandry; for ladders, oars, blocks for pulleys, &c. Anciently it was in great request for spears. Being not apt to split and scale, it is excellent for tenons and mortises; also for the cooper, turner, and thatcher. Nothing is like it for palisade-hedges, hop-yards, poles and spars, handles and stocks for tools, &c. When curiously veined, the cabinet-makers use it, and call it green Ebony. Of all timber it is the sweetest fuel. If a wood of ash-trees be managed well, it will turn greatly to the advantage of its owner; the underwood will be fit to cut every seven or eight years for hoops, or every 14 years for hop-poles, &c. and still there will be a stock preserved for timber. The best season for felling the ash is from November to February; but, for lopping pollards, the spring is preferable for all soft woods. The ashes of the wood afford a very good potash. The bark is used for tanning cat-skin and nets. In the north of Lancashire they lop the ash, to feed the cattle, in autumn, when the grass is upon the decline. The leaves have been gathered to mix with tea. An infusion of them is an aperient; and a decoction of 2 drachms of the bark, or 6 of the leaves, has been used in the cure of agues. If cows eat the leaves or shoots, the butter from their milk is said to be rank; but this is doubtful, for there is no taste in ash-leaves to countenance the assertion, and this is the next tree, after the elm, which the Romans recommended for fodder. The ash is, however, a very improper tree for hedge rows, and the borders of arable land; the drip of it is very unfavourable to all other vegetable productions; it exhausts the soil much, and the roots spread widely near the surface, so that it injures the hedge, and impoverishes the crop sown near it.

Though the ash be a handsome tree, it should not by any means be planted for protection or ornament, because the leaves

come out late, and fall early. The fertile trees also generally exhaust themselves so much in bearing keys or fruit, that their foliage is scanty, and their appearance unsightly. The trees, however, which bear male flowers only, have a full and verdant foliage, and make a handsome figure, though late in the season. It is well calculated for standards and clumps, in large parks and plantations, and for groves and woods. It will grow in very barren soils, and in the bleakest and most exposed situations. It is so hardy as to endure the sea winds, and may therefore be planted on the coast, where few trees will prosper. If planted by ditch sides, or in low, boggy meadows, the roots act as under-drains, and render the ground about them firm and hard; the timber, however, is in this case of little value. It was natural that our remote ancestors, when the island was overrun with wood, should value trees rather for their fruit than their timber; it is no wonder, then, that by the laws of Howel Dda, the price of an oak or a beech should be 120 pence, while the ash, because it furnished no food for swine, was valued only at fourpence. The Edda or Woden, however, holds the ash in the highest veneration; and man is described as being formed from it. Hesiod, in like manner, deduces his brazen race of men from the ash; and in his Theogony has nymphs of the name of Μελιαι. It is probably owing to the remains of Gothic veneration for this tree, that the country people, in the south-east part of the kingdom, split young ashes, and pass their distempered children through the chasm, in hopes of a cure. They have also a superstitious custom of boring a hole in an ash, and fastening in a shrew mouse; a few strokes with a branch of this tree is then accounted a sovereign remedy against cramps and lameness in cattle, which are ignorantly supposed to proceed from this harmless animal. In many parts of the highlands of Scotland, at the birth of a child, the nurse or midwife puts one end of a green stick of this tree into the fire, and, while it is burning, receives into a spoon the sap or juice, which oozes out at the other end, and administers this as the first spoonful of liquor to the new born babe.

The facility with which the ash is propagated, and adapts itself to any soil or situation, even the worst; the quickness of its growth; and the general demand for the timber, in every part of the country, for a variety of rural and economical purposes; recommend this tree very much to the planter.

The following are the most remarkable varieties of the Common Ash.

Var. β, *péndula;* branches pendulous. ♄. H. Ait. hort. kew. ed. 2. vol. 5. p. 475. The Weeping Ash.

Var. γ, *aúrea;* (Willd. enum. p. 1059.) branches yellow, dotted; leaflets sessile, lanceolate, unequally serrulated, acuminated, cuneated at the base, glabrous. ♄. H. F. aúrea, Pers. ench. 2. p. 604. The yellow-barked Ash.

Var. δ, *críspa;* leaflets dark green, curled. ♄. H. F. críspa, Bosc. F. atrovírens, Desf. arb. 1. p. 104.

Var. ε, *jaspídea* (Willd.) bark and wood marked with veins.

Var. ζ, *argéntea* (Desf. arb.) leaves variegated with white. The silver-striped-leaved Ash.

Var. η, *lùtea;* leaves edged with yellow. The golden-striped-leaved Ash.

Var. ϑ, *eròsa* (Pers. ench. 1. p. 604.) leaflets erosely toothed.

Var. ι, *horizontàlis* (Desf. Pers. l. c.) branches horizontal. The horizontal-branched Ash.

Var. κ, *verrucòsa* (Desf. Pers. l. c.) branches warted. The warted-barked Ash.

Var. λ, *striàta.* The striped-barked Ash.

Var. μ, *fungòsa.* The spongy-barked Ash.

Var. ν, *verticillàta.* The whorled-leaved Ash.

Taller or Common Ash. Fl. March, April. Britain. Tree 50 to 80 feet.

2 F. na'na (Willd. enum. 1068) leaflets sessile, usually 5 pairs, ovate-oblong, acute, unequally serrulated, roundly cuneated at the base. ♄. H. Native of Europe. F. excélsior, var. nàna, Hortul. Branches grey. Buds brownish, black. Leaflets 5-6 pair, 1½ inch long, and hardly ½ inch broad, glabrous.

Dwarf Ash. Fl. April, May. Clt.? Shrub 6 to 10 feet.

3 F. polemoniifòlia (Poir. in Duh. ed. nov. 4. p. 66. dict. suppl. 2. p. 671.) leaflets usually 4-5 pairs, quite glabrous, sharply-toothed, ovate, nearly sessile; petioles a little winged. ♄. H. Native country unknown. F. nàna, Desf. hort. par. et arb. 1. p. 104. F. nàna (appendiculàta), Pers, ench. 2. p. 605. F. appendiculàta, Lodd. cat. A humble-branched Shrub. Branches of a livid lead colour. Leaflets approximate, 6-7 lines long, and 3 lines broad, acute. Common petioles winged.

Greek-Valerian-leaved Ash. Fl. April, May. Clt.? Sh.

4 F. heterophy'lla (Vahl. enum. 1. p. 53.) leaves simple or ternate, dentately serrated; samara oblong-lanceolate, an inch long, obtuse and emarginate at the apex. ♄. H. Native of Europe. In England, in woods, but rare. F. simplicifòlia, Willd. spec. 4. p. 1098. berl. baumz. p. 121. t. 3. f. 3. Smith, engl. bot. t. 2476. F. monophy'lla, Desf. arb. 1. p. 102. F. excélsior, var. simplicifòlia, Hort. F. excélsior, β, diversifòlia, Ait. F. excélsior, ε, Lam. dict. 2. p. 554. F. excélsior, β, heterophýlla, D. C. F. integrifòlia and diversifòlia, Hort. Leaves usually simple, but sometimes ternate and quinate, 3-4 inches long, ovate, sub-cordate, or acuminate at the base and apex. Branches dotted. Buds black. Perhaps only a variety of *F. excélsior.*

Various-leaved Ash Tree. Fl. April, May. England. Tree 30 to 40 feet.

5 F. parvifòlia (Willd. spec. 4. p. 1101.) leaflets 5-7 pairs, sessile, roundish-ovate and oblong, attenuated at the base, quite entire at the base, but sharply serrated at the apex, mucronate; flowers naked. ♄. H. Native of the Levant. Willd. berl. baumz. p. 155. t. 2. f. 2. Tenor. syll, p. 9. no. 5. Branches purplish, trigonal at the top. It differs from *F. rotundifòlia* in the leaflets being more copious, in the bases not being unequal, and the buds being brown. The juice of this tree is the manna of Sicily. It is called Frassino mistino, and Frassino lentisco, in Sicily.

Small-leaved Ash-tree. Fl. April, May. Clt. 1822. Tree 20 to 30 feet.

6 F. tamariscifòlia (Vahl. enum. 1. p. 52.) leaflets petiolate, oblong and lanceolate, sharply serrated: serratures mucronate. ♄. H. Native about Aleppo. Fr. lentiscifòlia, Desf. cat. hort. par. p. 52. Willd. spec. 4. p. 1101. F. parvifòlia, Lam. dict. 2. p. 540. F. Aleppénsis, Plukn. phyt. 182. f. 4. Branches dark purple. Buds brown. Leaflets 4-5 pairs, ex Vahl. 6-7 pairs, ex Willd. ½ inch long, terminal one smaller than the lateral ones. Flowers naked. Samara narrow, gradually widening to the apex, and retuse.

Tamarisk-leaved Ash-tree. Fl. May, June. Clt. 1710. Tr.

7 F. arge'ntea; leaves with usually 3 pairs of rather coriaceous, elliptic-ovate, shortly cuspidate, bluntly-toothed leaflets, on short petiolules. ♄. H. Native of Corsica, in the fissures of rocks. Fráxinus argéntea, Lois. fl. gall. 697. Leaves silvery grey. Nearly allied to O'rnus Europæ'a.

Silvery-leaved Ash. Fl. April, May. Clt. 1825. Tree.

8 F. sambucifòlia (Vahl. enum. 1. p. 51.) leaflets sessile, ovate-lanceolate, serrated, having the axils of the veins villous beneath. ♄. H. Native from Canada to Carolina. Willd. spec. 4. p. 1099. Muhl. nov. act. scrut. berol. 3. p. 393. Pursh. fl. sept. amer. 1. p. 8. Michx. fig. arb. icon. F. nìgra, Mœnch. F. críspa, Hort. Young branches green, beset with black dots. Buds brown. Leaflets 3 pairs, 3-4 inches long, acute at both ends. Flowers like those of the Common Ash.

Elder-leaved Ash-tree. Fl. May. Clt. 1800. Tree 30 feet.

9 F. Schiedea'na (Schlecht. et Chamiss. in Linnæa. 6. p. 391.) glabrous; leaves with 3 pairs of sessile, lanceolate, bluntish, quite entire leaflets, or with a few obsolete serratures in front; the odd one the longest, and attenuated at the base: all thin, shining above, and paler beneath; rachi of leaves channelled; samara nearly linear, with the wing hardly dilated in front, elliptic-oblong, obtuse at the apex, ending in an oblique little point. ♄. H. Native of Mexico, near Hacienda de la Laguna, in warm situations. Fagàra dùbia, Rœm. et Schultes, syst. 3. p. 288. Calyx deeply 5-parted. Stigmas 2, thick.

Schiede's Ash-tree. Tree 10 to 15 feet.

10 F. Bóscii; leaves with 3 pairs of glabrous leaflets; leaflets oblong, acuminate, toothed; common petioles winged at the base; buds blackish; branches cinereous. ♄. H. Native of North America. F. nàna, Bosc. but not of Willd. Flowers naked.

Bosc's Ash-tree. Fl. May, June. Clt.? Tree.

11 F. Chine'nsis (Roxb. fl. ind. 1. p. 150.) leaflets from 3 to 7, lanceolate, serrated; panicles axillary and terminal; flowers apetalous. ♄. H. Native of China. Branches erect. Leaves glabrous: lateral leaflets on short petioles, and smaller than the terminal one, which is protruded on a winged petiole. Panicles drooping. Style long and curved.

China Ash. Fl. April. Clt.? Tree 12 to 20 feet.

12 F. oxyca'rpa (Willd. spec. 4. p. 1100.) leaflets almost sessile, lanceolate, acuminated, serrated, glabrous; flowers naked; samara lanceolate, attenuated at both ends, mucronate. ♄. H. Native of Caucasus. F. oxyphýlla, Bieb. fl. taur. 2. p. 450. F. órnus, Pall. ind. taur. Branchlets green, with white dots. Buds brown. Leaflets 2 to 3 pairs.

Sharp-fruited Ash-tree. Fl. May. Tree.

13 F. angustifòlia (Bauh. hist. 1. pt. 2. p. 177.) leaflets sessile, lanceolate, remotely denticulated; samara lanceolate, entire at the apex, acute. ♄. H. Native of Spain. Vahl. enum. 1. p. 52. Willd. spec. 4. p. 1100. Branches brownish purple. Branchlets green, dotted with white. Buds brown. Leaflets 3-4 pairs, $1\frac{1}{2}$ to 2 inches long. Peduncles below the leaves, solitary, 2 inches long. Samara obtuse at the base. Flowers naked. Said by some to be nearly related to *F. O'rnus;* but by Vahl. to *F. excélsior.*

Narrow-leaved Ash-tree. Fl. May. Tree.

* * *Flowers calyculate.*

14 F. juglandifòlia (Lam. dict. 2. p. 543.) leaflets stalked, elliptic-lanceolate, serrated, glaucous beneath; branches and petioles glabrous; flowers calyculate. ♄. H. Native from Canada to North Carolina. Willd. spec. 4. p. 1104. Branches and buds greyish brown. Leaflets 2-4 pairs, 3 inches long, membranous, glabrous, but not shining, canescent beneath, downy in the axils of the veins. Calyx 4-toothed. Corymbs pendulous. Samara linear.

Var. β, subintegérrima (Vahl. enum. 1. p. 50. l. c.) leaflets almost quite entire. ♄. H. F. juglandifòlia, β, subserràta, Willd. l. c. Fr. Caroliniàna, Wangenh. amer. p. 81. ex Willd. Du Roi, ed. 2d vol. 1. p. 400. ex Vahl. Fr. Nòva-A'ngliæ, and F. Caroliniàna, Mill. dict. no. 5, 6.?

Walnut-leaved Ash-tree. Fl. May. Clt. 1724. Tree 30 to 50 feet.

15 F. Carolinia'na (Lam. dict. 2. p. 543.) leaflets petiolate, lanceolate, serrated, and are, as well as the branches, glabrous; flowers calyculate. ♄. H. Native from Pennsylvania to Carolina. Vahl. enum. 1. p. 51. Willd. spec. 4. p. 1103. F. excélsior, Walt. fl. car. p. 254. F. serratifòlia, Michx. fil. arb. p. 33. F. lanceolàta, Borkh. Branches and buds brownish. Leaflets 3 pairs, shining above. Racemes loose, $1\frac{1}{2}$ inch long, often twin from the same dot; pedicels numerous, umbellate. Calyx small, campanulate.

Carolina Ash-tree. Fl. May, June. Clt. 1783. Tree 30 to 50 feet.

16 F. pube'scens (Walt. fl. car. p. 254.) leaflets petiolate, elliptic-ovate, serrated, downy or tomentose beneath, as well as the petioles and branches; flowers calyculate. ♄. H. Native of North America. Vahl. enum. 1. p. 51. Willd. spec. 4. p. 1103. F. nìgra, Du Roi, ed. 2. vol. 1. p. 398. F. tomentòsa, Michx. arb. t. 33. Leaflets 3-4 pairs. Racemes rather compound. Calyx campanulate. Samara narrow-lanceolate, obtuse, with a short mucrone at the apex, 2 inches long. Stamens 2-3-4.

Var. β, longifòlia (Willd. spec. 4. p. 1103.) leaflets ovate-lanceolate, attenuated, somewhat serrated. ♄. H. F. subvillosa, Bosc.? F. Pennsylvánica, Marsh.

Var. γ, latifòlia (Willd. l. c.) leaflets ovate, broad. ♄. H.

Var. δ, sub-pubéscens (Pers. ench. 2. p. 605.) leaflets petiolate, elliptic-oblong, acuminated, sharply serrated, downy beneath; common petioles glabrous. ♄. H. Perhaps a distinct species. F. subvillòsa, Bosc.?

Downy Ash-tree. Fl. May. Clt. 1811. Tree 30 feet.

17 F. epìptera (Michx. l. c. p. 256.) leaflets lanceolate-elliptic, sub-serrated; samara cuneated, obtuse and emarginate at the apex, and terete at bottom. ♄. H. Native from Canada to Carolina, frequent. Vahl. enum. 1. p. 50. Willd. spec. 4. p. 1102. F. díscolor, Michx. fil. arb. t. 33. F. Canadénsis, Gærtn. fruct. 1. p. 222. t. 49. F. láncea, Bosc. Young branches green, covered with white dots. Bark chinky. Leaflets opaque, downy beneath on the veins. Flowers calyculate. Buds brown.

Wing-topped-seeded or Two-coloured Ash-tree. Fl. May. Clt. 1823. Tree 30 feet.

18 F. quadrangula'ta (Michx. fl. bor. amer. 2. p. 255.) leaflets almost sessile, elliptic-lanceolate, serrated, downy beneath; samara blunt at both ends. ♄. H. Native of Ohio, Kentucky, and Tennessee. Mich. abr. with a figure. Willd. spec. 4. p. 1104. Vahl. enum. 1. p. 50. F. tetragòna, Cels. ex Dum. Cours. Branches quadrangular. Samara obtuse.

Quadrangular-branched Ash-tree. Fl. May. Clt. 1822. Tree 30 to 40 feet.

19 F. platyca'rpa (Vahl. enum. 1. p. 49. Michx. fl. bor. amer. 2. p. 256.) leaflets almost sessile, serrated on the outside, elliptic-lanceolate; samara elliptic-lanceolate. ♄. H. Native of Virginia and Carolina. F. Caroliniàna, Catesb. car. t. 80. Michx. arb. with a figure. Leaflets 2 inches long, and an inch broad, having the larger veins villous beneath. Samara 2 inches long, acute at both ends.

Broad-fruited Ash-tree. Fl. May. Clt. 1724. Tree 30 to 50 feet.

20 F. expa'nsa (Willd. berl. baumz. p. 150.) leaflets ovate-oblong, unequally serrated, glabrous, petiolate; branches glabrous; flowers calyculate. ♄. H. Native of North America. F. Caroliniàna, Hort. Worlitz. Young branches green, smooth. Buds brown. Leaflets 5 pairs, 3 inches long, acuminated, glabrous, but not shining.

Expanded Ash-tree. Fl. May. Clt. 1824. Tree 30 to 50 feet.

21 F. míxa (Bosc. ex Spreng. syst. 1. p. 96.) leaves with 5 pairs of leaflets, glabrous on both surfaces; leaflets oblong, almost sessile, unequally toothed. ♄. H. Native of North America.

Mixed Ash. Fl. May. Clt. 1824. Tree.

22 F. pulverule'nta (Bosc. l. c.) leaves with 6 pairs of leaflets, tomentose beneath; leaflets on long petioles, oblong, acute, sinuated; petioles powdery. ♄. H. Native of North America.

Powdery Ash-tree. Fl. May. Clt. 1824. Tree.

23 F. rubicu'nda (Bosc. l. c.) leaves with 3 pairs of coriaceous leaflets, rather tomentose beneath; leaflets oblong, acute, a little toothed: having the veins and petioles reddish beneath; buds and branchlets grey. ♄. H. Native of North America.

Reddish-veined Ash-tree. Fl. May. Clt. 1824. Tree.

24 F. longifòlia (Bosc. l. c.) leaves with 3 pairs of leaflets, shining above, but tomentose beneath and on the petioles; leaflets oblong-lanceolate, acuminated, a little toothed; branches hairy. ♄. H. Native of North America.

Long-leaved Ash-tree. Fl. May. Clt. 1824. Tr. 30 to 40 ft.

25 F. víridis (Bosc. l. c.) leaves with 3 pairs of leaflets, shining above, but the veins are downy beneath; leaflets oblong, acute, sharply and unequally serrated; branches green. ♄. H. Native of North America.

Green Ash-tree. Fl. May. Clt. 1824. Tree.

26 F. cine'rea (Bosc. l. c.) leaves with 3 pairs of glabrous leaflets, but the veins are rather pilose beneath; leaflets lanceolate, unequally toothed; buds linear, grey, pilose. ♄. H. Native of North America.

Grey Ash-tree. Fl. May. Clt. 1824. Tree.

27 F. a'lba (Bosc. l. c.) leaves with 3 pairs of leaflets, hairy beneath, and on the petioles; leaflets lanceolate, unequally and sharply toothed, acuminated; branches grey. ♄. H. Native of North America.

White Ash-tree. Fl. April, May. Clt. 1823. Tree.

28 F. Richa'rdi (Bosc. l. c.) leaves with 3 pairs of glabrous leaflets: but the veins are rather pilose beneath; leaflets oblong, acute, toothed; branches cinereous, pilose at the base. ♄. H. Native of North America.

Richard's Ash-tree. Fl. April, May. Clt.? Tree.

29 F. ova'ta (Bosc. l. c.) leaves with 3 pairs of leaflets, pilose beneath; leaflets ovate, acute, equally toothed; buds fulvous. ♄. H. Native of North America.

Ovate-leaved Ash-tree. Fl. April, May. Clt.? Tree.

30 F. nìgra (Bosc. l. c.) leaves with 3 pairs of glabrous leaflets; leaflets oblong, acuminated, somewhat sinuately toothed; branches blackish. ♄. H. Native of North America.

Black Ash-tree. Fl. April, May. Clt. 1825. Tree.

31 F. ellíptica (Bosc. l. c.) leaves with 3 pairs of leaflets, pilose beneath; leaflets oblong, mucronate, a little toothed; buds fulvous; branches brownish black. ♄. H. Native of North America.

Elliptic-leaved Ash-tree. Fl. April, May. Clt. 1824. Tree.

32 F. fu'sca (Bosc. l. c.) leaves with 3 pairs of leaflets, glabrous above, but the veins are villous beneath; leaflets oblong, mucronate, unequally toothed; branches brown. ♄. H. Native of North America.

Brown-branched Ash-tree. Fl. April, May. Clt. 1823. Tr.

33 F. ru'fa (Bosc. l. c.) leaves with 2 pairs of leaflets, beset with rufous pili beneath; leaflets lanceolate, acuminated, cuspidate, unequally toothed. ♄. H. Native of North America.

Rufous-haired Ash-tree. Fl. April, May. Clt. 1822. Tr.

34 F. pa'llida (Bosc. l. c.) leaves with 3 pairs of glabrous leaflets; leaflets almost sessile, ovate-lanceolate, toothed; branches yellow. ♄. H. Native of North America.

Pale-barked Ash-tree. Fl. April, May. Clt.? Tree.

35 F. acumina'ta (Lam. dict. 2. p. 542.) leaflets petiolate, oblong, shining, quite entire, glaucous beneath; flowers calyculate. ♄. H. Native from Canada to Carolina, in woods. F. Americàna, Willd. spec. 4. p. 1102. F. cóncolor, Michx. fil. arb. p. 33. icon. Leaflets 7.

Acuminated-leaved Ash. Fl. May. Clt. 1723. Tree.

36 F. pannòsa (Vent. and Bosc. l. c.) leaves with 3 pairs of leaflets, villously tomentose beneath; leaflets petiolate, ovate, quite entire, attenuated at both ends; buds fulvous; petioles glabrous. ♄. H. Native of Carolina.

Cloth-leaved Ash. Fl. May. Clt. 1820. Tree.

37 F. tríptera (Nutt. gen. amer. 2. p. 232.) leaflets obovate, entire, tomentose beneath, oblique at the base; samara broad, elliptic-obovate, mostly 3-winged, attenuated at the base, 1-seeded; seed 3-sided. ♄. H. Native of South Carolina, in oak forests.

Three-winged-fruited Ash-tree. Tree.

Cult. Most of the species of *Fráxinus* are large forest trees, and are generally raised in quantities from seed, which do not vegetate till the second spring after sowing, if kept out of the ground all winter; but if sown in the autumn immediately after gathering, they vegetate in the following spring. Any of the kinds may be increased by budding or grafting on the common ash; and the younger the stock on which they are grafted the better. In grafting the species of *Fráxinus*, as well as other trees which do not readily take, it is best to graft at the side, allowing the top to remain until the scion is fixed and the wound healed, as the top, when allowed to remain, draws up the sap to the scion, while on the contrary, if taken off, it stagnates the free circulation of the sap to the graft.

XV. ORNUS (*Oren*, Hebrew; *ορεινη μελια, oreine melia*, from *ορος, oros*, a mountain, Greek; *Ornus*, Latin; the names for the wild ash). Pers. ench. 1. p. 8. Pursh, fl. amer. sept. 1. p. 6. Nutt. gen. amer. 1. p. 6.—Fráxinus species of authors.

Lin. syst. *Diándria, Monogýnia*, or *Polygàmia, Dioècia*. Flowers hermaphrodite, or of different sexes. Calyx 4-parted or 4-toothed. Corolla 4-parted; segments long, ligulate. Stamens with long filaments. Stigma emarginate. Samara 1-celled, 1-seeded, winged.—Trees with impari-pinnate leaves and terminal or axillary panicles of flowers.

1 O. Europæ'a (Pers. ench. 1. p. 9. Sav. trat. ed. 2. t. 1.) leaves with 3-4 pairs of lanceolate or elliptic, attenuated, serrated, stalked leaflets; peduncles axillary, solitary, shorter than the leaves; flowers complete or hermaphrodite. ♄. H. Native of the south of Europe. Fráxinus O'rnus, Lin. spec. 1510. Smith, fl. græc. 1. t. 4. Mill. fig. t. 1. Lam. ill. 9. t. 858. f. 2. Woodv. med. bot. 1. p. 104. t. 36. Church et Stev. med. bot. 2. t. 53. F. O'rnus and F. paniculàta, Mill. diet. no. 3. and no. 4. F. florífera, Scop. carn. no. 1250. F. botryoìdes, Mor. prælud. 265. F. vulgàtior, Segu. ver. 2. p. 290. —Duham. arb. 4.—Bauh. hist. 1. p. 177. f. 1. Young branches purplish or livid, with yellow dots. Buds cinereous. Leaflets entire at the base, villous or downy beneath. Flowers greenish white. Scopoli observed hermaphrodite flowers on one tree and female ones on the other. Mr. Miller's *F. paniculàta* has chiefly male flowers. Manna is obtained from this tree, as well as from *O. rotundifòlia*.

Manna is yielded by different trees, but principally from the species of *O'rnus*, *Fráxinus*, and *Júglans*. The manna is generally of two kinds; not on account of the intrinsic quality of them being different, but only because they are got in a different manner. In order to obtain manna, those who have the management of the woods of the *Orni*, in the months of July and August, when the weather is very dry and warm, make an oblong incision, and take off from the bark of the tree about 3 inches in length and 2 in breadth; they leave the wound open, and by degrees the manna runs out, and is almost suddenly thickened to its proper consistence, and is found adhering to the bark of the trees. The manna, which is collected in baskets, and goes under the name of *Manna grassa*, is put in a dry place, because moist and wet places will soon dissolve it again. This first kind of manna is often in large irregular pieces of a brownish colour, and is frequently full of dust and other impurities. But when the people want to have a very fine manna, they apply to the incision of the bark thin straw, or bits of shrubs, so that the manna, in coming out, runs upon those bodies, and is collected in a sort of regular tubes, which give it the name of *manna-canali*, or manna in tubes; this second

kind is more esteemed and always preferred to the other, because it is free and clear from impurities. There is still a third kind in Calabria, which is as white as the finest sugar, but is seldom met with. The two first kinds of manna undergo no preparation whatever before they are exported. When the summer is rainy the manna is always scarce and bad. Manna likewise exudes spontaneously, and concretes into granules; this kind is known in the markets by the name of manna in tear. Manna is sweet, but leaves a nauseous impression on the tongue. It is a mild cathartic, for which purpose it was formerly much used in practice; it is now seldom given alone to adults, but combined with senna, neutral salts, and other purgatives, are frequently used to cover its taste.

Var. β, latifòlia (Ait. hort. kew. 3. p. 445.) leaflets oval-oblong, serrated, stalked.

European Flowering Ash or Manna Ash. Fl. May, June. Clt. 1730. Tr. 20 to 30 feet.

2 O. rotundifòlia (Pers. ench. 2. p. 605.) leaves with 3-5 pairs of roundish-ovate, bluntly serrated, almost sessile leaflets, which are narrow at the base; petioles channelled; flowers with petals, polygamous; peduncles axillary. ♄. H. Native of Calabria and the Levant, &c. Fráxinus rotundifòlia, Ait. hort. kew. 3. p. 445. Vahl, enum. 1. p. 49. Willd. spec. 4. p. 1105. wild baum. p. 145. t. 2. f. 1. F. mannífera. Hort.—Pluk. alm. 182. f. 4.—Bauh. hist. 1. p. 177. f. 2. Branches and buds brown. Leaflets rather small, glabrous. Flowers purplish. The flowers come out in the spring before the leaves, like the other species of the genus, as well as of *Fráxinus*. The lower parts of the mountains of Calabria abound with this, the manna-ash, which grows spontaneously and without any culture, except that the woodmen cut down all the strong stems that grow above the thickness of a man's leg. Towards the end of July the gatherers of manna make a horizontal gash, inclining upwards, in the bole of the tree. As the liquor never oozes out the first day, another cut is given on the second, and then the woodmen fix the stalk of a maple leaf in the upper wound, and the end of the leaf in the lower one, so as to form a cup to receive the gum as it distils from each gash. The season continues about a month. The men have only 3 carlines (1*s*. 1½*d*.) for every rotolo; which quantity, containing 33⅓ ounces, is sold for 24¾ carlini, or somewhat more than 10*s*.; if it be in tubular pieces the price rises one third. The tubular pieces are called manna in cannoli, and these regular tubes are produced by applying to the incision thin straw, or small bits of shrub, upon which the manna runs as it oozes out. The trees succeed best in an eastern exposure, in order to warm the juices in the morning, and to inspissate those which the heat has sweated out in the evening.

Round-leaved Flowering Ash or Manna Ash. Fl. April. Clt. 1697. Tree 16 to 20 feet.

3 O. America'na (Pursh, fl. amer. sept. 1. p. 9. Nutt. gen. amer. 1. p. 6.) leaves with 2-5 pairs of oblong or ovate-acuminated, shining, serrated leaflets, glaucous beneath, the odd one rather cordate; flowers with petals, disposed in terminal panicles. ♄. H. Native of North America, in Maryland and Virginia, but rare. F. Americàna, Lin. spec. 1510.? Branches brownish grey. Buds brown. Leaflets 3-5 inches long and 2 broad, paler beneath, and having the larger veins rather villous. Samara narrow, obtuse, mucronate.

American Flowering Ash. Fl. April, May. Clt. 1820. Tree 30 to 40 feet.

4 O. floribu'nda (G. Don, in Loud. hort. brit. p. 12.) leaves with 2-3 pairs of elliptic-oblong, acuminated, serrated, glabrous, stalked leaflets, and an odd one; panicles terminal, compound, thyrsoid; petals linear, clavate (ex Wall.), oval-oblong, obtuse (ex D. Don); samara linear, or narrow-spatulate, obtuse, entire. ♄. H. Native of Nipaul, where it is called *Kangu, Tahasee,* and *Thaup.* Fráxinus floribúnda, Wall. fl. ind. 1. p. 150. pl. rar. asiat. 3. t. 277. D. Don, prod. fl. nep. p. 106. Bark ash-coloured, dotted. Branchlets compressed. Leaflets varying much in figure, the terminal or odd one the largest. Flowers white.

Bundle-flowered Flowering Ash. Fl. April. Clt. 1822. Tree 30 to 40 feet.

5 O. xanthoxyloìdes; leaves pinnate; leaflets 5, small, oblong, tapering to the base and apex, crenated, almost sessile; flowers lateral, aggregate; fruit lateral, aggregate; samaræ with emarginate wings. ♄. H. Native of Sirinaghur. Fráxinus xanthoxyloìdes. Wall. cat. no. 2833.

Xanthoxylon-like Flowering Ash. Tree.

6 O. Moorcroftia'na; leaves pinnate; leaflets 5, oblong, acuminated at both ends, glabrous, almost sessile, paler beneath, finely denticulated: odd one the largest; fruit disposed in simple, aggregate, lateral racemes; samara with an emarginate wing, furnished with a little point in the centre of the notch. ♄. H. Native of Luddac, in the East Indies. Fráxinus Moorcroftiàna, Wall. cat. no. 2834.

Moorcroft's Flowering Ash. Tree.

7 O. urophy'lla; leaves pinnate, on long petioles; leaflets 5-7, on long petiolules, membranous, ovate-oblong, long-acuminated, serrated; peduncles panicled, axillary. ♄. H. Native of Silhet, on the Pundua mountains. Fráxinus urophýllus, Wall. cat. no. 2835. Flowers much smaller than those of *O. floribúnda.*

Tail-leaved Flowering Ash. Tree.

8 O. stria'ta (Sweet, hort. brit. p. 256.) leaves with 7 pairs of leaflets, villous beneath as well as the petioles; leaflets oblong, petiolulate, acute, toothed; buds green; branches striated. ♄. H. Native of North America. Fráxinus striàta, Bosc. ex Spreng. syst. 1. p. 95.

Striated Flowering Ash. Fl. April, May. Clt. 1818. Tree 30 feet.

Cult. The species of this genus are raised from seeds, like those of *Fráxinus,* and may be increased by budding or grafting on the common ash.

Order CXLVIII. COLUMELLIE'Æ (this order contains plants agreeing with *Columéllia* in important characters). D. Don, in edinb. phil. journ. dec. 1828.

Calyx 5 or many-parted, permanent, adnate to the ovarium. Corolla inserted in the upper part of the tube of the calyx, rotate or funnel-shaped; limb spreading, 5-lobed; lobes equal, entire, convolutely imbricate in æstivation. Stamens 2, inserted in the thickened part of the throat, opposite the angles of the calyx; filaments short, dilated; pollen resinous. Ovarium inferior, or half inferior, 2-celled, many-ovulate. Style declinate, seated on a flat fleshy disk. Stigma capitate, convex at top. Capsule 2-celled, woody, 2-valved, closely combined with the tube of the calyx, dehiscing at top by a cross-like chink, therefore the valves are bifid at the apex; dissepiment contrary to the compression of the peduncle; cells many-seeded. Albumen fleshy or wanting.—Trees or shrubs. Leaves opposite, petiolate, entire. Flowers terminal, yellow, or white, very like those of the species of *Jasmínum.* Peduncles bibracteate?

This order corresponds with *Jasmineàceæ* in the structure and æstivation of its corolla, in its bilocular ovarium, and erect ovula, and it agrees both with it and *Syrínga* in the structure and dehiscence of its capsule. A comparison of the

calyx and corolla of *Menodòra*, with those species of *Jasmìnum* wherein the number of segments are indeterminate, will display more clearly the intimate affinity existing between these two families. It differs, however, essentially from *Jasmineàceæ* by having an adherent ovarium, by the presence of a perigynous disk, by the undivided stigma, and lastly by having an inferior capsule with polyspermous cells. The imbricate æstivation of the corolla, and adherent ovarium, with erect ovula, the presence of a perigynous disk, and a capsule with polyspermous cells, are characters sufficiently numerous and important to prevent its ever being confounded with *Olèinæ*, and to establish it as an osculant group between that family and *Jasmineàceæ*. It appears also to be nearly related to *Halesiàceæ*, a small group forming the connecting link between *Olèinæ* and *Ebenàceæ*; this group is principally distinguished from *Columellièæ* by the indefinite number of its stamina, and its simple stigma.

Synopsis of the genera.

1 Colume'llia. Calyx compressedly 2-edged; with a 5-lobed limb. Corolla rotate. Anthers convolute. Capsule turbinate; cells many-seeded. Albumen fleshy.

2 Boliva'ria. Calyx 5-parted. Corolla funnel-shaped; with a 5-parted limb. Capsule cartilaginous; cells 2-seeded. Albumen none, but the seeds are inclosed in a peculiar integument.

3 Menodòra. Calyx many-parted, half inferior. Corolla salver-shaped: with a 5-parted spreading limb. Capsule 2-celled, many-seeded.

I. COLUME'LLIA (named in honour of L. J. M. Columella, who flourished 42 years before Christ). Ruiz et Pav. fl. per. 1. p. 28. syst. p. 8. Pers. ench. 1. p. 13. H. B. et Kunth, nov. gen. amer. 2. p. 388. D. Don, in edinb. phil. journ. dec. 1828.—Ulúxia, Juss. gen.

Lin. syst. *Diándria, Monogýnia.* Calyx turbinately tubular, compressed, 2-edged. Corolla rotate: with a 5-lobed concave equal limb. Stamens opposite the angles of the calyx; filaments short, flat; anthers convolute or replicate; one of the cells very narrow, continuous through all the convolutions of the anther: containing angular, resinous pollen. Style declinate, flattened. Capsule turbinate, woody, 2-celled; cells many-seeded. Seeds obovate, compressed, ascending: with a basilar umbilicus. Albumen fleshy, yellowish. Embryo erect, slender. Plumule inconspicuous.—Evergreen trees or shrubs, natives of Peru. Flowers terminal, on short peduncles, yellow. Peduncles bibracteate at the base.

1 C. oblónga (Ruiz et Pav. fl. per. 1. p. 28. t. 8. f. a. syst. 1. p. 8.) leaves oblong, veiny, toothed at top; flowers corymbose. ♄. G. Native of Peru, in woods at Pillao. C. arboréscens, Pers. ench. 1. p. 13. Tree having the habit of *Kálmia*, with deciduous bark. Branchlets clothed with silky down, compressed between the internodes. Leaves attenuated at the base, shining and green above, but silky and glaucous beneath, 1-2 inches long. Corymbs leafy. Calycine segments lanceolate, silky beneath, furnished with a horny mucrone at the apex.

Oblong-leaved Columellia. Tree 20 to 25 feet.

2 C. obova'ta (Ruiz et Pav. fl. per. 1. p. 28. t. 12. f. b. syst. 1. p. 9.) tomentose; leaves obovate, mucronulate, quite entire, veinless; flowers usually solitary. ♄. G. Native of Peru, on arid hills about the town of Tarma. C. frutéscens, Pers. ench. 1. p. 13. Shrub with the habit of a species of *Leptospérmum*. Branchlets clothed with hoary down, which at length becomes blackish. Leaves crowded, green and shining above, but tomentose beneath, from ¼ to ½ an inch long. Petioles connate at the base, hardly distinct from the leaves. Flowers rarely twin or tern. Calycine segments ovate, obtuse.

Obovate-leaved Columellia. Shrub 8 feet.

3 C. serícea (H. B. et Kunth, nov. gen. amer. 2. p. 388.) leaves oblong, quite entire, silky beneath; peduncles 2-3-flowered. ♄. G. Native of the province of Quito, in woods. Young branches obsoletely tetragonal, clothed with silky down. Leaves obtuse, mucronate, green and shining above, and silky white beneath. Pedicels, bracteas, and calyxes silky.

Silky Columellia. Tree 15 to 20 feet.

Cult. For culture and propagation see *Bolivària*, below.

II. BOLIVA'RIA (named after Bolivar, the liberator of South America). Cham. et Schlecht. in Linnæa. 1. p. 207. t. 4. f. 1.

Lin. syst. *Diándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped: with a 5-parted limb. Filaments capillary; anthers erect, fixed by the middle, elliptic, mucronate. Style exceeding the stamens; stigma obscurely 2-lobed. Capsule cartilaginous, didymous, circumcised; cells 2-seeded. Seeds inclosed in a peculiar integument, without albumen.—Glabrous shrubs. Flowers pedunculate, solitary, terminal, and lateral, constituting an incomplete, leafy panicle.

1 B. integrifòlia (Cham. et Schlecht. l. c. p. 208.) leaves lanceolate, quite entire. ♄. G. Native of Brazil, in the province of Cisplatine, frequent. Flowers white or yellow, size of those of *Jasmìnum frùticans*.

Entire-leaved Bolivaria. Shrub 1 to 2 feet.

2 B. trífida (Cham. et Schlecht. l. c. p. 209.) leaves linear, trifid, or entire. ♄. G. Native of Brazil, in the province of Cisplatine, and of Chili. Flowers yellow.

Trifid Bolivaria. Fl. July. Clt. 1828. Shrub 1 to 2 feet.

Cult. A mixture of loam, peat, and sand is a good soil for the species; and cuttings will strike root readily in the same kind of soil, under a hand-glass.

III. MENODO'RA (from μενος, *menos*, courage, and δωρον, *doron*, a gift; a vegetable which gives force to animals). Humb. et Bonpl. pl. æquin. 2. p. 98. t. 110. D. Don, in edinb. phil. journ. dec. 1828.

Lin. syst. *Diándria, Monogýnia.* Calyx campanulate, with a many-parted limb; segments 10-11, subulate. Corolla with a very short tube, a villous throat, and 5-8-parted concave limb; lobes ovate, acuminated. Filaments capillary; anthers sagittate, 2-celled, erect, mucronulate at the apex. Ovarium emarginately 2-lobed. Style declinate, slender; stigma truncate, pruinose. Capsule 2-celled, with a septicidal dehiscence, many-seeded.—A small, suffruticose, hairy plant, with numerous decumbent stems; oval-lanceolate, almost sessile, entire leaves: and solitary, pedunculate, yellow flowers.

1 M. helianthemoìdes (Humb. et Bonpl. l. c.). ♄. G. Native of Mexico, between Actopan and the village of Magdalena. Stems tetragonal.

Sun-rose-like Menodora. Shrub ½ to 1 foot.

Cult. For culture and propagation see *Bolivària* above.

Order CXLIX. JASMINEA'CEÆ. Jasmíneæ, R. Br. prod. p. 520.—Jasmíneæ, part. Juss. gen. p. 104.

Calyx monophyllous, tubular, divided or toothed (f. 11. *a.*), permanent. Corolla monopetalous, hypogynous, regular, salver-shaped (f. 11. *b.*), with a 5 (f. 11. *b.*) -8 (f. 10. *a.*) -cleft limb; segments lying over each other laterally, imbricate and twisted in æstivation. Stamens 2, epipetalous, inclosed. Ovarium not

girded by any disk, 2-celled; cells 1-seeded; ovula erect. Style 1; stigma 2-lobed. Fruit a didymous berry or a bipartible capsule. Albumen sparing or wanting. Embryo straight, with an inferior radicle.—Usually twining shrubs. Leaves opposite, simple, but often compound, either ternate or imparipinnate; having the petioles in most of the species articulated. Flowers opposite, disposed in corymbs.

This order differs sufficiently from *Olèinæ* in the situation of the ovula, structure of the seeds, as also in the division and æstivation of the corolla; but it agrees with it in the corolla being regular and diandrous, and in the fruit being either baccate or capsular, but scarcely in habit. In *Nyctánthes* the mature seeds have hardly any albumen, while it is copious in the immature seeds. Fragrance is the predominant property of the Jasmine tribe, and has made it for ages the favourite of poets and of the people: this fragrance arises from an oil, which can be extracted so as to retain its perfume.

Synopsis of the genera.

1 JASMI'NUM. Corolla 4-8-cleft (f. 11. *b.* f. 10. *a.*). Berry didymous. Seeds without albumen.

2 NYCTA'NTHES. Calyx entire. Corolla 5-lobed. Capsule bipartite. Seeds albuminous.

I. JASMI'NUM (Linnæus derives this name from *ια*, *ia*, a violet and *οσμη*, *osme*, smell; but the scent of the flowers has no resemblance to that of the violet.) Forskoel. ægyp. arab. p. 59. says that the Arabs call it *Jasmin* (ysmym).) Dodon. pempt. p. 1557. Tourn. inst. 368. Lin. gen. no. 17. Juss. gen. 106. R. Br. prod. p. 521. Gærtn. fruct. 1. p. 196. t. 42. Lam. ill. t. 7.—Mogòrium, Lam.

LIN. SYST. *Diándria*, *Monogýnia*. Calyx tubular, 5-8-toothed or 5 (f. 11. *b.*) -8 (f. 10. *a.*) -cleft. Corolla 5 (f. 11. *b.* f. 10. *a.*) -8-cleft. Stigma 2-lobed or bifid. Berry didymous, having one of the lobes usually abortive. Seeds without albumen.—Usually twining shrubs. Leaves simple or compound; petioles articulated. Flowers white or yellow.

* *Leaves simple. Calyx cleft.*

1 J. SA'MBAC (Ait. hort. kew. 1. p. 8.) twining; leaves almost sessile, membranous, from cordate to oblong, acute or obtuse, glabrous; calycine segments 5-9, subulate; berries globular; branches, petioles, and peduncles downy. ♄. ◠. S. Native of the East Indies. Desf. ann. mus. 4. p. 20. Sims, bot. mag. 1785. Ker. bot. reg. t. 1. Mogòrium, Sámbac. Lam. dict. 4. p. 210. J. gímea, Zucc.? Nyctánthes Sámbac, Lin. spec. 1. p. 8.—Burm. zeyl. p. 128. t. 58. f. 2. Leaves waved, and sometimes scolloped, smooth, except while young, but there are generally tufts of down in the axils of the veins beneath. Flowers generally forming small trichotomous umbellets, white, fragrant. Berries black. From this species we have the common double, and rose or great flowered, and full Moogaries (Arabian or Tuscan jasmines.) These are always raised from layers, even in India, and have been improved by culture. The plant that bears the common double sort still retains its twining habit, but it is lost in the great rose, or full-flowered sort: here the branches are erect or spreading, but never twining. The *Nyctánthes undulàta*, Willd. spec. 2. p. 8. is probably nothing but a variety of *J. Sámbac*.

Var. α, *Single-flowered Arabian jasmine.* J. undulàtum, Willd. spec. 1. p. 36. Mállica and Asphòta, Asiat. res. 4. p. 245.—Rheed. mal. 6. p. 97. t. 55.

Var. β, *Double-flowered Arabian jasmine.* J. Sámbac, var. flore pleno, Andr. bot. rep. 497.—Rheed. mal. 6. p. 87. t. 50.—Burm. zeyl. 128. t. 58. f. 2.—Rumph. amb. 5. p. 52. t. 30.

Var. γ, *Great double Arabian or Tuscan jasmine.* J. Sámbac, Ker. bot. reg. 497.—Rheed. mal. 6. p. 89. t. 51.

Var. δ, *trifoliàtum;* leaves 3 in a whorl; flowers double. Nyctánthes grandiflòra, Lour. coch. p. 21. Nyct. trifoliàta, Vahl. enum. 1. p. 26.

Sambac or Arabian Jasmine. Fl. year. Clt. 1665. Sh. tw.

2 J. QUINQUEFLÒRUM (Heyne, herb. ex Wall. cat. no. 2878.) branches, peduncles, calyxes, and petioles downy; leaves oblong, sometimes short-acuminated, always mucronate; calycine segments 8, long-subulate; corolla almost semi-double, of many lanceolate segments; peduncles terminal, 3-5-flowered. ♄. ◡. S. Native of the East Indies, at Gongachora and Patna. J. sanjùrium, Hamilt. mss. Flowers white. Nearly allied to *J. Sámbac*.

Var. β, *pubéscens;* leaves rounded; plant more downy; corolla with fewer segments. ♄. ◡. S. Native of the East Indies, at Mongger. J. pubéscens, Hamilt. mss. ex Wall. cat. no. 2880.

Five-flowered Jasmine. Shrub cl.

3 J. SCA'NDENS (Vahl. symb. bot. 3. p. 2. enum. 1. p. 27.) twining, glabrous; leaves cordate, ovate-oblong, entire, acuminated, shining; corymbs globular, terminal, trichotomous; calycine segments 6-7, bristle-shaped, hairy; segments of corolla 6-8, lanceolate, very acute, almost the length of tube. ♄. ◠. S. Native of the East Indies, particularly in Bengal, Chittagong, and Java. Nyctánthes scándens, Rets. obs. 5. p. 9. Mogòrium scándens, Lam. dict. 4. p. 210. Peduncles and pedicels short, villous as well as the calyxes. Flowers pure white, delightfully fragrant.

Climbing Jasmine. Fl. July. Clt. 1820. Shrub twining.

4 J. GLA'BRUM (Horsfield ex Link. jahrb. 1-3. H. p. 31. Blum. bijdr. p. 679.) scandent; leaves ovate-oblong, acuminated, downy on the margins and the ribs beneath, as well as the petioles and branchlets; peduncles axillary; calycine segments subulate, downy. ♄. ◡. S. Native of Java, about Batavia. Corolla of 9 narrow segments. Branches terete.

Glabrous Jasmine. Shrub cl.

5 J. ELONGA'TUM (Vahl. enum. 1. p. 28. Willd. spec. 1. p. 37.) climbing, villous; leaves opposite or alternate, lanceolate or ovate-oblong; corymbs trichotomous; segments of corolla 8-12, linear; calyx 5-6-cleft: segments subulate. ♄. ◡. S. Native of the East Indies, in forests near the mouth of the Hoogly, in Bengal, and of Java. Nyctánthes elongàta, Lin. syst. 56. suppl. 82. Berg. act. angl. 1772. p. 290. t. 11. J. Roxburghiànum, Wall. cat. no. 2870. Flowers pretty large, pure white, fragrant. Pedicels clavate. Corolla having the tube much swelled towards the mouth, and with the edges of the segments revolute.

Var. β; leaves all somewhat cordate at the base, smoothish above. ♄. ◡. S. Native of Java, about Linga Jattie, at the foot of Mount Tjerimai, among bushes. Blum. bijdr. p. 678.

Elongated Jasmine. Fl. April, May. Clt. 1820. Shrub cl.

6 J. GLABRIU'SCULUM (Blum. bijdr. p. 679.) subscandent; leaves opposite, rarely alternate, ovate, acuminated, rounded at the base, glabrous, downy on the ribs beneath, as well as the branchlets; cymes terminal, undivided; calycine segments subulate. ♄. ◡. S. Native of Java, about Linga Jattie, among bushes, in the province of Cheribon. Nearly allied to *J. elongàtum*.

Smoothish Jasmine. Fl. year. Shrub cl.

7 J. PUBE'SCENS (Willd. spec. 1. p. 37.) sarmentose, downy; leaves cordate, mucronate, tomentose beneath and on the petioles, at length naked above: the upper ones forming an involucrum round the umbel; umbels terminal, sessile; calyx of 6-8 plumose, filiform segments; segments of corolla 6-9, lanceolate,

cuspidate. ♄. G. Native of the East Indies, in Bengal and Nipaul, but originally from China. Vahl. symb. 1. p. 26. Nyctánthes multiflòra, Burm. fl. ind. p. 5. t. 3. f. 1. Nyct. pubéscens, Retz. obs. 5. p. 9. J. multiflòrum, Andr. rep. 8. t. 496. Nyct. hirsùtum, Lin. spec. p. 8. J. hirsùtum, Lin. syst. p. 56. Smith, exot. bot. 2. p. 117. t. 118. Ker. bot. reg. 51. Sims. bot. mag. 1991. Mogòrium pubéscens, Lam. dict. 4. p. 213.—Rheed. mal. 6. p. 95. t. 54. Flowers large, pure white, fragrant. (f. 10.)

FIG. 10.

Downy Jasmine. Fl. May, Aug. Clt. 1759. Shrub straggling.

8 J. LAURIFÒLIUM (Roxb. fl. ind. 1. p. 91.) climbing, glabrous; leaves ovate-lanceolate, lucid, 3-nerved; flowers axillary and terminal, from 1-5 together, on long pedicels; calycine segments 6-7, filiform: those of the corolla 9-12, linear, length of tube. ♄. ◡. S. Native of the mountains east of Bengal. Ker. bot. reg. t. 521. Flowers white, fragrant.

Laurel-leaved Jasmine. Fl. May, Sept. Clt. 1819. Shrub cl.

9 J. PUNCTA'TUM (Hamilt. herb. ex Wall. cat. no. 2877.) puberulous while young; leaves ovate-lanceolate or oblong-lanceolate, acuminated, feather-nerved, glabrous in the adult state; peduncles terminal, trichotomous; calyx downy, with linear segments; segments of the corolla 8-10, acute; bracteas subulate. ♄. ◡. S. Native of Patna. Flowers white.

Dotted Jasmine. Shrub cl.

10 J. COARCTA'TUM (Roxb. fl. ind. 1. p. 91.) erect, glabrous; leaves oblong, smooth, acute; corymbs terminal, pedunculate, crowded with ternate, nearly sessile flowers, bracteate; calyx 5-cleft. ♄. S. Native of the East Indies, on the hills near Chittagong. May be known from all the other simple-leaved East Indian species by the erect habit, and by the great number of flowers, which form the little dense corymbs.

Coarctate-flowered Jasmine. Fl. April, May. Shrub erect.

11 J. CORDIFÒLIUM (Wall. cat. no. 2858.) leaves broad, ovate-cordate, acuminated, with 3 principal nerves, glabrous in the adult state; flowers terminal, corymbose; corymbs thrice trichotomous, downy: bracteas subulate; calyx campanulate, with subulate segments; segments of corolla 8, elliptic, mucronate. ♄. ◡. S. Native of the East Indies, on the Nelligherry mountains. Flowers white.

Heart-leaved Jasmine. Shrub cl.

12 J. TRINE'RVE (Vahl, symb. 3. p. 2.) climbing, polished, glabrous; leaves ovate-lanceolate, long-acuminated, 3-nerved, polished; flowers axillary and terminal, 1-9 together; calycine segments 6-7, subulate; segments of corolla 6-8, nearly filiform, longer than the tube. ♄. ◡. S. Native of Silhet, in forests. J. acuminàtum, Pers. ench. 1. p. 7. Mogòrium acuminàtum, Lam. ill. p. 23. Flowers large, white, fragrant. Tube of corolla long, widening above the middle.

Three-nerved Jasmine. Fl. Mar. April. Clt. 1804. Sh. cl.

13 J. FINLAYSONIA'NUM (Wall. cat. no. 7126.) leaves ovate, acuminated, 3-5-nerved, glabrous; peduncles axillary, 3-flowered; calycine segments long, subulate. ♄. ◡. S. Native of the East Indies. Plant glabrous.

Finlayson's Jasmine. Shrub cl.

14 J. BRACTEA'TUM (Roxb. fl. ind. 1. p. 92.) twining, villous; leaves ovate-oblong, acute, villous; flowers in bracteate fascicles of 3, 5, or 11; calycine segments from 5-7, subulate; segments of corolla 5-8, oblong, with rounded acuminated tips; stigma entire. ♄. ◠. S. Native of Sumatra and Bencoolen. J. congéstum, Herb. Ham. ex Wall. cat. no. 2874. J. Rottleriànum, Wall. cat. no. 2865.? Flowers numerous, pretty large, white, fragrant, in fascicles embraced by bracteas. Berries black.

Bracteated Jasmine. Fl. April, May. Clt. 1818. Sh. tw.

15 J. BIFA'RIUM (Wall. cat. no. 2866.) branchlets, calyxes, and leaves while young downy; leaves disposed in two rows, ovate-lanceolate, acuminated, mucronate, glabrous in the adult state, on short petioles; peduncles axillary, branch-like, bearing each a head of flowers at top, which is involucrated by 2 large ovate leaves; pedicels short; teeth of calyx 6, subulate; corolla with a long, slender tube: and 6-8 lanceolate segments. ♄. ◡. S. Native of Penang. J. bracteàtum, Roxb. mss.

Bifarious-leaved Jasmine. Shrub cl.

16 J. AMPLEXICAU'LE (Herb. Ham. ex Wall. cat. no. 2875.) glabrous; leaves ovate, acute; peduncles axillary and terminal, 3-flowered: terminal ones corymbose; calycine segments 7, long, subulate; segments of corolla 7, lanceolate, acute. ♄. ◡. S. Native of the East Indies, at Goalpara.

Stem-clasping Jasmine. Shrub cl.

17 J. LATIFÒLIUM (Roxb. fl. ind. 1. p. 93.) twining, smooth; leaves cordate-oblong, pointed, smooth; corymbs trichotomous, diffuse; calycine segments 5-7, subulate; segments of corolla 8-10-12, linear, cuspidate; berries kidney-shaped. ♄. ◠. S. Native of the Circar mountains. Flowers large, white, fragrant.

Broad-leaved Jasmine. Fl. June, July. Clt. 1817. Shrub tw.

18 J. RETICULA'TUM (Wall. cat. no. 2869.) leaves oblong-lanceolate, acuminated, tapering at the base, glabrous in the adult state; flowers terminal, capitate, or corymbose; young branches and calyxes downy; segments of calyx 5, subulate; corolla with a long tube, and 8 linear segments. ♄. ◡. S. Native of the Pundua mountains and Silhet. Nearly allied to *J. arboréscens* and *J. latifòlium*. Heads of flowers bracteate.

Reticulate-leaved Jasmine. Shrub.

19 J. ARBORE'SCENS (Roxb. fl. ind. 1. p. 94.) arborescent; leaves opposite and 3 in a whorl, ovate, downy; flowers numerous, corymb-formed; calycine segments 5-6, subulate, incurved, villous; segments of corolla 10-12, linear, acute. ♄. S. Native of the more elevated parts of Bengal. Nyctánthes grandiflòra, Lour. coch. 21. Young shoots villous. Panicles trichotomous. Flowers large, white, and very fragrant. Very nearly allied to *J. latifòlium*.

Arborescent Jasmine. Clt. 1824. Shrub.

20 J. ANGUSTIFÒLIUM (Vahl, enum. 1. p. 29.) twining, polished; leaves ovate or oblong, smooth, of a shining deep green; flowers generally by threes; calycine segments acute; segments of corolla 8-9, lanceolate; berries single, ovate. ♄. ◠. S. Native of the Coromandel coast. J. vimíneum, Willd. spec. 1. p. 36. Nyctánthes triflòra, Burm. ind. 4. t. 2. J. triflòrum, Pers. ench. 1. p. 7. Nyctánthes vimínea, Retz. obs. 5. p. 9. Nyc. angustifòlia, Lin. spec. 8. Mogòrium triflòrum, Lam. ill. t. 6.—Rheed. mal. 6. p. 93. t. 53. Flowers large, white, with a faint tinge of red, star-shaped, having a peculiar but very pleasant fragrance. Stigma lanceolate. This species, being constantly covered with leaves of a bright shining deep green, sometimes as small as those of box, renders it always beautiful, and particularly well adapted for screening windows, covering arbours, &c. in warm climates.

Narrow-leaved Jasmine. Fl. year. Clt. 1816. Shrub tw.

21 J. TUBIFLÒRUM (Roxb. fl. ind. 1. p. 96.) climbing, glabrous; leaves nearly sessile, ovate-oblong, smooth; flowers from 3-5 together, on short peduncles; calycine segments 7-8, subulate, one-sixth the length of the very long slender tube of the corolla; segments of corolla 7-8, lanceolate; three times shorter than the tube; berries ovate. ♄. ◡. S. Native of the Malay Archipelago.

Tube-flowered Jasmine. Shrub cl.

22 J. CUSPIDA'TUM (Willd. act. am. N. C. berol. 4. p. 192.) climbing, glabrous; leaves ovate-lanceolate, attenuated at both ends, mucronate, on short petioles; peduncles axillary, 1-flowered: and terminal, 3-flowered. ♄. ◡. S. Native of the East Indies. J. mucronàtum and J. glaúcum, Herb. madr. Leaves stiff, almost 3-nerved. Calyx campanulate, with subulate segments. Segments of corolla 5-7, lanceolate, acute. Very nearly allied to *J. Sámbac*.

Cuspidate-leaved Jasmine. Shrub cl.

23 J. GUINEE'NSE; leaves simple, glabrous; flowers terminal. ♄. ◡. S. Native of Guinea, at Cape Coast, common among bushes. Flowers white, fragrant. Calyx toothed or cleft. ?

Guinea Jasmine. Shrub cl.

24 J. TRICHÓTOMUM (Heyne, ex Roth, nov. spec. p. 6.) leaves ovate-lanceolate, glabrous above, and clothed with rusty tomentum beneath; corymbs terminal, trichotomous, compound, pilose; calyx campanulate, about equal in length to the erect segments. ♄. ◡. S. Native of the East Indies. Calyx 6-8-cleft. Corolla usually 6-cleft, with linear-lanceolate segments.

Trichotomous Jasmine. Shrub tw.

25 J. UNDULA'TUM (Vahl, enum. 1. p. 27.) leaves oblong-cordate, shining; branches and peduncles hairy; peduncles usually 3-flowered; calycine segments setaceous; segments of corolla 8, oblong. ♄. ◡. G. Native of China. Ker. bot. reg. 436. J. Heyneànum, Wall. cat. no. 2865. Nyctánthes undulàta, Lin. spec. p. 8. syst. p. 56. Peduncles trichotomous, 3 or many-flowered. Flowers white. Perhaps only *J. pubéscens*, Lin.

Waved-leaved Jasmine. Fl. Jan. Clt. 1819. Shrub cl.

26 J. MONTA'NUM (Roth. nov. spec. p. 5.) leaves subcordate, obtuse, glabrous; young branches, petioles, peduncles, and calyxes hairy; corymbs terminal, trichotomous; calyx sub-campanulate: with erect, linear, obtuse segments; segments of corolla lanceolate, 8 in number, acuminated. ♄. ◡. S. Native of the East Indies. Flowers white. Berries globose, black, size of a pea.

Mountain Jasmine. Shrub cl.

27 J. MULTIFLÒRUM (Roth. nov. spec. p. 6.) leaves ovate, acuminated. and are, as well as the young branches, pilose; panicles lateral and terminal, elongated, corymbose, fastigiate; calyx campanulate, with reflexed segments; peduncles and calyxes hairy. ♄. ◡. S. Native of the East Indies. Peduncles naked, 3-6-flowered. Corolla 8-cleft, with lanceolate segments.

Many-flowered Jasmine. Shrub cl.

28 J. LANCEOLA'TUM (Ruiz et Pav. fl. per. 1. p. 6. t. 7. f. a.) erect, simple; leaves lanceolate-elliptic, nearly sessile, reflexed at the points; peduncles axillary and terminal, 1-flowered; corolline segments oblong-obovate. ♄. G. Native of Peru, in the woods of Puzuzo. Flowers white, tinged with purple.

Lanceolate-leaved Jasmine. Shrub 2 feet.

29 J. SESSILIFLÒRUM (Vahl, enum. 1. p. 29.) climbing, glabrous, much branched; leaves oblong-ovate, acute, shining; flowers terminal, sessile, by threes; segments of corolla 6, lanceolate, acute. ♄. ◡. S. Native of the East Indies. Leaves veiny above and veinless beneath. Flowers white.

Sessile-flowered Jasmine. Shrub cl.

30 J. GLAU'CUM (Vahl, enum. 1. p. 30.) climbing, glabrous; leaves lanceolate, mucronate, shining; calycine segments 5, subulate; corolla 6-7-cleft; peduncles terminal, usually 3-flowered. ♄. ◡. G. Native of the Cape of Good Hope. Vent. cels. t. 55. Thunb. fl. cap. 1. p. 42. J. rivulàre, Sal. stirp. rar. 15. t. 8. Nyctánthes glaúca, Lin. suppl. p. 82. Mogòrium myrtifòlium, Lam. ill. 1. p. 23. and J. ligustrifòlium, Lam. ill. 1. t. 25.—Comm. pl. rar. t. 5. f. 5. Panicle simple and compound, trichotomous. Corollas white, larger than those of *J. officinàle*.

Glaucous Jasmine. Fl. Aug. Clt. 1774. Shrub cl.

* * *Leaves simple. Calyx toothed.*

31 J. GLANDULÒSUM (Wall. cat. no. 2849.) glabrous; leaves ovate, acuminated; calyx tubular, 8-toothed; segments of corolla 8, lanceolate-linear, acuminated; bracteas setaceous; peduncles axillary, 3-flowered; flowers pedicellate. ♄. ◡. G. Native of Nipaul, on Sheopore. Corolla white.

Glandular Jasmine. Shrub cl.

32 J. OBLÓNGUM (Burm. ind. 4. t. 3. f. 2.) branches simple; leaves oblong, mucronate, glabrous; peduncles axillary, 1-flowered. ♄. ◡. S. Native of Java. Vahl, enum. 1. p. 29. Flowers yellow, smaller than those of *J. odoratíssimum*. Perhaps the same as *J. simplicifòlium*.

Oblong-leaved Jasmine. Shrub cl.

33 J. ACUMINA'TUM (R. Br. prod. p. 521.) leaves ovate, acuminated, glabrous; petioles 5-6 times longer than the superior joint; calyx campanulate, with very short teeth. ♄. ◡. S. Native of New Holland, within the tropic. Lindl. bot. reg. t. 1296. Panicles terminal, trichotomous, corymbose. Flowers white. Corolla 6-parted, with ovate segments.

Acuminate-leaved Jasmine. Fl. Nov. Clt. 1820. Shrub cl.

34 J. MO'LLE (R. Br. prod. p. 521.) leaves ovate, acute, or acuminated, downy, very soft beneath; peduncles terminal, trichotomous; teeth of calyx very short. ♄. ◡? G. Native of New Holland, within the tropic.

Soft Jasmine. Shrub cl.

35 J. CRASSIFÒLIUM (Blum. bijdr. p. 679.) scandent; young branchlets beset with glandular hairs; leaves alternate: floral ones for the most part opposite, oval, acute, triple-nerved, shining, of the consistence of parchment; peduncles axillary and terminal, crowded, 3-5-flowered; pedicels long; calyx tubular, obsoletely 5-toothed. ♄. ◡. S. Native of the western provinces of Java, in woods on the mountains.

Thick-leaved Jasmine. Fl. year. Shrub cl.

36 J. SIMPLICIFÒLIUM (Forst. prod. 3. no. 7. Vahl, enum. 1. p. 27. Willd. spec. 1. p. 39.) shrubby, spreading, glabrous; leaves oblong, polished; flowers from 3 to many, terminal; calyx campanulate, with a 5-toothed border; segments of corolla from 6-8, linear, acute, equalling the tube in length. ♄. S. Native of the Friendly Islands, and the Eastern Archipelago. Sims, bot. mag. t. 980. J. austràle, Pers. ench. 1. p. 8. Flowers terminal, from 3 to a decussate panicle, having its ramification trifid. Bracteas small, subulate. Corollas white, fragrant.

Simple-leaved Jasmine. Fl. June, July. Clt. 1808. Sh. cl.

37 J. LÆ'TUM (Wall. cat. no. 2859.) branches, calyxes, and young leaves downy; leaves ovate, acuminated, almost glabrous in the adult state; corymbs terminal, trichotomous; bracteas and calycine teeth subulate; calyx 7-toothed; segments of corolla 7, lanceolate, acute. ♄. ◡. S. Native of the Burman empire, in Pantang Creek on the Irrawaddy; and at Amherst, on the Martaban. Flowers white.

Pleasant Jasmine. Shrub cl.

38 J. GRA'CILE (Andr. rep. 127. R. Br. prod. p. 521.) twining, glabrous; leaves ovate, shining; calyx short, campanulate, with very short teeth. ♄. ◡. G. Native of New Holland, within the tropic, of New South Wales, Norfolk Island, and the islands in the South Seas. J. geniculàtum, Vent. choix, t. 8. J. lùcidum, herb. Banks, Poir. suppl. 3. p. 132. Peduncles terminal; pedicels 3, 1-flowered. Calyx 5-toothed. Corolla white, 5-8-cleft, fragrant; segments linear.

Slender Jasmine. Fl. year. Clt. 1791. Shrub cl.

39 J. HAMILTÒNII; leaves elliptic, acuminated, glabrous, shining; peduncles terminal, solitary, trichotomous, 3-flowered; calycine teeth short, subulate; limb of corolla 8-10-parted, with linear, obtuse segments. ♄. ◡. G. Native of Upper Nipaul, at Suembu. Mogòrium dichótomum, Hamilt. mss. J. dichótomum, D. Don, prod. fl. nep. p. 105. but not of Vahl.

Hamilton's Jasmine. Shrub cl. ?

40 J. VOLU'BILE (Jacq. hort. schœnbr. 3. t. 321. fragm. t. 44. f. 2.) twining, glabrous; leaves ovate, or ovate-lanceolate, glabrous; panicle terminal; calyx 4-6-toothed; corolla 6-8-cleft. ♄. ⌒. G. Native of the Cape of Good Hope. Peduncles many-flowered. Berries blue.

Twining Jasmine. Shrub tw.

41 J. DECUSSA'TUM (Wall. cat. 2860.) branches villous; leaves broad-ovate, acuminated, somewhat cordate at the base, downy on both surfaces, but especially beneath and on the nerves above; petioles short, villous; corymbs terminal, villous, trichotomous; calyx with a short tube, and subulate teeth; segments of corolla 6-8, linear-lanceolate, acuminated. ♄. S. Native of the Burman Empire, on the banks of the Martaban, at Amherst. Flowers white. Divisions of calyx between teeth and segments, like those of the following species.

Decussate-leaved Jasmine. Shrub erect?

42 J. SYRINGÆFÒLIUM (Wall. cat. no. 2861.) glabrous; leaves lanceolate or ovate-lanceolate, acuminated; peduncles trichotomous, axillary and terminal, corymbose; calyx campanulate, with 6 subulate teeth; segments of corolla lanceolate-linear, acute, 5-7. ♄. ◡. S. Native of the Burman empire at Amherst, on the banks of the Martaban, and at Tavoy.

Lilac-leaved Jasmine. Shrub cl.

43 J. DICHÓTOMUM (Vahl, enum. 1. p. 26.) climbing, glabrous; leaves ovate, quite glabrous; panicles di-trichotomous; calyx sub-campanulate, with subulate teeth. ♄. ◡. S. Native of Guinea. Corolla an inch long, white, sweet-scented. Berries blue.

Dichotomous Jasmine. Shrub cl.

44 J. HEYNEA'NUM; glabrous; leaves ovate-roundish, acuminated; peduncles axillary and terminal, trichotomous; calyx obsoletely 5-toothed; segments of corolla acute; berries twin, on clavate pedicels; bracteas minute. ♄. ◡. S. Native of the East Indies. J. undulàtum, Heyne, herb. ex Wall. cat. 7125. but not of Vahl. Flowers white.

Heyne's Jasmine. Shrub cl.

45 J. EXTE'NSUM (Wall. cat. no. 2862.) glabrous; leaves ovate-lanceolate or elliptic-oblong, bluntly acuminated, mucronate; corymbs terminal, trichotomous; calyx campanulate, with at first almost obsolete teeth, but which increase in size as well as the pedicels, as the fruit comes to maturity; segments of corollas oblong-lanceolate, mucronate. ♄. ◡. S. Native of the Burman empire, on Mount Taong Dong. Flowers white.

Extended Jasmine. Shrub cl.

46 J. ATTENUA'TUM (Roxb. herb. beng. ex Wall. cat. no. 2864.) glabrous; leaves oblong-lanceolate, coriaceous, with revolute edges, acuminated; peduncles axillary and terminal, forming a loose, terminal panicle; calyx campanulate, with short teeth; segments of corolla 5, lanceolate, acuminated. ♄. ◡. S. Native of Silhet. Leaves 5-6 inches long and 2-3 broad. The *J. lanceolàtum*, Roxb. fl. ind., is a variety of this, according to Wall. cat. l. c. Flowers white.

Attenuated-leaved Jasmine. Shrub cl.

* * * *Leaves ternate, opposite.*

47 J. AURICULA'TUM (Vahl, symb. 3. p. 1. enum. 1. p. 30.) leaves ternate, but those of the branchlets and flowers are simple; lateral leaflets small; calyx angular, with 5 minute gland-like teeth, and is, as well as the branchlets, which are terete, downy; corolla 7-cleft. ♄. ⌒. G. Native of the Isle of France and Malabar. Ker. bot. reg. 264. J. trifoliàtum, Pers. ench. 1. p. 7. Mogòrium trifoliàtum, Lam. ill. 1. p. 24. The whole shrub is clothed with greyish down. Panicle fastigiate; peduncles trichotomous. Calycine segments obtuse. Segments of corolla 5-8, ovate, obtuse, oblong. Berries globular. Flowers small, white, disposed in trichotomous corymbs. Stigma clavate.

Auricled-leaved Jasmine. Fl. Ju. Sept. Clt. 1790. Sh. tw.

48 J. FLE'XILE (Vahl, symb. 3. p. 1. enum. 1. p. 31.) climbing, glabrous; leaflets ovate-oblong, acuminated; racemes axillary, brachiate; calyx campanulate; with 5-6 minute, ovate teeth; segments of corolla 7, shorter than the tube. ♄. ◡. S. Native of the East Indies, and the Mauritius. J. Mauritiànum, Hort. J. Travancorénse, Herb. madr. Petioles twisted. Peduncles spreading, longer than the leaves; partial ones 3-flowered. Corolla with a very long tube.

Bent-petioled Jasmine. Fl. April, May. Clt. 1825. Sh. cl.

49 J. TORTUÒSUM (Willd. enum. hort. berol. 1. p. 10.) twining, glabrous; leaflets lanceolate, mucronate: odd one the largest; branches downy. ♄. ⌒. G. Native of the Cape of Good Hope. J. fléxile, Jacq. hort. schœnbr. 4. p. 46. t. 490. Leaves glabrous, but not shining, with a few hairs on the mid-rib beneath. Petioles downy. Corolla white, with lanceolate segments.

Twisted Jasmine. Fl. May, July. Clt. 1818. Shrub tw.

50 J. TRIFOLIA'TUM (Telfair, mss. ex Wall. cat. no. 2890.) branches, peduncles, petioles, and calyxes downy, as well as the leaves, in the young state; leaves alternate, trifoliate; leaflets ovate-roundish, obtuse: middle one on a longer petiole than the rest, glabrous in the adult state; peduncles terminal and axillary, trichotomous, corymbose; calyx 5-toothed; segments of corolla 7-8, oblong-lanceolate, obtuse. ♄. ◡. S. Native of the Mauritius. Bracteas of 2 forms: upper ones subulate.

Trifoliate Jasmine. Shrub cl.?

51 J. NOCTIFLÒRUM (Afz. ex Spreng. syst. 1. p. 31.) leaflets ovate-oblong, acuminated, 3-nerved, glabrous; peduncles by threes, 3-flowered, terminal; calyx denticulated. ♄. ◡. S. Native of Sierra Leone.

Night-flowering Jasmine. Shrub cl.

52 J. AZO'RICUM (Vahl, enum. 1. p. 31.) leaflets ovate and subcordate, undulated; branches terete; calyx campanulate; segments of corolla 5, equal in length to the tube. ♄. ⌒. G. Native of the Azores, and Madeira. Sims, bot. mag. 1889. Ker. bot. reg. 89. J. trifoliàtum. Mœnch. Nyctánthes Azòrica, Lin. spec. 1. p. 9.—Comm. hort. 1. p. 159. t. 82. Flowers white.

Azorian Jasmine. Fl. May, Nov. Clt. 1724. Shrub tw.

53 J. CAPE'NSE (Thunb. prod. p. 2. fl. cap. 1. p. 41. Vahl, symb. 3. p. 32.) branchlets angular, and are, as well as the petioles and leaves glabrous; leaflets ovate, sub-retuse, with an acumen; peduncles axillary, 3-flowered, shorter than the leaves; calyx tubular. ♄. G. Native of the Cape of Good Hope. J. angulàre, Willd. spec. 1. p. 38. Branches tetragonal. Leaves glabrous; margins of petioles pilose. Panicles terminal, trichotomous. Calyx 5-6-toothed, short; teeth short. Segments of corolla 6-7, much shorter than the tube.

Cape Jasmine. Fl. April, July. Clt. 1816. Shrub 5 feet.

54 J. DÍDYMUM (Forst. prod. no. 8. Vahl, symb. 3. p. 2.) leaflets ovate-lanceolate; racemes downy, axillary; integument of seed reticulated and chinky. ♄. G. Native of the Society Islands. Glabrous. Leaves 2 inches long, obscurely veined. Peduncles length of petioles. Calyx short, campanulate, with minute teeth.

Didymous-fruited Jasmine. Shrub.

55 J. LINEA'RE (R. Br. prod. p. 521.) leaves nearly opposite, downy; leaflets linear, acute; branches terete; panicles axillary, trichotomous. ♄. ◡. G. Native of New Holland, on the south coast.

Linear-leaved Jasmine. Shrub cl.

56 J. DIVARICA'TUM (R. Br. prod. p. 521.) glabrous in every part; leaflets sub-ovate; teeth of calyx obsolete; integument of seed imperforated. ♄. ◡. G. Native of New Holland, within the tropic. Lindl. bot. reg. 1291.

Divaricate Jasmine. Shrub cl.

57 J. CAMPANULA'TUM (Link, jahrb. 1. 3. H. p. 30. enum. 1. p. 32.) leaflets oval, acuminated, apiculated, glabrous; calyx campanulate, glabrous, with very short segments; panicle close; branches terete, and are, as well as the petioles, downy.

ħ . ◠. S. Native of? Leaflets unequal at the base, somewhat repand, having the veins confluent near the margin.

Campanulate-calyxed Jasmine. Clt. 1822. Shrub cl.

58 J. LANCEOLA'RIA (Roxb. fl. ind. 1. p. 97.) erect; leaves ternate; leaflets lanceolate; corymbs terminal. ħ . F. Native of Silhet, in the jungles and coppices.

Lanceolate Jasmine. Clt. 1826. Shrub erect.

59 J. PANICULA'TUM (Roxb. fl. ind. 1. p. 97.) erect, polished in every part; leaves ternate; leaflets oval, bluntly acuminated; panicles terminal. ħ . G. Native of China. Lodd. bot. cab. 469. Flowers small, white, numerous.

Panicled Jasmine. Fl. Jan. Clt. 1818. Shrub.

60 J. DISPE'RMUM (Wall. in Roxb. fl. ind. 1. p. 99. pl. asiat. rar. 3. t. 274.) scandent, glabrous; leaves opposite, pinnate, rarely ternate; leaflets 5, rarely 3, ovate-oblong or ovate-lanceolate, acuminated, cordate at the base, 3-5-nerved; corymbs terminal and lateral, brachiate; calyx campanulate, with subulate teeth; segments of corolla 5, oblong, lanceolate, obtuse; berries twin, 2-seeded. ħ . ◡. G. Native of Nipaul, where it is called *Goojee-soah*, as well as of Kamaon and Sirmore. J. latifòlium, Hamilt. mss. J. quinquenérve, Lamb. herb. Branches angular. Leaves membranous; lateral leaflets smaller. Flowers large, fragrant, white, with opposite subulate bracteas at their base. Pedicels short. Berries twin, 2-seeded.

Two-seeded Jasmine. Clt. 1825. Shrub cl.

* * * * *Leaves ternate, alternate.*

61 J. FRU'TICANS (Lin. spec. 1. p. 9. syst. ed. 14. Vahl, enum. 1. p. 33.) leaves alternate, ternate, and simple; leaflets obovate or cuneiform, obtuse; branches angular; calycine segments subulate. ħ . H. Native of the south of Europe, and throughout the Levant. Curt. bot. mag. 13. t. 461. Schmidt, æst. baumz. 3. t. 148. J. heterophýllum, Mœnch,—Lob. adv. p. 389. f. 390. Leaves glabrous. Peduncles terminal by threes. Corolla yellow: with oblong, obtuse segments. This *jasmine* is often planted against walls, pales, &c. It, however answers better for shrubberies than the common *jasmine*.

Shrubby Jasmine. Fl. May, Oct. Clt. 1570. Sh. 10 to 12 ft.

62 J. HU'MILE (Lin. spec. 1. p. 9. Vahl, enum. 1. p. 33.) leaves alternate, acute, ternate and pinnate; branches angular; calycine segments very short. ħ . H. Native of Madeira. Ker. bot. reg. t. 350.—Besl. eyst. 40. f. 2.—Knor. thes. 1. t. 1.—Schmidt, æstr. baumz. t. 149. Plant glabrous. Peduncles terminal, twin, or tern, 3-flowered. Corolla yellow: with oblong, obtuse segments.

Humble or Italian Yellow Jasmine. Fl. Ju. Sept. Clt. 1656. Sh. erect, 3 to 4 feet.

63 J. ODORATÍSSIMUM (Lin. spec. p. 10. Vahl, enum. 1. p. 33.) leaves alternate, bluntish, ternate, and pinnate; branches terete; calycine segments very short. ħ . ◡. H. Native of Madeira. Curt. bot. mag. 8. t. 285.—Barr. icon. t. 62. Plant glabrous. Peduncles terminal, by threes, 3-flowered. Corolla yellow: with 5 oblong, obtuse segments. (f. 11.)

Very sweet-scented or Indian Yellow Jasmine. Fl. July, Sept. Clt. 1656. Shrub cl.

FIG. 11.

64 J. HETEROPHY'LLUM (Roxb. fl. ind. 1. p. 99. and 164.) arboreous; leaves alternate, simple, or ternate, oblong-elliptic or broad-ovate, acuminated, waved, lucid, firm, glabrous; panicles terminal, trichotomous, fastigiate, corymbose, downy; calyx urceolate, with short, subulate teeth; segments of the corolla oblong, equal to the tube in length. ħ . H. Native of Nipaul, where it is called *Goojee* and *Javana*. Wall. pl. asiat. rar. 3. t. 275. J. arbòreum, Hamilt. mss. This species grows to a middle-sized tree, with long, terete branches, which have a tendency to become rambling. Leaves varying in size and form. Flowers very numerous, yellow, fragrant.

Various-leaved Jasmine. Fl. Jul. Aug. Clt. 1820. Tr. middle-sized.

65 J. CALLOPHY'LLUM (Wall. cat. no. 2889.) glabrous; leaves alternate, trifoliate, on long petioles; leaflets roundish-ovate, and ovate-lanceolate, shining, acuminated and mucronate, on long petiolules; peduncles terminal, compound, trichotomously branched, with almost sessile flowers in the extreme forks, somewhat racemose; calyx slightly 5-toothed; segments of corolla 5, acute, oblong-lanceolate. ħ . ◡. S. Native of the East Indies, on the mountains of Madura. Bracteas small, setaceous. Flowers white.

Beautiful-leaved Jasmine. Shrub cl.

* * * * * *Leaves pinnate, opposite.*

66 J. OFFICINA'LE (Lin. spec. 1. p. 9. Vahl, enum. 1. p. 34.) leaves opposite, pinnate; leaflets ovate, acuminated; buds erectish. ħ . ◡. H. Native of the south of Europe, in hedges. Curt. bot. mag. 1. t. 31. Lam. ill. t. 7. f. 1.—Bull. herb. t. 231.—Schmidt, æstr. baumz. 3. t. 150. Plant glabrous. Branches angular. Calycine segments 5, subulate. Corolla white, 4-5-cleft, sweet-scented. Terminal leaflet the longest. The common *jasmine* has been a favourite wall shrub from time immemorial. Its native country, as well as the date of its introduction, are unknown. Gerarde, in 1597, says it was in common use for covering arbours. There are golden and silver-edged-leaved varieties of the common jasmine, as well as a double-flowered variety.

Common Jasmine. Fl. June, Oct. Clt. 1548. Shrub cl.

67 J. GRANDIFLÒRUM (Lin. spec. 1. p. 9.) leaves opposite, pinnate; leaflets bluntish, outer 3-5 confluent; buds horizontal. ħ . ◡. S. Native of the East Indies. Ker. bot. reg. 91. J. Hispánicum, Hort.—Rheed. mal. 6. t. 52.—Merian. sur. t. 46.—Knor. thes. 1. t. 1. Very like *J. officinàle*, but differs in the equal size of the leaflets, and in the exterior ones being confluent, and in the flowers being larger, and rddish underneath.

Great-flowered or Catalonian Jasmine. Fl. June, Oct. Clt. 1629. Shrub cl.

68 J. AU'REUM (D. Don, prod. fl. nep. p. 106.) leaves opposite; leaflets 9-11, ovate, acute, almost sessile, 3-nerved, glabrous; panicles terminal and lateral, few-flowered, glabrous; branches 5-angled, glabrous. ħ . H. Native of Nipaul. Flowers yellow.

Golden-flowered Jasmine. Shrub.

69 J. BIGNONIA'CEUM (Wall. cat. no. 2886.) leaves opposite, pinnate; leaflets small, oblong, or oblong-obovate, or attenuated at both ends, glabrous: odd one usually acuminated; peduncles aggregate, 3-flowered, terminal; corolla funnel-shaped, with roundish-reniform short segments; calyx 5-toothed. ħ . G. Native of the Nellighery mountains, where it was collected by Noton. The leaflets are sometimes binate.

Bignonia-like Jasmine. Shrub.

* * * * * * *Leaves pinnate, alternate.*

70 J. NERVÒSUM (Lour. coch. p. 29.) scandent, glabrous; leaves pinnate; leaflets ovate, acuminated, 3-nerved, shining; calycine segments 5-8, subulate; segments of corolla 5-8, oblong, obtuse. ħ . ◡. H. Native of Cochinchina, in hedges. Flowers white, scentless. Branches terete. Flowers terminal.

Nerved-leaved Jasmine. Shrub cl.

71 J. revolu'tum (Ker. bot. reg. 178. Sims, bot. mag. 1731.) erect; leaves alternate, pinnate; leaflets 5-7, ovate-lanceolate, or elliptic, glabrous, on short petiolules; corymbs terminal, compound; calycine teeth very short, mucronate; branches angular, glabrous. ♄. F. Native of the mountainous countries north of Hindostan, and of Nipaul, &c. Lodd. bot. cab. 966. J. chrysánthemum, Roxb. fl. ind. 1. p. 93. Leaves shining. Flowers bright yellow, very fragrant. Segments of corolla 5, obtuse. Stigma clavate.

Revolute-leaved Jasmine. Fl. May, Oct. Clt. 1812. Sh. cl.

72 J pubígerum (D. Don, prod. fl. nep. p. 106.) leaves alternate, pinnate; leaflets 7, ovate-lanceolate or oblong, acuminated, sessile, downy while young; branches angular, downy; peduncles elongated, 1-flowered, terminal, sub-corymbose, downy; teeth of calyx short; segments of corolla 5-6, obtuse. ♄. F. Native of Nipaul, where it is called *Chimali-swa*. J. Wallichiànum, Lindl. bot. reg. t. 1409. Terminal leaflet longer and more attenuated than the lateral ones. Flowers yellow, smaller than those of *J. revolùtum*, to which it is very nearly allied.

Pubigerous Yellow Jasmine. Fl. May, Oct. Clt. 1827. Sh. cl.

Cult. The hardy species of *Jasmine* are well adapted for training against walls or trellis work; they will grow in any common soil, and are easily increased by ripe cuttings planted under a hand-glass. The greenhouse kinds grow freely in a mixture of loam, sand, and peat, and ripened cuttings are easily struck in the same kind of soil, or in sand, under a hand-glass, in a little heat.

II. NYCTA'NTHES (from *νυξ, νυκτος, nux, nuctos*, night; and *ανθος, anthos*, a flower; in allusion to the flowers opening at the approach of night, and falling off at the break of day; hence the name *árbor trístis*, which is given to the species.) Lin. gen. no. 21. Juss. 104.—Parílium, Gærtn. t. 51.—Scabrìta, Schreb. no. 154. Gærtn. 1. t. 138.

Lin. syst. *Diándria, Monogynia*. Calyx campanulate, slightly 5-toothed. Corolla salver-shaped. Stigma capitate, glandular. Capsule superior, obcordate, compressed, 2-celled, 2-valved; cells 1-seeded. Embryo erect, without albumen.—An erect, spreading shrub, with opposite simple leaves, and large terminal panicles of flowers

1. N. a'rbor-trístis (Lin. spec. p. 8. syst. 56.) ♄. S. Native of the East Indies. Ker. bot. reg. 399. Parílium árbor trístis, Gærtn. sem. 1. p. 234. t. 51. Scabrìta scàbra, Lin. syst. 115. ed. 12; Gærtn. fruct. 2. p. 265. t. 138. Scabrìta triflòra, Lin. mant. 1. p. 37. Mánga pùmerum, Rheed. mal. 1. p. 35. t. 21. Sephálica Asiat. res. 4. p. 244. Branches tetragonal. Leaves on short petioles, cordate, acuminated, entire, or coarsely serrated, scabrous. Inflorescence a large terminal, leafy, cross-armed panicle, composed of small, 5-flowered, terminal umbellets. Flowers numerous, middle sized, exquisitely fragrant, open at sunset, and fall off at sunrise. Involucra of the umbellets 4-leaved. Corolla with an orange-coloured tube, and a white border; segments of the limb 6-7, twisted, triangular, or obliquely lobed, having the outer margin scolloped. The flowers of this tree are exquisitely fragrant, partaking of the smell of fresh honey, and on that account the plant is much esteemed; for when destitute of flowers, it has but an indifferent appearance. The orange tubes of the flowers dye a most beautiful buff or orange colour, with the various shades between them, according to the preparation and mode of conducting the operation; but, unfortunately, no way has yet been discovered of rendering this elegant colour durable.

Sad-Tree. Fl. July. Clt. 1781. Tree 10-18 feet.

Cult. This tree grows freely in loam and peat, but seldom produces flowers in England. Cuttings, not too ripe, root readily in sand, under a hand-glass, in heat.

Order CL. STRYCHNA'CEÆ (this order only contains the genus *Strýchnos.*) Strýchneæ.

Calyx 4-5-parted. Corolla funnel-shaped; with a cylindrical tube, and a 4-5-parted border; segments narrow, imbricate in æstivation. Stamens 4-5; filaments very short; anthers subsagittate or oblong. Ovarium superior, 2-celled; ovula numerous, attached to fleshy receptacles down to the middle of the partition. Berries large, 2-celled, but in the more advanced state only 1 cell can be detected; covered by a hard, brittle rind. Seeds few, or numerous, flattened, peltate, broad, nestling in gelatinous pulp; integument double. Embryo straight, furnished with albumen, having the radicle pointing to the hilum, centripetal; and the cotyledons often 3-nerved.

Shrubs erect or rambling, either with or without tendrils. Leaves opposite, 3-nerved, or triple-nerved, rarely feather-nerved. Flowers small, white, or greenish white, disposed in terminal and axillary pedunculate corymbs. The well-known *Nux-vomica*, and the Clearing-nut of the East Indies, are species of *Strýchnos:* the fruit is remarkable for its bitterness, and acrid deleterious effects, which are indicated, not only when introduced into the stomach, but still more violently when introduced into the system by inoculation.

Synopsis of the genera.

1 Stry'chnos. Calyx 5-parted. Corolla funnel-shaped. Stamens 5, on short filaments, inserted in the top of the tube. Berry 1-2 celled. Seeds nestling in the pulp, flat, peltate.—Leaves 3 or triple-nerved.

2 Picrophlœ'us. Calyx 5-parted. Corolla funnel-shaped. Stamens 5, short, inserted at the base of the corolla. Berry 2-celled, many-seeded. Seeds variously angled.—Leaves veiny.

3 Cyrtophy'llum. Calyx 5-parted. Corolla funnel-shaped. Stamens 5, exserted, inserted in the upper part of the tube. Berry 2-celled, many seeded. Seeds peltate.

4 Lasióstoma. Calyx 4-parted. Corolla with a short tube, and a 4-cleft limb; lobes villous. Stamens 4, exserted, inserted in the tube. Capsule 1-celled, ex Kunth, 2-celled, ex Meyer, 1-2-seeded. Seeds convex on one side, and flat on the other.—Leaves triple-nerved.

5 Gardne'ria. Calyx 4-toothed. Corolla rotate, with a short tube, and a 4-parted limb. Stamens 4, inclosed. Berry 2-celled, 2-seeded. Seeds orbicular, compressed.—Leaves feather-nerved.

I. STRY'CHNOS (*στρυχνος* is the Greek name of Solanum, applied to this genus by Theophrastus.) Lin. gen. no. 253. Gærtn. fruct. 2. p. 476. t. 179. Juss. gen. 149. R. Br. prod. p. 469. Ignàtia, Lour. coch.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla tubular, funnel-shaped: with a 5-parted, spreading limb, valvate in æstivation. Stamens 5, inserted in the throat of the corolla. Ovarium 2-celled, many-seeded. Style one; stigma capitate. Berry globose, pulpy inside, with a crustaceous rind. Seeds fixed to a central placenta, peltate, with copious albumen. Embryo foliaceous, with a common radical.—Non-lactescent

trees or shrubs. Leaves opposite, usually nerved. Flowers corymbose.

* *Tendrils none.*

1 S. Nu'x-Vómica (Lin. spec. 271.) leaves 3-5-nerved, oval, shining; berries many-seeded. ♄. S. Native of the coast of Coromandel. Woodv. med. bot. 2. p. 29. t. 223. Church. et Stev. med. bot. 2. t. 52. Roxb. cor. 1. p. 8. t. 4. Gærtn. fruct. t. 179. f. 7. Hayne, darst. t. 17. Plenck, icon. 117. Canìram, Rheed. mal. 1. p. 67. t. 37. Blackw. t. 395. Canìram vomiquier, Pet. Th. dict. sc. no. 1. Colubrini ligni tertium, genus in Malabar, Bauh. pin. p. 301. The tree is called *Koochila* by the Bengalese, and *Musadi* by the Telingas. Leaves smooth, shining, from $1\frac{1}{2}$ to 4 inches long. Stipulas wanting. Flowers small, greenish white, collected into terminal corymbs. Anthers half within the tube, and half out. Berry round, smooth, size of a pretty large apple, orange-coloured, when ripe. The wood of this tree being hard and durable, is used for many purposes by the natives. It is exceedingly bitter, particularly that of the root, which is used to cure intermitting fevers, and the bite of venomous snakes, when that of Naga-Musadi, the *S. colubrìna*, cannot be had. The seeds are employed in the distillation of country spirits, to render them more intoxicating. The pulp of the fruit seems perfectly innocent, as it is greedily eaten by many sorts of birds.

Nux Vomica is one of the narcotic acrid class of poisons, and seems to have a direct power over the spinal cord. It produces laborious perspiration, which is followed by torpor, trembling, coma, convulsions, and death. M. Drapiez has ascertained, by numerous experiments, that the fruit of *Feuillea cordifòlia* is a powerful antidote against this, and other vegetable poisons. For a century *Nux Vomica* has been known as a powerful medicine, and is employed in a vast variety of diseases, with different degrees of success. M. Majendie discovered that the plant possessed the singular effect of strongly affecting the spinal marrow, without affecting, except indirectly, the function of the brain; and it was conjectured by him, that it might be turned to advantage in the cure of diseases. This conjecture has since been amply confirmed. M. Majendie, ignorant of Dr. Fouquier's published cases, succeeded in curing persons of paralysis; and has since given the alcaholic extract of *Nux Vomica*, not merely to palsies, both partial and general, but also to various other kinds of local and general debility. Strychnine is a preparation of *Nux Vomica*.

Vomit-Nut, or Poison Nut. Clt. 1788. Tree middle-sized.

2 S. potatòrum (Lin. spec. p. 227.) leaves opposite, from ovate to oval, glabrous, pointed; bark deeply cracked; berries 1-seeded. ♄. S. Native of the East Indies, in mountains and woods of great extent. Lin. suppl. p. 148. Roxb. cor. 1. p. 9. t. 5. Strýchnos Téttan-cótta, Retz. obs. 2. p. 12. Gærtn. fruct. 2. p. 477. t. 179. Canìram Tìtan-cótta, Pet. Th. dict. des. sc. no. 2. The Hindoo and Bengalese name of the tree is *Nirmulee;* it is called *Induga* by the Telingas, and *Tettan-Kotta* by the Tamuls. The leaves cannot be either said to be 3-nerved or triple-nerved. Stipulas connecting. Corymbs from the tops of the last year's shoots, round the base of the present year's, bearing, in a ternary order, many small, greenish yellow, fragrant flowers. Berry shining, black when ripe. The wood of this, like that of the former, is hard and durable, and is used for various economical purposes. The pulp of the fruit, when ripe, is eaten by the natives, although not very agreeable to Europeans. The ripe seeds are dried, and sold in every market, to clear muddy water. The natives never drink clear well-water, if they can get pond or river water, which is always more or less impure. One of the seeds is well rubbed, for a minute or two, round the inside of the vessel containing the water, generally an unglazed earthen one, which is then left to settle; in a very short time the impurities fall to the bottom, leaving the water clear, and perfectly wholesome. These seeds are generally carried about by the more provident part of our officers and soldiers, in time of war, to enable them to purify their water. They are easier to be obtained than alum, and are probably less hurtful to the constitution.

Drinkers' Strychnos or Clearing Nut. Clt. 1794. Tree 15 to 20 feet.

3 S. ovalifòlia (Wall. cat. no. 1592.) leaves oval, tapering to both ends, acuminated; peduncles axillary, corymbose; fruit size of a small cherry. ♄. S. Native of Penang. Leaves with three principal nerves. S. laurìna, Wall. cat. no. 1591, a native of Tavoy, does not appear to differ much from the present species, unless in the peduncles being branched and panicled.

Oval-leaved Strychnos. Shrub cl ?

4 S. Madagascarie'nsis (Pet. Th. ex Poir. dict. 8. p. 696.) leaves ovate, acute; corolla quadrifid, with a villous throat; fruit very large, 1-seeded. ♄. S. Native of Madagascar, about Foul-Point. Canìram de Madagascar, Pet. Th. l. c. no. 3. Flowers in axillary bracteate corymbs, at the tops of the branches. Very nearly allied to *S. potatòrum*.

Madagascar Strychnos. Clt. 1823. Tree.

5 S. spinòsa (Lam. ill. no. 2449. Poir. dict. 8. p. 697.) branches spiny; leaves obovate, acute or acuminated; corolla with a bearded throat, hardly longer than the calyx. ♄. S. Native of Madagascar, in sand, on the shore. Canìram, Voutac. Pet. Th. l. c. no. 4. Voutàca, Flacourt, mad. p. 121. no. 13.—Pluk. phyt. t. 170. f. 4. Leaves glabrous, 3 inches long, and 2 broad, 5-nerved. Spines (abortive tendrils) longer than the petioles, axillary. Corymbs axillary, at the top of the branches, with opposite peduncles. Corolla tubularly ventricose, small. Fruit globose, many-seeded, 8 inches in diameter, at length orange-coloured.

Spiny Strychnos. Clt. 1818. Tree 10 to 12 feet, cl.

6 S. lu'cida (R. Br. prod. p. 469.) leaves ovate, acutish, coriaceous, 3-nerved; nerves bipartite. ♄. G. Native of New Holland, within the tropic.

Shining-leaved Strychnos. Shrub.

7 S. Igna'tii (Berg. mat. med. p. 149.) leaves ovate, acute, glabrous; berry pear-shaped, many-seeded; peduncles axillary, about 4-flowered. ♄. ◡. S. Native of Cochinchina, and the Philippine Islands. Ignàtia amàra, Lin. suppl. p. 149. Gærtn. fruct. t. 179. f. 8. Ignatiàna Philippínica, Lour. coch. p. 125. Canìram de St. Ignatio, Pet. Th. l. c. no. 6. Camélli, Phil. trans. 21. t. 1. f. 46. Branches sarmentose, scandent. Leaves a span long, veiny. Panicles small, axillary, composed of 3-4-flowered peduncles. Flowers long, drooping, white, with the scent of jasmine. Fruit ovate, attenuated at the neck, size of a Bon Chretien pear. Loureiro, however, says that the fruit is rounded, attenuated at the neck, dry. Seeds ovate, trigonal, of a dry, very bitter substance.

St. Ignatius's Bean. Shrub cl.

* * *Tendrils present.*

8 S. colubrìna (Lin. spec. 271.) scandent; tendrils simple; leaves from oval to oblong, bluntly acuminated, triple-nerved, polished; berries many-seeded. ♄. ◡. S. Native of the coast of Coromandel, and of Silhet. Plenck, off. t. 118. Modìra Canìram, Rheed. mal. 8. t. 24. Caniram a Crochet, Pet. Th. l. c. no. 5. Arbor ligni Colubrìni, Rumph. amb. 2. t. 37. Tendrils lateral, becoming thick and woody. Corymbs terminal, small, composed of 2-3 pairs of villous branches. Stipulas none. Flowers small, greenish yellow. Leaves 3-6 inches long, and 2-3 broad. Berry often as large as an orange: rind yellowish. The tree is called by the Bengalese *Koochila-luta*, and by the Telingas *Naga-Musadi*. (Naga, or Tansoopaun,

in the Telinga language, means the *Cobra de Capella*, or *Coluber nàga*, Lin. *Tansoo* means dancing, and *paun*, a serpent, this sort being famous for erecting its head, and moving it from side to side, at the sound of music.) This species yields the real, or, at least, another kind of *Lignum Colubrìnum*. The wood of the sort is esteemed, by the Telinga physicians, an infallible remedy for the bite of the Naga, as well as for that of every other venomous snake. It is applied externally, and at the same time given internally. It is also given in substance, for the cure of intermitting fevers. Roxb. mss. in fl. ind. 2. p. 265.

Snake-wood, or Lignum Colubrinum. Clt. 1820. Shrub cl.

9 S. axilla'ris (Colbr. in Lin. trans. 12. p. 351-355. t. 15. Blum. bijdr. 1019.) leaves ovate, or oblong-lanceolate, acuminate; tendrils axillary, simple, thickened, downy; berry oval, 1-seeded. ♄. ◡. S. Native of the mountainous countries north and east of Silhet, in Bengal, where it is called *Hur-cuchila*, or *Har-cuchila;* and of the island of Nusa-Kambanga. Branches dichotomous, downy while young. Leaves glossy, villous while young, triple-nerved, sometimes also 3-nerved, twice as long as the interstices. Stipulas none, except a downy axillary margin, which connects the base of the petioles. Fascicles of flowers crowded, round, twice as long as the petioles. Axils of the principal nerves of the leaves, as also the petioles, downy.

Axillary-flowered Strychnos. Clt. 1824. Shrub cl.

10 S. Tieu'te (Leschen. ann. du mus. 16. p. 480. t. 23.) Blum, bijdr. 1019.) leaves elliptic, short-acuminate, 3-nerved, glabrous; tendrils simple, thickened, opposite the solitary leaves. ♄. S. Native of Java, where it is called *Tjettek*, or *Upas Tieute*. Bark of stem rufescent; wood cream-coloured, spongy. Branches green. Leaves 3-nerved, glabrous, green. Fruit globose, many-seeded. This tree is said to be very poisonous, and is probably the true Upas tree of Java.

Tieute Strychnos. Shrub cl.

11 S. bicirrhòsa (Lesch. in Roxb. fl. ind. 2. p. 267.) leaves elliptic, cuspidately acute, triple-nerved; tendrils bifid, opposite the leaves, with thickened divisions; berry globular, 1-seeded. ♄. ◡. S. Native in forests near Koudracotta, about 20 miles south of Tanjore. Tendrils with a pair of scale-formed bracteas under the divisions. Glabrous in every part.

Two-tendrilled Strychnos. Shrub cl.

12 S. nítida; leaves ovate-lanceolate or oblong, acuminate, with 3 principal nerves, and 2 small lateral ones; tendrils opposite the leaves, bifid at apex, having the lobes clavate and curved at top, without any small process between them, as in *S. bicirrhòsa*. Lesch. ♄. ◡. S. Native of the East Indies, on the Pundua mountains. Peduncles long, corymbose at top. S. lùcida, Wall. cat. no. 1590, but not of R. Br.

Shining-leaved Strychnos. Shrub cl.

13 S. brachia'ta (Ruiz. et Pav. fl. per. 2. p. 30. t. 157.) leaves ovate or oblong, acuminated, 5-nerved, glabrous; tendrils opposite the leaves; berry globose, many-seeded; stem brachiate, terete; flowers corymbose, axillary and terminal. ♄. ◡. S. Native of Peru, in woods. Branches pendant. Bracteas linear, subulate, deciduous. Calyx villous. Corollas white, villous outside. Berries large, globose, pendulous, greenish yellow.

Brachiate-stemmed Strychnos. Shrub cl.

Cult. A mixture of loam, peat, and sand, is a good soil for the species of *Strýchnos;* and cuttings of them will strike root in sand, under a hand-glass, in heat.

II. PICROPHLŒ'US (from *πικρος, picros*, bitter; and *φλοιος, phloios*, bark; the bark is very bitter.) Blum. bijdr. p. 1019.

Lin. syst. *Pentándria, Monogýnia*. Calyx 5-parted, imbricate. Corolla with a short tube; and a 5-parted limb, which is imbricate in æstivation. Stamens 5, inserted in the base of the corolla, short. Style short; stigma obtuse, emarginate. Berry with a crustaceous rind, 2-celled, many-seeded; receptacles or placentas twin in each cell, fleshy, rising from the inflexed edges of the dissepiments. Seeds minute, variously-angled, reticulated. Albumen rather cartilaginous.—A shrub, with bitter bark; opposite, oblong, coriaceous, rather veiny, quite glabrous leaves; and terminal, dichotomous corymbs of flowers.

1 P. Javane'nsis (Blum. bijdr. p. 1020.) ♄. S. Native of Java, in the higher woods on Mount Salak.

Java Picrophlœus. Fl. April, July. Shrub.

Cult. See *Stry'chnos*, above, for culture and propagation.

III. CYRTOPHY'LLUM (from *κυρτος, kyrtos*, a curved; and *φυλλον, phyllon*, a leaf; in reference to the leaves of the first species being convex on the upper side.) Reinwdt. herb. ex Blum. bijdr. p. 1022.

Lin. syst. *Pentándria, Monogýnia*. Flowers inferior, according to Blum.; but, according to Reinwdt, superior. Calyx 5-parted, imbricate, permanent. Corolla funnel-shaped; limb 5-parted. Stamens 5, exserted; filaments inserted in the upper part of the tube; anthers incumbent, emarginate at the base. Style filiform; stigma bluntish. Berry 2-celled, many-seeded; receptacle fleshy, fixed to the dissepiment.—Hardly lactescent trees; with opposite, coriaceous, glabrous leaves; and axillary and terminal corymbose inflorescence.

1 C. peregrìnum (Reinwdt. ex Blum. bijdr. p. 1022.) leaves oblong-lanceolate, acuminated at both ends, convex above, and concave beneath. ♄. G. Native of Japan and China.

Foreign Cyrtophyllum. Fl. year. Tree.

2 C. speciòsum (Blum. bijdr. p. 1022.) leaves broad-lanceolate, much acuminated, flat. ♄. S. Native of Java, in woods on Mounts Salak and Gede, where it is called Kiminjak.

Showy Cyrtophyllum. Fl. June, Aug. Tree.

Cult. See *Stry'chnos*, above, for culture and propagation.

IV. LASIO'STOMA (from *λασιος, lasios*, woolly; and *στομα, stoma*, a mouth; mouth of corolla.) Schreb. gen. no. 180. Meyer. ess. p. 83. H. B. et Kunth. nov. gen. amer. 7. p. 209.—Roúhamon, Aubl. guian. 1. p. 93. t. 36. Lam. ill. t. 81.

Lin. syst. *Tetrándria, Monogy'nia*. Calyx 4-parted, bibracteate at the base; segments acute. Corolla funnel-shaped; tube short; limb quadrifid: lobes acute, villous. Stamens 4, inserted in the tube, exserted; anthers oblong, 2-celled. Ovarium ovate. Style one; stigma ovate. Capsule orbicular, 1-celled, ex Kunth. 2-celled, ex Meyer, 2-seeded. Seeds ovate, convex on one side, and flat on the other.—Cirrhiferous, climbing shrubs, full of yellowish, poisonous juice; having the branches opposite: and the tendrils axillary, solitary, thickened, and spirally convolute at top. Leaves opposite, quite entire, triple-nerved. Corymbs axillary, opposite, bracteate. Flowers small, white. Capsules yellowish.

1 L. Cura're (H. B. et Kunth. nov. gen. 7. p. 210.) leaves oblong, triple-nerved; flowers corymbose. ♄. ◡. S. Native of South America, near Esmeraldo, in the missions of the Orinoco. Curare, or Bejuco de Mavacure, Humb. relat. hist. 2. p. 547.

Curare Lasiostoma. Shrub cl.

2 L. divarica'ta (Meyer, ess. p. 83.) leaves obovate-oblong, triple-nerved; flowers racemosely corymbose. ♄. ◡. S. Native of tropical America.

Divaricate Lasiostoma. Shrub cl.

3 L. cirrhòsa (Pers. ench. 1. p. 134.) leaves elliptic, 3-nerved; corymbs sessile. ♄. ◡. S. Native of Guiana. Roúhamon Guianénsis, Aubl. l. c. Lam. l. c.

Tendrilled Lasiostoma. Shrub cl.

Cult. For culture and propagation, see *Strýchnos*, above.

V. GARDNE'RIA (this genus is dedicated to Hon. Edward Gardner, late resident at the court of the Rajah of Nipaul,

by whose indefatigable exertions and liberality the Botanic Gardens at Calcutta, as well as those of Britain, have been enriched by many splendid additions of plants and seeds, the productions of Nipaul.) Wall. in Roxb. fl. ind. 1. p. 401 and 2. p. 318. D. Don, prod. fl. nep. p. 132. Cyathospérmum, Wall. mss.

Lin. syst. *Tetrándria, Monogy'nia.* Calyx small, 4-5-toothed. Corolla rotate, with a 4-5-parted limb, and a short tube; valvate in æstivation. Stamens 4-5; filaments very short, flat; anthers oblong, convex outside, flattish inside, 2-celled, closely combined into a cone: having the valves membranous and involute after dehiscence. Style subulate, straight, shorter than the stamens, with a furrow on each side; stigma acute. Ovarium superior. Berry 2-celled, 2-seeded. Seeds compressed, orbicular; testa simple, adhering closely to the albumen, which is copious, white and horny, pellucid and dotted. Embryo straight, basilar. Cotyledons ovate.—Climbing, much branched shrubs, glabrous in every part. Leaves opposite, ex-stipulate, elliptic, acuminated, rather coriaceous, quite entire, shining, petiolate. Peduncles axillary, opposite, trichotomous, 3-flowered, or simple 1-flowered, glabrous, shorter than the leaves. Flowers white, twice the size of those of the *Cynánchum vincetóxicum.*

1 G. ova'ta (Wall. in Roxb. fl. ind. 1. p. 400. 2. p. 318.) leaves elliptic, acuminate, acute at the base; peduncles trichotomous, 3-flowered; flowers tetrandrous; seeds concave inside. ♄. ◡. S. Native of Silhet, in Bengal. Wall. pl. rar. asiat. 3. p. 17. t. 231. Leaves pale beneath, having the nerves united by sub-marginal arches; petioles widening at the base, and surrounding the branches, concealing in their axils a few withering ciliæ. Placenta fleshy, short, originating from the centre of the dissepiment. Anthers combined.

Ovate-leaved Gardneria. Shrub cl.

2 G. angustifòlia (Wall. in Roxb. fl. ind. 2. p. 318.) leaves narrow-lanceolate, tapering into a narrow acumen; flowers solitary, axillary, pentandrous; anthers distinct. ♄. ◡. S. Native of Nipaul. Leaves 5 inches long, and 1 inch in breadth. Petioles as in the preceding. Flowers nodding in æstivation, tetrandrous and pentandrous. Stigma 2-lobed. Berry scarlet, as large as a marrow-fat pea, but in all other respects like that of *G. ovàta.*

Narrow-leaved Gardneria. Shrub. cl.

3 G. gla'bra (Wall. mss. ex D. Don, prod. fl. nep. p. 132.) leaves elliptic, acuminated, obtuse at the base; peduncles 1-flowered, simple: seeds flat inside. ♄. ◡. S. Native of Silhet. The flowers and seeds are larger than in *G. ovàta.* It is probably the same as *G. angustifòlia.*

Glabrous Gardneria. Shrub cl.

4 G. Wallíchii (Wight. herb. ex Wall. pl. rar. asiat. 3. p. 49. t. 281.) leaves oblong-lanceolate, acuminated; peduncles axillary, 3-flowered, or bifid, each division bearing 3 flowers; corollas densely villous above; anthers 4, combined. ♄. ◡. S. Native of the East Indies, on mountains at Salem, Wight.

Wallich's Gardneria. Shrub cl.

Cult. For culture and propagation, see *Stry'chnos*, p. 66.

† *A genus doubtful whether belonging to the present order.*

VI. DICA'RYUM (from *δις, dis*, double; and *καρυον, karyon*, a nut; drupe containing 2 nuts.) Herb. Willd. ex Rœm. et Schultes, syst. 4. p. 802.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-toothed, permanent. Corolla 5-toothed; with a pilose throat. Stamens 5, inserted in the throat. Style thick, subulate; stigma obtuse. Drupe containing 2 2-celled, 1-2-seeded nuts.—South American trees; with opposite leaves; and terminal, panicles, or axillary racemes of flowers. This genus is said by D. C. to belong to *Strychnàceæ*, but it is hardly known.

1 D. subdenta'tum (Willd. herb. l. c.) leaves elliptic, acutely toothed, shining above; racemes terminal. ♄. S. Native of South America, at Pichincha. Humb. et Bonp. Leaves coriaceous, with protuberances at the base of the petioles, reticulately veined, pale beneath.

Subdentate-leaved Dicaryum. Tree or shrub.

2 D. serrula'tum (Willd. herb. l. c.) leaves oblong, acuminated, serrulated; panicles axillary. ♄. S. Native of South America, on Mount Quindiu. Humb. et Bonp.

Serrulated-leaved Dicaryum. Tree or shrub.

Cult. For culture and propagation see *Stry'chnos*, p. 66.

Order CLI. POTALIA'CEÆ (so called in consequence of the order agreeing with the genus *Potàlia* in important characters.) Potalièæ, Mart. nov. gen. bras. 2. p. 133.

Flowers of unequal parts. Calyx 4-5-6-parted. Corolla tubular, with a nearly equal limb, which is from 5-12-cleft, twisted and imbricate in æstivation. Stamens rising from the tube of the corolla; pollen elliptic, simple. Style continuous: stigma simple. Berry 2-4-celled. Seeds numerous, peltate, fixed to the placentas, which are central. Testa double. Embryo heterotropus, in cartilaginous albumen.—Glabrous, somewhat lactescent shrubs or trees. Leaves opposite, quite entire, joined by interpetiolar sheathing stipulas. Flowers disposed in terminal panicled corymbs, bracteate.

This order is easily distinguished from *Apocy'neæ*, from which it is broke off, in the parts of the flowers being unequal, in the double testa to the seed, and especially in the petioles being joined by interpetiolar stipulas, as in *Rubiàceæ.*

Synopsis of the genera.

1 Pota'lia. Calyx 4-parted. Limb of corolla 10-parted, imbricate in æstivation. Stamens 10; filaments combined by an annular membrane. Berry 2-celled.

2 Anthoclei'sta. Calyx 4-parted. Limb of corolla 12-cleft, imbricate in æstivation. Stamens 12, combined. Berry 2-celled.

3 Fagræ'a. Calyx 5-parted. Limb of corolla 5-6-parted. imbricate in æstivation. Stamens 5, unconnected. Berry 2-celled.

I. POTA'LIA (Guiana name of the first species). Aubl. guian. 1. p. 396. t. 151. Mart. nov. gen. bras. 2. p. 89.—Nicándra, Schreb. gen. no. 714.

Lin. syst. *Decándria, Monogýnia.* Calyx coloured, turbinate, 4-parted. Corolla tubular; limb 10-cleft; segments imbricate in æstivation. Stamens 10, rising from the tube of the corolla; filaments combined by an annular membrane at the base; anthers linear. Style short; stigma capitately peltate, lobed. Berry 2-celled, many-seeded, umbonate, angular. Seeds angular, rising from 2 basilar placentas.—Nearly simple glabrous shrubs. Leaves opposite and decussate, large, entire, joined by an interpetiolar sheath at the base. Flowers of a beautiful colour, disposed in terminal corymbose panicles, furnished with scale-like bracteas.

1 P. ama'ra (Aubl. guian. 1. p. 396. t. 151.) leaves opposite, decussate, obovate, pointed; calyx yellow; corolla white. ♄. S. Native of Guiana, in extensive forests. Nicándra amàra, Gmel. syst. 677. Stem simple. Leaves 1½ foot long and 5 inches broad. Berry yellow, fleshy, size of a cherry. All parts of the plant are bitter; the leaves and tender twigs are used in venereal cases; and where there is suspicion of poison, it being highly emetic in large doses.

Bitter Potalia. Shrub.

2 B. resinífera (Mart. nov. gen. bras. 2. p. 90. t. 170.) leaves opposite, oblong-obovate; calyx yellow; corolla green. ♄. S. Native of Brazil, in the province of Rio Negro, at Villa Barra do Rio Negro. Stem simple. An infusion of the leaves is rather mucilaginous, and somewhat astringent; and is used as a lotion to weak eyes.

Resin-bearing Potalia. Shrub 6 to 8 feet.

Cult. For culture and propagation see *Fagræ'a*, p. 69.

II. ANTHOCLEI'STA (from ανθος, *anthos*, a flower, and κλειστος, *kleistos*, shut up; corolla shut up by the crown in the throat). Afz. ex R. Br.

Lin. syst. *Dodecándria, Monogýnia.* Calyx 4-parted. Corolla tubular; limb 12-cleft, imbricate in æstivation. Stamens 12, combined. Style filiform; stigma capitate, obtusely 2-lobed. Berry roundish or oblong, size of a cherry, 2-celled? 4-celled.?—Middle-sized branching trees; with broad, opposite leaves, which are combined at the base by interpetiolar sheaths; and terminal panicled corymbs of white flowers.

1 A. nòbilis; leaves broad, obovate, coriaceous, almost sessile. ♄. S. Native of Sierra Leone, on the mountains. Corolla white.

Noble Anthocleista. Tree 20 feet.

2 A. macrophy'lla (G. Don, in Loud. hort. brit. 471.) leaves broad-obovate, obtuse, membranous. ♄. S. Native of Sierra Leone, on the mountains. Berry 4-celled. Leaves as large as those of the common cabbage.

Large-leaved Anthocleista. Clt. 1820. Tree 20 feet.

Cult. For culture and propagation see *Fagræ'a*, p. 69.

III. FAGRÆ'A (so named by Thunberg in honour of Jonas Theodore Fagræus, M. D.). Thunb. nov. gen. 34. Schreb. gen. no. 276.

Lin. syst. *Penta-Hexándria, Monogỳnia.* Calyx 5-parted, imbricate. Corolla funnel-shaped: with an imbricate, 5-6-cleft limb: tube widening from the base. Stamens 5-6, inserted in the mouth of the tube, and protruding beyond it. Style filiform; stigma peltately orbicular. Berry small, 2-4-celled. Seeds angular.—Trees or shrubs, with opposite, broad, coriaceous leaves; with interpetiolar stipulas; and terminal flowers. Bracteas opposite.

* *Erect shrubs and trees.*

1 F. Zeyla'nica (Lin. syst. 198. Thunb. nov. gen. 35. and in act. holm. 1782. p. 132. t. 4.) shrubby, erect; stem subquadrangular; leaves crowded, obovate-oblong, obtuse; bracteas ovate, obtuse; flowers few, terminal, umbellate. ♄. S. Native of Ceylon. Willughbèia Zeylánica, Spreng. syst. 1. p. 672. Leaves a span long. Flowers large. Segments of corolla oblique, obtuse, entire. Seeds orbiculate.

Ceylon Fagræa. Fl. Dec. Shrub 2-4 feet.

2 F. fra'grans (Roxb. fl. ind. 2. p. 32.) arboreous; leaves lanceolate, bluntly acuminated; corymbs axillary, decompound; stamens ascending; corollas large. ♄. S. Native of China, but now cultivated in Pulo Penang. Leaves decussate, ½ foot long and 1½ inch broad. Petioles enlarged at the base into a stem-clasping ring, which, in the dried specimens, are incrusted with a clear yellow resin. Flowers small, numerous, whitish yellow. Corolla having a tube between campanulate and funnel-shaped: and ovate-oblong divisions. Berry size of a currant, red.

Fragrant Fagræa. Tree middle-sized.

3 F. lanceola'ta (Blum. bijdr. p. 1021.) arboreous; leaves oblong-lanceolate, acuminated at both ends, almost veinless; stipulas petiolar, rounded at the apex; peduncles terminal, solitary, twin, or tern. ♄. S. Native of Java, in mountain woods on the west side of the island, where it is called *Kiterong*; and of Penang. Wall. cat. no. 1599. Leaves smaller than in most of the species.

Lanceolate-leaved Fagræa. Fl. Nov. Dec. Tree.

4 F. ellíptica (Roxb. fl. ind. 2. p. 32.) leaves broad-elliptic, on short petioles, firm; corymbs terminal, supra-decompound; tube of corolla cylindrical. ♄. S. Native of the Moluccas.

Elliptic-leaved Fagræa. Tree or shrub.

5 F. obova'ta (Wall. in Roxb. fl. ind. 2. p. 33.) arboreous; leaves ovate or obovate, crowded, rounded, with a short broad point, petiolate; peduncles terminal, 3-flowered, sub-corymbose. ♄. S. Native of Silhet, and Singapore. Branches obscurely 4-sided. Leaves 5-6 inches long, thick. Petioles furnished with a few glandular ciliæ, connected by interpetiolar stipulas. Flowers white, fragrant, coriaceous, as large as those of *Plumièra acuminàta*, but much smaller than those of *F. Zeylánica*. Calycine segments ovate, obtuse. Berry 4-celled, many-seeded. Seeds immersed in soft pulp. Perhaps the same as *F. Zeylánica*.

Obovate-leaved Fagræa. Tree.

6 F. Malaya'na (Mart. nov. gen. bras. 2. p. 91.) leaves elliptic, rounded at both ends, with a short acumen at the apex; calyx 5-cleft, as in the rest; corolla tubular, 6-cleft; stamens 6. ♄. S. Native of the Prince of Wales's Island. Perhaps the same as *F. ellíptica*.

Malay Fagræa. Shrub or tree.

7 F. racemòsa (Jack, in Roxb. fl. ind. 2. p. 35.) shrubby, erect?; leaves broad, oval, rounded at both ends, almost sessile; racemes drooping, terminal, shorter than the leaves, consisting of opposite fascicles of sub-sessile flowers, ♄. S. Native of Penang. Leaves 6-7 inches long, and 4-5 wide, obtuse, or slightly pointed, united by interpetiolar stipulary processes. Calycine segments oval, obtuse. Segments of corolla obovate, crenulated. Stamens at first descending, afterwards ascending.

Racemose-flowered Fagræa. Shrub.

** *A climbing shrub.*

8 F. volu'bilis (Wall. in Roxb. fl. ind. 2. p. 36.) shrubby, climbing; leaves ovate or obovate, petiolate; racemes terminal, loose, longer than the leaves, composed of remote, small racemules of pedicellate flowers. ♄. ◡. S. Native of Bencoolen. Leaves rather remote, 8-12 inches long, and 4-7 wide at top. Stipulas as in *F. racemòsa*. Petioles furnished with a narrow margin on each side, which originates from the slightly decurrent base of the leaf. Berries as large as gooseberries, half the size of those of *F. obovàta*. Placentas oblong, broad, fleshy, convex and notched for the reception of the seeds; the inner side smooth and concave, fixed longitudinally by a narrow lamina to the sides of the thin dissepiment. Seeds angular, scabrous, with copious dots; integument simple, crustaceous. Albumen fleshy. Embryo cylindrical, occupying a great part of the axis of the albumen, with exceedingly small cotyledons, and a centrifugal radicle. This and *F. racemòsa* may probably form a distinct genus.

Twining Fagræa. Shrub cl.

*** *Parasitical shrubs.*

9 F. auricula'ta (Jacq. in Roxb. fl. ind. 2. p. 34. Blum. bijdr. p. 1020.) parasitic; leaves broad, cuneate-oblong, acute, veiny; interpetiolar stipulas, 2-lobed, recurved; peduncles terminal, usually by threes; corolla large. ♄. S. Native of Java, parasitical on trees about Buitenzorg, where it is called *Mengando-badak*; and of Singapore. Wall. pl. rar. asiat. 3. t. 222. Leaves coriaceous, 6-12 inches long, and 3-4 inches broad at top. Calycine segments roundish, obtuse, spreading. Flowers very large.

Auricled Fagræa. Fl. year. Shrub par.

10 F. littora'lis (Blum. bijdr. 1021.) parasitic; leaves oval, acute at both ends, almost veinless; stipulas petiolar, rounded at top; peduncles terminal, usually by threes. ♄. S. Native of the island of Nusæ-Kambanga. Parasitical on trees.

Sea-shore Fagræa. Fl. Oct. Shrub parasitical.

11 F. mìnor (Herb. Reinwdt. ex Blum. bijdr. p. 1021.) parasitic; leaves oval, acute, rounded at the base, veiny; stipulas petiolar, rounded at top; peduncles terminal, sub-corymbose, trifid. ♄. S. Native of Java, upon trees on the mountains, where it is called *Mengando*.

Smaller Fagræa. Fl. year. Shrub par.

12 F. Blu'mii; parasitic; leaves obovate-oblong, bluntish, almost veinless above; stipulas petiolar, emarginate at the apex; peduncles terminal, corymbosely 3-flowered. ♄. S. Native of Java, in mountain woods. F. obovàta, Blum. bijdr. p. 1021. but not of Wall.

Blume's Fagræa. Fl. Feb. Shrub par.

Cult. The species of *Fagræ'a* bear large foliage, and showy flowers, as the other genera of the order. A mixture of loam, peat, and sand, is a good soil for them; and cuttings strike root readily in sand, placed in heat, with a hand-glass over them.

Order CLII. APOCY'NEÆ (so named on account of its containing plants agreeing in particular characters with *Apócynum.*) Juss. gen. p. 160. R. Br. prod. p. 465.

Calyx 5-cleft, permanent. Corolla monopetalous, hypogynous, regular, 5-lobed, imbricate in æstivation, deciduous. Stamens 5, epipetalous, alternating with the segments of the limb of the corolla; anthers 2-celled: dehiscing lengthwise; pollen granular. Stigmas at first applied to each other. Ovaria solitary or twin, and therefore the styles are 1 or 2, and but always 1 stigma; ovaria for the most part many seeded. Fruit follicular, drupaceous or baccate, 1 or many-seeded, solitary or twin. Seeds usually albuminous. Embryo foliaceous, with an inconspicuous plumule.—Trees or shrubs usually full of acrid milky juice. Leaves opposite, sometimes verticillate, rarely scattered, quite entire, usually furnished with interpetiolar cilia or glands. Inflorescence sub-corymbose.

All the plants contained in this order are very natural. The structure of the anthers and stigmas easily distinguish them from *Asclepiàdeæ*, to which they are more nearly allied than to any other. The order *Strychnàceæ* is distinguished from this in the peltate seeds. The order is also closely allied to the *Rubiàceæ;* but is easily distinguished from it, in the want of interpetiolar stipulas, and in the superior ovarium, &c.

We now turn from the contemplation of plants endued with mild and agreeable properties, and fragrant flowers, and often bearing food for man, to others, which are among the most dangerous poisons, whose juices, though milky, are not a wholesome and delicious beverage, like those of *Sapotàceæ*, but, on the contrary, acrid, caustic, and bitter. They are readily known by the twisted direction of the corolla, which have been compared to the rays of St. Catherine's wheel, whence they were called, by Linnæus, *Contórtæ.*

By far the greatest part of the order consists of tropical trees and shrubs; a few *Apócynums*, *Amsònias*, and *Víncas*, are natives of the colder regions of the earth. Many are elegant climbers, as the different species of *Echìtes*, *Melodìnus*, &c. The splendid Oleander belongs to *Nèrium;* the different species of *Plumièra*, *Camerària*, *Strophánthus*, and *Carissa*, are stove plants of the greatest beauty.

The medicinal action of these plants is highly powerful. In general the *Apocy'neæ* are acrid, stimulating, and astringent: these principles, when in excess, act so powerfully on the nerves as to produce stupefaction. The root of *Ophióxylon* is very bitter and purgative. The bark of *Tanghinia Mánghas* is purgative; of *Echìtes antidysentérica*, and the *Wríghtia* of the same name, astringent and febrifugal. The leaves of the *Vinca* are so astringent, that they have been used successfully in tanning; those of *Nèrium Oleánder* are said to abound in gallic acid. The inspissated juice of the species of *Cérbera*, known in Mexico under the name of *Ycotli*, is a fatal poison. The fruit of *Tanghínia* is the famous ordeal of Madagascar.

Synopsis of the genera.

Tribe I.

Echitie'æ. *Fruit of 2 follicles, sometimes a 2-celled capsule. Seeds furnished with a tuft of hairs at the upper or umbilical end.*

* *Tube of corolla naked, not crowned, and without scales or teeth inside.*

1 Echìtes. Stamens inclosed; anthers adhering. Hypogynous scales 5, distinct, rarely combined. Corolla salver-shaped, with dimidiate segments. Follicles slender.

2 Chonemórpha. Stamens inclosed; anthers adhering. Hypogynous scales 5, distinct or combined. Corolla funnel-shaped, with dimidiate segments. Follicles slender.

3 Aganósma. All as in *Chonemórpha*, except the hypogynous scales, which are long and combined; and the style thick, not slender; and the stigma is conical, angular at the base, and mucronate at top, not emarginate.

4 Beaumóntia. Calycine segments foliaceous. Corolla funnel-shaped, with a short tube, and a large, swollen, campanulate limb, with equal lobes. Stamens exserted; anthers adhering. Stigma bidentate. Follicles combined, large, long.

5 Pachypòdium. Stamens inclosed; anthers nearly sessile, adhering.? Hypogynous scales none. Corolla salver-shaped; with equal, obtuse segments. Follicles ovate.

6 Ichnoca'rpus. Stamens inclosed; anthers free. Hypogynous corpuscula 5, filiform. Corolla salver-shaped, with dimidiate segments. Follicles slender.

7 Holarrhe'na. Stamens inclosed; anthers free. Hypogynous corpuscula wanting. Corolla sagittate, with equal segments. Follicles slender.

8 Isone'ma. Stamens exserted; anthers adhering; filaments simple at top. Hypogynous scales wanting. Corolla salver-shaped; limb 5-parted.

9 Valla'ris. Stamens exserted; anthers adhering; filaments each furnished with a fleshy gibbosity outside, at the apex. Hypogynous scales 5, combined at the base. Corolla salver-shaped; limb 5-parted. Ovarium 2-celled.

10 Hely'gia. Stamens exserted; anthers adhering; filaments filiform. Hypogynous scales 5. Stigma clavate. Corolla rotate, with dimidiate segments. Follicles combined, with adnate placentas.

11 Parsónsia. Stamens exserted; anthers adhering; filaments filiform, inserted near the base of the tube. Hypogynous scales 5, distinct or combined. Corolla funnel-shaped. Follicles 2, distinct or cohering.

12 Lyónsia. All as in Parsonsia, except the fruit, which is a 2-celled capsule, with parallel placentiferous dissepiments.

13 Thena'rdia. Stamens exserted; anthers adhering; filaments simple, inserted near the base of the tube. Hypogynous scales 5, distinct. Corolla rotate, with dimidiate segments. Follicles twin.

14 Ade'num. Stamens inclosed; anthers adhering, ending each in a pilose bristle. Hypogynous scales wanting. Corolla salver-shaped, with equal segments. Ovaria 2, globose.

* * *Tube of corolla furnished with 5 inclosed little scales, or teeth inside.*

15 Apócynum. Teeth, in the tube of the corolla, 5, small, acute, opposite the segments of the limb. Stamens inclosed. Styles wanting. Hypogynous scales 5. Corolla campanulate. Follicles slender.

16 Cryptole'pis. Scales in the tube of the corolla 5, obtuse, alternating with the segments of the limb. Stamens inclosed. Hypogynous scales 5. Corolla funnel-shaped. Style none.

17 Exothoste'mon. Scales in the throat of the corolla 5, opposite the segments of the limb. Stamens exserted. Hypogynous scales 5. Style filiform. Corollas funnel-shaped. Follicles torulose, slender.

18 Hæmadíctyon. Scales in the tube of the corolla 5, alternating with the segments of the limb. Stamens inclosed. Style filiform. Hypogynous scales 5. Corolla salver-shaped.

19 Cercocòma. Scales in the tube of the corolla 5?, alternating with the segments of the limb.? Stamens inclosed. Style filiform. Hypogynous scales 5. Corolla salver-shaped. Follicles horizontal.

* * * *Throat of corolla crowned by exserted scales, or little tubes.*

20 Prestònia. Corona double, exterior one annular, and quite entire; interior one of 5 scales, which alternate with the segments of the corolla. Urceolus hypogynous.

21 Balfou'ria. Corona simple, tubular, crenulated. Hypogynous scales none; but there are 10 scales seated at the base of the calyx, outside the corolla. Segments of corolla equal-sided. Anthers ending in a short mucrone.

22 Ne'rium. Corona simple, of one series of divided segments. Hypogynous scales wanting. Segments of corolla equal-sided. Anthers ending in a long awn each.

23 Stropha'nthus. Corona simple, of 10 undivided foliola. Hypogynous scales 5. Segments of corolla tailed.

Tribe II.

Wrightie'æ. *Fruit of 2 follicles. Seeds furnished with a tuft of hairs at the lower end of the seed, or that end opposite the umbilicus. Embryo with involute cotyledons.*

24 Wrìghtia. Throat of corolla crowned. Tuft of hairs at end of seed sessile.

25 Kibata'lia. Throat of corolla not crowned. Tuft of hairs at end of seed stipitate. Cercocòma, Wall.?

Tribe III.

Alstonie'æ. *Fruit of 2 follicles. Seeds peltate, ciliated. Cilia more elongated at both ends.*

26 Alstònia. Corolla salver-shaped, with a naked throat. Anthers inclosed, free. Hypogynous scales none.

Tribe IV.

Gelsemie'æ. *Fruit of 2 joined follicles, which are separable, furrowed in the middle, 2-valved, 2-celled; valves 1-celled, with inflexed seminiferous edges, which constitute the dissepiments.*

27 Gelse'mium. Corolla funnel shaped. Stigma trifid. Capsule ovate-oblong, rather compressed. Seeds imbricate, membranous at apex.

28 Plectane'ia. Corolla with a short ventricose tube, and a twisted or coarctate limb. Stigma capitate. Anthers sessile. Capsule follicular, very long, 2-celled; seeds compressed, winged.

Tribe V.

Tabernemonta'næ. *Fruit of 2 follicles, rarely solitary by abortion. Seeds neither tufted nor winged, usually nestling in the pulp of the fruit, albuminous. Stigma annular below, and bifid at top. Anthers free, connivent.*

29 Tabernemonta'na. Corolla funnel-shaped. Stamens inclosed. Glands at the base of the calyx outside the corolla. Seeds immersed in pulp.

30 Camera'ria. Corolla between funnel and salver-shaped. Stamens inclosed; anthers connivent, drawn out, each into a thread. Style hardly any; stigma obsolete. Follicles inflexed, emitting a lobe on each side. Seeds inserted into a peculiar membrane.

31 Va'hea. Corolla funnel-shaped, naked, Lam.; urceolate, Roxb. Stamens inclosed, inserted in the bottom of the corolla. Ovarium girded by an entire urceolus. Follicles twin. Seeds immersed in pulp.

32 Voaca'nga. Corolla funnel-shaped. Anthers sessile, inclosed. Stigma 3-lobed, seated on an annular disk. Follicles twin, baccate. Seeds imbedded in pulp.

33 Rejou'a. Corolla salver-shaped, naked. Stamens inclosed; anthers free. Stigma bicuspidate. Fruit solitary, elliptic, sub-umbilicate, indehiscent. Seeds compressed, nestling in pulp.

34 Orchipe'da. Corolla funnel-shaped, having the throat half closed by a tumid ring. Stamens inclosed; anthers connivent. Ovarium girded by a hypogynous ring. Follicles twin, fleshy, globose. Seeds wrinkled, imbedded in pulp. Albumen fleshy.

35 Plumie'ra. Corolla funnel-shaped. Stamens inclosed; anthers connivent. Stigma clavate, emarginate. Follicles twin, ventricose. Seeds furnished with a wing at bottom. Ovarium girded by a hypogynous ring.

36 Conophary'ngia. Corolla funnel-shaped. Stamens each rising from a scrobicle; anthers conniving into a cone. Stigma sub-bifid. Follicles twin, slipper-shaped. Seeds like grape stones, attached to a slender central column, or placenta.

37 Vínca. Corolla salver-shaped. Stamens inclosed; anthers connivent. Hypogynous scales 2. Stigma marginated below, and ciliated above. Follicles slender. Seeds disposed in 2 rows.

38 Catharán'thus. Corolla salver-shaped. Stamens inclosed; anthers connivent. Hypogynous scales 2.? Stigma marginated below, and pilose above. Follicles slender. Seeds disposed in 2 rows, tubercled on one side.

Tribe VI.

Alyxie'æ. *Ovarium double. Fruit sub-drupaceous. Albumen large, ruminated as in Annonaceous plants, or fleshy. Anthers free, connivent.*

39 Aly'xia. Corolla salver-shaped; throat naked. Stamens inclosed. Stigma obtuse, usually pencilled. Drupes 2, or solitary by abortion, containing a half 2-celled putamen.

40 Ce'rbera. Corolla funnel-shaped; throat 5-toothed. Anthers inclosed, conniving. Drupes twin, dry, containing a fibry, semi-bivalved, 1-seeded putamen. Albumen none.

41 Tanghínia. Corolla salver-shaped; throat pentagonal. Anthers hidden by an equal number of foliaceous scales from the throat, and furnished with an umbilicate tubercle under each stamen. Drupe solitary, containing a 1-celled, 1-seeded, fibry nut.

42 Rauwólfia. Corolla funnel-shaped; throat bearded. Stamens inclosed, or a little exserted; anthers free. Hypogynous ring surrounding the base of the ovarium. Drupes 2, combined, containing a 2-celled nut, or 2 1-seeded nuts; cells semi-bilocular.

43 Dissole'na. Corolla with a long tube, of 2 forms; lower part thick, pentagonal; upper part cylindrical; limb spreading. Stamens inserted below the mouth of the lower part of the tube. Stigma thick, scabrous. Drupe solitary, small, containing a compressed, scabrous, 1-celled, 1-seeded nut.

44 Ochròsia. Corolla funnel-shaped. Stamens inclosed; anthers free. Drupes twin or solitary, each containing a 2-celled nut, and each cell containing 2-3 flat, wing-edged seeds.

45 Ophióxylon. Corolla funnel-shaped. Anthers inclosed. Stigma capitate. Drupes twin, or solitary by abortion, each containing a wrinkled, 1-seeded nut.

46 Valle'sia. Corolla salver-shaped: throat bearded. Stamens inclosed. Stigma sub-clavate. Drupes clavate, twin, or solitary, containing each a wrinkled, 1-seeded nut.

Tribe VII.

Kopsie'æ. *Ovarium double. Fruit drupaceous. Albumen wanting.*

47 Kópsia. Corolla salver-shaped; throat villous. Stamens inclosed; anthers free. Stigma oblong, downy at top. Drupes twin or solitary, coriaceous, divided by an incomplete dissepiment inside, 1-seeded.

48 Calpica'rpum. Calycine segments each ending in a gland. Corolla funnel-shaped, with equal segments. Anthers inclosed, adhering. Stigma large, 2 lobed. Drupe, or rather capsule usually solitary, 1-celled, sub-bivalved, urn-shaped, 1-seeded.

Tribe VIII.

Melodíneæ. *Fruit baccate, solitary. Seeds many, compressed, imbedded in the pulp, usually albuminous, rarely exalbuminous.*

49 Melodìnus. Corolla salver-shaped. Corona in the throat of 5 bifid, or quadrifid, or undivided scales, or foliola. Stamens inclosed. Style bipartite. Stigma conical, acute. Berry globose, 2-celled. Seeds flattened, imbedded in pulp, albuminous.

50 Carpodìnus. Corolla salver-shaped, with reflexed segments; throat crowned. Anthers connivent, inclosed. Style simple; stigma capitate. Berry 2-celled, many-seeded. Seeds flattened, imbedded in pulp, albuminous.

51 Chiloca'rpus. Corolla salver-shaped; throat not crowned.? Anthers inclosed. Stigma capitate. Capsule large, corticate, 1-celled. Seeds arillate, flattened. Albumen horny.

52 Willughbe'ia. Corolla salver-shaped; throat not crowned. Anthers inclosed, free. Stigma obtuse. Berry large, 1-celled, or half 2-celled. Seeds flattened, imbedded in pulp, ex-albuminous, disposed in 2 rows.

53 Ambella'nia. Corolla salver-shaped; throat not crowned. Stigma bicuspidate at the apex, seated on a flat annular disk. Berry 2-celled, warted. Seeds compressed, immersed in the pulp, fixed to a slender receptable, albuminous.

54 Pacou'ria. Corolla salver-shaped; throat not crowned.? Anthers cuspidate, inclosed. Style and stigma as in *Ambellània*. Berry 1-celled.? Seeds angular, nestling in the pulp; albuminous.

55 Hancórnia. Calyx small, 5-parted. Corolla salver-shaped. Stamens inclosed. Stigma bifid. Berry 1-celled, many-seeded. Seeds albuminous.

56 Landólphia. Corolla salver-shaped; throat not crowned. Stamens inclosed. Ovarium with 10 stripes. Stigma sub-bifid, Berry nearly globose, compressed at top, 1-celled. Seeds nestling in pulp, ovate, compressed.

57 Cou'ma. Corolla funnel-shaped. Stamens short, inclosed; anthers sagittate. Disk hypogynous. Stigma bifid. Fruit globose, 4-5-seeded. Seeds immersed in pulp.

Tribe IX.

Allamandie'æ. *Fruit capsular, composed of 2 joined follicles, prickly or smooth outside. Seeds peltate, fixed to a central placenta. Albumen none.*

58 Allama'nda. Corolla funnel-shaped; with a wide, swollen, inflated, 5-lobed limb; throat furnished with 5 scales, which cover the anthers. Capsule prickly outside.

59 Aspidospe'rma. Corolla 5-cleft; segments lanceolate; throat without scales. Capsules smooth, solitary or twin, obovate, compressed, unequal sided.

Tribe X.

Carandie'æ. *Fruit baccate, solitary or twin. Seeds peltate, winged, naked. Albumen copious, rather horny.*

60 Caríssa. Corolla funnel-shaped; throat naked. Stamens inclosed. Stigma dilated from the base, bifid. Berry solitary, 2-celled; cells 1 or few-seeded.—Prickly shrubs.

61 Hunte'ria. Corolla funnel-shaped; throat naked. Stamens inclosed. Stigma ovate, 2-lobed. Berries twin, 1-2-seeded. Unarmed shrubs.

† *Genera hardly known.*

62 MONE'TIA. Corolla of 4 petals?; petals somewhat reflexed, alternating with the segments of the calyx. Stamens 4, hypogynous; anthers sagittate, incumbent. Stigma acute. Fruit rather fleshy, pea-formed, 2-celled; cells 1-seeded. Seeds compressed or peltate.—Prickly shrubs.

63 ALA'FIA. Corolla tubularly ventricose, with a 5-parted, twisted limb; segments plicately sinuated on one side. Anthers acute, distinct, connivent; filaments bound by the style, which is filiform, and furnished with 5 appendages. Stigma inclosed, capitate, acuminated.

64 LEUCONÒTIS. Calyx 4-parted. Corolla tubular; limb 4-lobed. Stamens 4, inclosed. Ovarium 2-celled; cells bi-ovulate. Stigma annular, conical at top. Berry 1-3-seeded. Seeds exalbuminous.

Tribe I.

ECHITIE'Æ. Seeds furnished with a tuft of hairs, at the superior or umbilical extremity. Fruit of 2 follicles.

I. ECHI'TES (so named from εχις, *echis*, a viper; perhaps on account of its deleterious quality, or from its twining habit; εχιτης, *echites*, is the serpent stone.) P. Browne, jam. p. 182. R. Br. in wern. soc. 1. p. 59.—Echìtes, spec. Lin. gen. no. 299. Jacq. amer. 29.

LIN. SYST. *Pentándria, Monogýnia.* Calyx small, 5-parted. Corolla salver-shaped, with a naked throat and tube; segments of the limb unequal-sided. Stamens inclosed; anthers sagittate, cohering by their middle to the stigma, having the hind lobes without pollen. Ovaria 2. Style 1, filiform. Hypogynous scales 5. Fruit of 2 slender follicles.—Twining shrubs. Leaves opposite, having the interpetiolar cilia glandular. Peduncles interpetiolar, many-flowered. Flowers showy, white, yellow, and purple.

§ 1. *Flowers umbellate or corymbose.*

1 E. UMBELLA'TA (Jacq. amer. p. 30. t. 22. ed. pict. t. 29. Lin. spec. 307.) leaves ovate-orbicular, cuspidately mucronate; glabrous, glandless at the base; umbels few-flowered; calycine segments lanceolate. ♄. ◠. S. Native of St. Domingo, Cuba, and Jamaica, among bushes, and in hedges. Apócynum oblìquum, Mill. dict. no. 8.—Sloane, hist. 1. p. 207. t. 131. f. 2. —Brown, jam. p. 182. Leaves $2\frac{1}{2}$ inches long. Interpetiolar cilia short, subulate. Corolla silky, villous inside the tube, large, with a white or pale yellow limb, and green tube.

Umbellate-flowered Echites. Fl. July. Clt. 1733. Shrub tw.

2 E. OBLONGIFÒLIA (Desf. herb. ex Hamilt. prod. fl. ind. occ. p. 30.) leaves ovate-oblong, auriculately cordate, bluntish, mucronate, shining above, quite glabrous on both surfaces, somewhat parallelly nerved; peduncles one half longer than the leaves; flowers large, umbellate. ♄. ◠. S. Native of Guiana.

Oblong-leaved Echites. Shrub tw.

3 E. LITTÒREA (H. B. et Kunth. nov. gen. amer. 3. p. 212.) leaves oblong, cuspidately mucronate, glabrous, glandless at the base; umbels 2 or 5-flowered; calycine segments ovate-lanceolate. ♄. ◠. S. Native of Cuba, by the sea side, near Guanavacoa. Branches filiform. Interpetiolar cilia subulate. Flowers white, like those of *E. umbellàta*.

Sea-shore Echites. Shrub tw.

4 E. CHRISTOPHORIA'NA (Hamilt. prod. fl. ind. occ. p. 31.) stems fuscescent, red, with bitter bark; leaves very bitter, turned to one side, on short petioles, roundish ovate, acute, pale green above, but paler beneath, with yellowish nerves; petioles incurvedly declinate, with axillary glands; peduncles axillary, interpetiolar, elongated, dichotomous, furnished with many bracteas beneath; pedicels crowded, 1-flowered. ♄. ◠. S. Native of St. Christopher, by the sea shore. Flowers yellow, glabrous, having the throat marked with rufescent lines.

St. Christopher Echites. Shrub tw.

5 E. CURU'RA (Mart. ex Linnæa. 6. p. 30.) stem arboreous, twining a little; leaves oblong, with a short acumen, acutish at the base, reticulately veined beneath; racemes corymbose, many-flowered, axillary, and terminal; calycine segments imbricate, ovate, obtuse; throat of corolla downy: segments obovate-roundish. ♄. ◠. S. Native of Brazil, on the banks of Rio Negro.

Curura Echites. Shrub tw.

6 E. SCA'BRA (Labill. sert. cal. p. 26. t. 31.) leaves elliptic, somewhat undulated, acuminated; cymes axillary and terminal; corollas hairy. ♄. ◠. S. Native of New Caledonia. Thenárdia scàbra, Spreng. syst. addend. p. 65. Stem pilose at top. Corollas scabrous outside, from hairs. Anthers linear-sagittate.

Scabrous Echites. Shrub tw.

7 E. BIFLÒRA (Jacq. amer. 38. t. 21. icon. pict. t. 28. Lin. spec. 307.) leaves oblong, obtuse, mucronate, glabrous; peduncles 2-flowered; calycine segments small, ovate. ♄. ◠. S. Native of most of the West India Islands, in salt marshes. Swartz. obs. p. 103.—Plum. amer. 82. t. 96. Leaves attenuated at the base, obtuse, with a small mucrone, 3 inches long. Corollas white, but with a yellow throat; tube narrow.

Two-flowered Echites. Fl. July. Clt. 1793. Shrub tw.

8 E. NUMMULA'RIA (Burm. ind. t. 28. f. 1.) leaves cordate, acuminated; peduncles 2-flowered, bifid in the middle. ♄. ◠. S. Native of the West Indies. Probably only a variety of *E. biflòra*.

Money-wort-leaved Echites. Shrub tw.

§ 2. *Flowers racemose.*

* *Leaves oblong.*

9 E. DOMINGE'NSIS (Swartz, prod. p. 52. fl. ind. occ. 1. p. 529.) leaves ovate-cordate, or ovate-oblong, acute, glabrous above, rather rusty, and somewhat downy beneath; peduncles 1-2-3-flowered; calycine segments subulate, hairy. ♄. ◠. S. Native of Jamaica and Hispaniola, among bushes by the sea side. Jacq. coll. 1. p. 73. icon. rar. 53. E. heterophýlla, Gmel. syst. 1. p. 437. Stems downy. Flowers large, yellow; throat villous, wide. Hypogynous glands yellow.

St. Domingo Echites. Fl. July, Aug. Clt. 1820. Shrub tw.

10 E. BARBA'TA (Desv. herb. ex Ham. prod. fl. ind. occ. p. 30.) stems weak; branches downy; leaves quite glabrous, obovate, mucronate, vaguely veined; peduncles elongated; flowers panicled; calycine segments subulate; corolla having the tube bearded with pili, contracted a short way at the base, and widened above the calyx. ♄. ◠. S. Native of the West Indies.

Bearded Echites. Shrub tw.

11 E. RE'PENS (Jacq. amer. 33. t. 28. icon. pict. t. 33.) leaves lanceolate-linear, or ovate-lanceolate, glabrous; peduncles racemose; calycine segments lanceolate. ♄. ◠. S. Native of St. Domingo, among rocks, and on the edges of woods. Stems glabrous sarmentose, when old procumbent and rooting, and when young erectish. Peduncles usually bifid. Flowers elegant, red. Hypogynous glands roundish.

Creeping Echites. Shrub tw.

12 E. CÓNCOLOR (Desv. herb. ex. Hamilt. prod. fl. ind. occ. p. 31.) stems weak; leaves thick, elliptic-lanceolate, rounded at the base, mucronate, of the same colour on both surfaces, almost veinless; flowers axillary and terminal, twin; calycine segments lanceolate, bluntish; tube of corolla inflated at top. ♄. ◠. S. Native of Hispaniola. Very nearly allied to *E. rèpens*.

One-coloured-leaved Echites. Shrub twining.

13 E. LINEARIFÒLIA (Desv. herb. ex Ham. prod. fl. ind. occ.

p. 31.) stems perennial, funicular, glabrous, lactescent; leaves linear, mucronate, on short petioles; peduncles axillary, filiform, bifid, shorter than the leaves; follicles torulose, linear. ♄. ◡. S. Native of St. Domingo. Flowers small, white. Nearly allied to *E. rèpens*, in which the flowers are red.

Linear-leaved Echites. Shrub cl.

14 E. ASPERU'GINIS (Swartz. prod. p. 53. fl. ind. occ. 1. p. 531.) leaves oblong, acute, glabrous beneath, and rather rough above; peduncles racemose. ♄. ◠. S. Native of Jamaica and Hispaniola, among bushes, in dry places. Apócynum scándens, &c. Plum. ed. Burm. icon. t. 26. E. lappulàcea, Lam. dict. 2. p. 340.—Plum. spec. mss. 2. t. 70. Stem purplish, hispid. Follicles rough, filiform. Flowers white.

Rough Echites. Shrub tw.

15 E. TORÒSA (Jacq. amer. 33. t. 27. ed. pict. t. 34.) leaves lanceolate, acuminate, glabrous; peduncles sub-racemose; calycine segments lanceolate. ♄. ◠. S. Native of Jamaica, in woods, on the mountains. Swartz. obs. p. 105. Lam. ill. t. 174. f. 1.—Browne, jam. 181. t. 16. f. 2. Leaves 2 inches long. Flowers small, yellow. Tube of corolla ventricose in the middle, obsoletely pentagonal; segments broad, and truncate at top. Follicles tomentose, long, erect. E. toròsa, Lam. ill. 2. p. 339. no. 5. f. 1. which is the plant figured in Plum. ed. Burm. t. 27: is probably *E. rèpens*, as the flowers are said to be white or red, and the follicles in that, as in this, are torulose.

Torose-follicled Echites. Fl. June, Aug. Clt. 1770. Shrub tw.

16 E. ACUMINA'TA (Ruiz. et Pav. fl. per. 2. p. 19. t. 134. f. a.) glabrous; leaves ovate and oblong, acuminated, furnished with 5 glands at the base of each; racemes short; pedicels twin. ♄. ◠. S. Native of Peru, in the woods of Chincao, at Macora. Leaves emarginate at the base, shining above. Stipulas truncate, furnished with a small tooth on each side. Bracteas small, trifid. Flowers white.

Acuminated-leaved Echites. Shrub tw.

* * *Leaves cordate at the base.*

17 E. RICHA'RDII (Rœm. et Schultes, syst. 4. p. 391.) leaves oblong-ovate, acutely mucronate, cordate at the base; corolla and fruit hairy. ♄. ◠. S. Native of Cayenne or Guiana. E. hirsùta, Richard, in act. hist. nat. par. p. 107. but not of Ruiz. et Pav.

Richard's Echites. Shrub tw.

18 E. HIRTE'LLA (H. B. et Kunth. nov. gen. amer. 3. p. 213.) hairy; leaves oblong, acutely mucronate, narrowed a little at the base, cordate, and furnished with one gland, hairy; peduncles racemose; calycine segments ovate, acuminated. ♄. ◠. S. Native of New Granada, near Mariquita and Santanna. Interpetiolar cilia obsolete. Corollas yellow, hairy outside, and dotted with silky pili inside. The specimens collected about Santanna differ from those collected about Mariquita, in the branches being smoothish, and in the leaves being lanceolate and smaller, &c. This is probably a species of *Prestònia*, the throat being furnished with a red ring, according to Bonpland.

Hairy Echites. Fl. June. Shrub tw.

19 E. TRÍFIDA (Jacq. amer. p. 31. t. 24. H. B. et Kunth. l. c.) leaves elliptic, short-acuminated, rounded at the base, and furnished with 2 glands; racemes trifid; calycine segments oblong, obtuse. ♄. ◠. S. Native of New Spain, in woods, near Cumana and Cumanacoa. E. cuspidàta, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 796. Stems glabrous, purplish. Glands on the petioles ovate, acuminated, bifid at apex, and rather concave. Corolla glabrous, milk-coloured; upper part of tube red inside.

Trifid-racemed Echites. Fl. Sept. Shrub tw.

20 E. GRANDIFLÒRA (Meyer, esseq. p. 131.) leaves obovate, attenuated at the base, quite glabrous; flowers corymbose; corymbs shorter than the leaves, branched; calycine segments roundish-ovate, 3 of which are larger than the other 2. ♄. ◠. S. Native of the Island of Arrowabisch, climbing on trees. E. insígnis, Spreng. syst. 1. p. 632. Pedicels sub-bracteate. Flowers large, reddish yellow; tube 5-angled.

Great-flowered Echites. Shrub tw.

21 E. RHYNCOSPE'RMA (Wall. pl. rar. asiat. 1. p. 43. t. 49.) leaves ovate-lanceolate, acuminated, glabrous; flowers loosely cymose; limb of corolla longer than the tube: with falcately obovate segments; follicles slender, very long, parallel, pendulous; seeds ending in a long beak, and a tuft of hairs at the top of the beak. ♄. ◠. S. Native of Martaban, along the rivers Saluen and Atran. Flowers large, sweet-scented, white; tube and limb red towards the throat. Corolla salver-shaped. Perhaps a species of *Kitabàlia*.

Beaked-seeded Echites. Shrub tw.

22 E. LA'XA (Ruiz. et Pav. fl. per. 2. p. 19. t. 134. f. b.) rather villous; leaves cordate, acute, furnished with many glands at the base; peduncles long, loose, racemose, few-flowered. ♄. ◠. S. Native of Peru, in woods. E. glandulòsa, Poir. suppl. 2. p. 557. Stem glabrous, angular, often granular. Branches rather villous. Stipulas toothed. Bracteas small, subulate. Corollas large, yellow.

Loose-flowered Echites. Shrub tw.

23 E. PUBIFLÒRA; leaves oblong-lanceolate, cordate at the base, acuminated, glabrous above, but tomentose beneath; racemes many-flowered; corolla hairy outside. ♄. ◠. S. Native of Maranham, in low bushy places. Flowers large, yellow.

Downy-flowered Echites. Shrub twining.

24 E. MONTA'NA (H. B. et Kunth. l. c.) leaves elliptic-oblong, acute, cordate, roughish above from hairs, but soft and canescent beneath, glandular at the base; peduncles racemose; calycine segments ovate-lanceolate, much shorter than the tube. ♄. ◡. S. Native of the Andes, about Pasto, in bushy places, in the valley of the river Guaytara. Leaves $2\frac{1}{2}$ inches long. Interpetiolar cilia obsolete. Calyx hairy at the base. Corolla glabrous outside and inside, yellow above, and white beneath. Follicles smooth.

Mountain Echites. Fl. Dec. Shrub tw.

25 E. RIPA'RIA (H. B. et Kunth. nov. gen. amer. 3. p. 214.) leaves ovate-oblong, acute, cordate, smoothish above, but clothed with soft, hair-like down beneath, and canescent, glandular at the base; racemes usually 6-flowered; calycine segments lanceolate, hardly one half shorter than the tube. ♄. ◠. S. Native of New Granada, in hot places, near Teneriffe, on the banks of the river Magdalena. Branches glabrous. Peduncles and calyxes downy. Corollas white, glabrous inside and outside. Very nearly allied to *E. montàna*, from which it chiefly differs in the form and size of the calyx, and in the colour of the flowers.

River-side Echites. Fl. May. Shrub tw.

26 E. CONGE'STA (H. B. et Kunth. l. c.) leaves roundish-ovate, short-acuminated, cordate, rather pilose above, clothed with soft down beneath, and canescent; flowers racemose, capitately crowded; calycine segments lanceolate-linear. ♄. ◠. S. Native of South America, in the province of Popayan. Branches hairy, and besprinkled with white warts. Leaves 3 to $3\frac{1}{2}$ inches long, and 2 or $2\frac{1}{2}$ broad. Flowers white, very like those of *Jasmìnum sámbac*. Corolla glabrous, but with the tube downy inside.

Crowded-flowered Echites. Shrub tw.

27 E. BOGOTE'NSIS (H. B. et Kunth. l. c. p. 215. t. 243) leaves oblong, acuminated, obsoletely cordate, glabrous above, but clothed with powdery down, and glaucescent beneath, furnished with 2 bifid glands toward the base; racemes bifid; calycine segments ovate-oblong, acutish. ♄. ◠. S. Native of

South America, near the town of Santa Fe de Bogota. Branches glabrous. Leaves $2\frac{1}{2}$ inches long. Flowers size of those of *Vínca*. Calyx smooth, furnished with 5 trifid scales inside, towards the base. Corolla white, glabrous, hairy inside.

Bogota Echites. Shrub tw.

28 E. CITRIFÒLIA (H. B. et Kunth. l. c. p. 216.) leaves ovate-oblong, acuminated, obsoletely cordate, quite glabrous, shining above; petioles furnished with 2 glands inside; racemes bifid; calycine segments lanceolate, acuminated. ♄ . ◠. S. Native of New Granada, near Santanna and Mariquita. Branches glabrous. Leaves 3 inches long. Corolla glabrous outside.

Orange-leaved Echites. Fl. June. Shrub tw.

29 E. DICHÓTOMA (H. B. et Kunth. l. c. p. 217.) leaves ovate-oblong, acuminated, cordate, glabrous, glandless?; racemes dichotomous, on long peduncles; calycine segments ovate-lanceolate. ♄ . ◠. S. Native of South America, in the province of Bracamoros, between Jaen and the river Amazon. Branches smoothish. Corolla blue or purple.

Dichotomous-peduncled Echites. Fl. Aug. Shrub tw.

30 E. MARANHAME'NSIS; leaves cordate, sub-sagittate-oblong, acuminated, glabrous above, but clothed with white tomentum beneath; racemes many-flowered; flowers almost sessile; corollas glabrous outside. ♄. ◠. S. Native of Maranham. Flowers large, yellow. Follicles long, smooth.

Maranham Echites. Shrub cl.

31 E. SUBSAGITTA'TA (Ruiz. et Pav. fl. per. 2. p. 19.) glabrous; leaves oblong, sub-sagittate, acuminated, with the hind lobes obtuse, ciliated, glandular at the base; peduncles short, racemose; calycine segments acute. ♄ . ◠. S. Native of Peru, in woods. E. subsagittàta, Pers. ench. 1. p. 271. Stems glabrous, granular, filiform, purplish. Petioles downy. Stipulas form of glands.

Sagittate-leaved Echites. Shrub tw.

32 E. NÍTIDA (Vahl. eclog. amer. 2. p. 19.) leaves oblong-lanceolate, subcordate at the base, glabrous, shining above; peduncles racemose; calycine segments linear-obtuse. ♄ . ◠. S. Native of South America. Leaves 3-4 inches long, acute, of a glaucous rust colour beneath. Petioles purplish. Pedicels sometimes twin. Corolla white, with the tube swollen at top. Anthers 8, beaked.

Shining-leaved Echites. Shrub tw.

33 E. TOMENTÒSA (Vahl. symb. 3. p. 44.) leaves cordate-oblong, acuminated, and are, as well as the stems, hairy; peduncles racemose, 3-4-flowered, pilose; calycine segments attenuated, glabrous. ♄. ◠. S. Native of Cayenne. Leaves 3 inches long. Corolla beset with grey hairs outside, yellow.

Tomentose Echites. Fl. July, Aug. Clt. 1824. Shrub tw.

§ 3. *Follicles united at top.*

34 E. SYMPHYOCA'RPA (Meyer, esseq. p. 132.) leaves elliptic-oval, sub-sagittate, tomentose beneath, roughish above; racemes downy; follicles joined at top; calycine segments subulate, acuminated. ♄. ◠. S. Native of the Island of Arrowabisch, in sandy groves. Stems glabrous, red. Tendrils simple, axillary. Corolla glabrous, yellow outside, but variegated with red and yellow inside. This, and *E. agglutinàta*, may probably form a distinct genus, from the follicles being joined at top.

Combined-fruited Echites. Shrub tw.

35 E. AGGLUTINA'TA (Jacq. amer. 31. t. 23. ed. pict. t. 30. Lin. spec. 1671.) leaves ovate, emarginate, with a mucrone, glabrous; peduncles racemose; calycine segments small, ovate. ♄ . ◠. S. Native of St. Domingo, among bushes on the mountains, about Cape Francais. Peduncles sometimes bifid. Flowers small, white. Tube of corolla 5-furrowed; segments narrow. Follicles agglutinate at the apex.

Agglutinate-follicled Echites. Shrub tw.

36 E.? CATESBÆ'I; leaves oblong, spiny, stiff, almost veinless, often involute; racemes 6-8-flowered, terminal and axillary; segments of the corolla truncate; follicles contiguous at the apex. ♄ . ◠. F. Native of Carolina. Vínca lùtea, Lin. amœn. 4. p. 307. spec. 305.—Catesb. car. 2. p. 53. t. 53. Follicles 8-10 inches long. Seeds pappose. Flowers yellow, double.? Perhaps a species of *Forsterònia*.

Catesby's Echites. Shrub tw.

† *Species natives of America, hardly known; the greater number of which probably do not belong to the genus.*

37 E.? SYPHILÍTICA (Lin. suppl. 167.) leaves ovate, acute, quite glabrous, ribbed; peduncles axillary, divided into two branches, and these branches again divided into 2 spikes, which are closely beset with flowers. ♄ . S. Native of Surinam. A lactescent tree. Leaves large. Corollas large, white; limb large, flat. Stigma of *Vínca*. Follicles twin, divaricate. A decoction of the leaves is noted, in Surinam, in the cure of syphilis. Perhaps a species of *Tabernemontàna*.

Syphilitic Echites. Tree.

38 E. SUBSPICA'TA (Vahl. eclog. amer. 2. p. 18.) leaves oblong, attenuated, somewhat cordate at the base, glabrous; peduncles racemose; pedicels very short; calycine segments lanceolate. ♄ . ◠. S. Native of South America. Shrub glabrous in every part. Leaves 4-5 inches long, shining above, purplish on the rib beneath. Petioles rather villous above. Bracteas linear-lanceolate. Perhaps a species of *Parsónsia*.

Subspicate-flowered Echites. Shrub tw.

39 E. RUBRICAU'LIS (Poir. suppl. 2. p. 535.) leaves ovate, acuminated, nerved beneath, and rather downy; flowers lateral, almost solitary; stem red. ♄ . ◠. S. Native of Guiana. Leaves glabrous, and almost shining above. Flowers hardly pedunculate.

Red-stemmed Echites. Fl. July, Aug. Clt. 1824. Shrub cl.

40 E. OVALIFÒLIA (Poir. suppl. 2. p. 535.) leaves oval, blunt at both ends, downy beneath; follicles very hairy; peduncles racemose, longer than the leaves; branches and peduncles pilose. ♄ . ◠. S. Native of St. Domingo. Branches stiff, brownish. Leaves an inch and more long. Bracteas subulate. Follicles slender, arched.

Oval-leaved Echites. Shrub tw.

41 E. GLOMERA'TA (Poir. suppl. 2. p. 536.) leaves membranous, ovate, acuminated, glabrous; flowers in axillary, nearly globose fascicles, almost sessile; stems scandent. ♄ . ◠. S. Native of St. Domingo. Leaves 2-3 inches long. Flowers middle-sized. Bracteas lanceolate.

Glomerate-flowered Echites. Shrub cl.

42 E.? PANICULA'TA (Poir. suppl. 2. p. 536.) leaves oval-lanceolate, acuminated, glabrous; panicles lateral, spicate; pedicels cymosely umbellate. ♄ . ◠. S. Native of South America. Pedicels downy. Perhaps a species of *Parsónsia*.

Panicled-flowered Echites. Shrub tw.

43 E. ANGUSTIFÒLIA (Poir. suppl. 2. p. 537.) leaves very narrow, acute; flowers axillary, usually solitary; follicles slender, somewhat tomentose. ♄ . ◠. S. Native of St. Domingo. Habit of a species of *Ceropègia*. Leaves 3 inches long, hardly petiolate, glabrous, with 3 longitudinal nerves, 2 of which are almost marginal. Follicles 6-8 inches long.

Narrow-leaved Echites. Shrub tw.

44 E. DIFFÓRMIS (Walt. fl. car. p. 98. Pursh. fl. amer. sept. 1. p. 178.) leaves oval-lanceolate, acute at the base: lower ones linear; flowers in fasciculate-corymbs. ♄ . ◠. F. Native of Lower Carolina, in woods. Leaves rather downy beneath. Flowers small, yellowish.

Two-formed-leaved Echites. Fl. July. Clt. 1806. Sh. tw.

45 E. PUNCTICULÒSA (Richard. in act. hist. nat. par. p. 107.)

branches rather scabrous from prominent dots; leaves ovate, with an obtuse acumen, very veiny beneath; corymbs compound. ♄. ⌒. S. Native of South America.

Dotted-branched Echites. Shrub tw.

46 E. RUGULÒSA (Richard, in act. hist. nat. par. p. 107.) leaves ovate, acutely acuminated, sub-emarginate at the base, wrinkled, with revolute edges: having the nerves above roughish from minute down; stem slender, roughish. ♄. ⌒. S. Native of Cayenne.

Wrinkled Echites. Shrub tw.

47 E. GALEGIFÓRMIS (Rudolph. ex Ledeb. pl. st. doming. no. 6.) peduncles many-flowered; leaves oblong, obtuse. ♄. ⌒. S. Native of St. Domingo. Very like *E. tomentòsa*, but differs in the leaves being obtuse and the flowers rose-coloured.

Galega-formed Echites. Shrub tw.

48 E.? SEMIDÍGYNA (Berg. act. vlissing. 3. p. 383. icone.) leaves ovate-oblong, attenuated at both ends. ♄. ⌒. S Native of South America.? Gmel. syst. p. 436. Peduncles oppositely racemose.

Semidigynous Echites. Shrub tw.

†† *East Indian species, hardly known, with small flowers. The species here enumerated will probably form a distinct genus.*

49 E.? GLANDULÍFERA (Wall. cat. no. 1659.) leaves oblong, coriaceous, glabrous, tapering to the base, and acuminated at the apex, on very short petioles; panicles terminal and axillary, composed of trichotomous peduncles; flowers crowded, corymbose; calyx and pedicels downy; follicles narrow, torulose. ♄. ⌒. S. Native of the Burmese empire, at Amherst. E. monilífera, Wall. cat. 1659., a native of Singapore, hardly seems to differ, unless in the more ovate leaves. Flowers small, white.

Gland-bearing Echites. Shrub tw.

50 E.? MICRA'NTHA (Wall. cat. no. 1667.) leaves oblong or ovate-oblong, acuminated, glabrous; panicles axillary and terminal, divaricate, composed of trichotomous peduncles; flowers crowded, corymbose, downy. ♄. ⌒. S. Native of Silhet. E. brachiàta, Wall. cat. no. 1668. is the same. Flowers very small. Follicles probably torulose, like the last species.

Small-flowered Echites. Shrub tw,

51 E.? LU'CIDA (Wall. cat. no. 1670.) leaves elliptic, obtuse at both ends, short-acuminated, coriaceous, glabrous, shining; panicles terminal and axillary, composed of trichotomous peduncles; flowers corymbose, downy; bracteas linear; follicles woody, ovate, acuminated, or cultriform. ♄. ⌒. S. Native of Penang. Flowers small. E. esculénta, Wall. cat. 1671. from Amherst does not appear to differ from the present species, but as there are no flowers on the specimens of that plant examined by us, its affinity cannot be ascertained.

Shining-leaved Echites. Shrub tw.

52 E.? PANICULA'TA (Roxb. fl. ind. 2. p. 17.) leaves broad-lanceolate, bluntly acuminated; panicles axillary and terminal, trichotomous throughout: the extreme divisions 3-flowered; follicles sub-clavate, few-seeded; hypogynous scales combined into a cup-shaped 5-toothed urceolus. ♄. ◡. S. Native of Silhet. Leaves 8 inches long and 1½ to 3 broad. Bracteas oval. Flowers very small, pale yellow. Corolla with a short gibbous tube; and woolly, edged, falcate segments.

Panicled-flowered Echites. Shrub cl.

53 E.? PARVIFLÒRA (Roxb. fl. ind. 2. p. 20.) leaves lanceolate; panicles terminal and axillary, brachiate; tube of corolla gibbous towards the base; segments of the limb linear, falcate. ♄. ⌒. S. Native of the northern Circars, and Silhet. E. macrocárpa, Wall. cat. no. 1663. Hypogynous scales combined into an entire ring. Follicles large, ovate, acuminated. E. polyántha, Wall. cat. no. 1664., a native of Chapedong, and Amherst, hardly differs, except in the more coriaceous leaves.

Small-flowered Echites. Shrub tw.

54 E.? ELLÍPTICA (Wall. cat. no. 1666.) leaves elliptic, or obovate-elliptic, acuminated, glabrous; peduncles axillary and terminal, trichotomous, corymbose, spreading; corolla salver-shaped, with obtuse segments. ♄. ⌒. S. Native of Silhet. Echìtes verticállis, Hamilt. mss. Very nearly allied to the preceding.

Elliptic-leaved Echites. Shrub tw.

††† *American species, hardly known.*

55 E. MYRTIFÒLIA (Willd. herb. ex Rœm. et Schultes, syst. 34. p. 795.) peduncles 1-flowered; leaves oblong-lanceolate, mucronate, shining. ♄. ⌒. S. Native of Cuba, about the Havanna. This is not to be confounded with Parsónsia myrtifòlia, Rœm. et Schultes, vol. 5.

Myrtle-leaved Echites. Shrub tw.

56 E. GEMINA'TA (Willd. l. c.) leaves elliptic, acutish; peduncles twin, 1-flowered. ♄. ⌒. S. Native of Brazil.

Twin-peduncled Echites. Shrub tw.

57 E. LU'CIDA (Willd. l. c.) peduncles 1-flowered, elongated; leaves elliptic-oblong, subcordate, obtuse, shining above. ♄. ⌒. S. Native on the banks of the Orinoco.

Shining Echites. Shrub tw.

58 E. CANE'SCENS (Willd. l. c.) peduncles 3-flowered, axillary; leaves oblong, acuminated, tomentose beneath. ♄. ⌒. S. Native of South America.

Canescent Echites. Shrub tw.

59 E. VERRUCÒSA (Willd. l. c.) corymbs axillary; leaves oblong, acuminated; branches warted. ♄. ⌒. S. Native of Brazil.

Warted Echites. Shrub tw.

60 E. HÍSPIDA (Willd. l. c.) racemes axillary; corollas hispid outside; leaves oblong-cordate, acuminated, hispid. ♄. ⌒. S. Native of Brazil.

Hispid Echites. Shrub tw.

61 E. SCA'BRA (Willd. l. c.) racemes axillary; leaves oblong, acuminated, cordate, scabrous. ♄. ⌒. S. Native of Brazil.

Scabrous Echites. Shrub tw.

62 E. GLAU'CA (Willd. l. c.) racemes terminal; leaves elliptic, acuminated, glaucous beneath. ♄. ⌒. S. Native of Brazil. Corolla funnel-shaped: having the tube thickened at top, and with the throat hardly pervious. Leaves coriaceous, glabrous. Perhaps a distinct genus.

Glaucous Echites. Shrub tw.

63 E. MACRA'NTHA (Rœm. et Schultes, syst. 4. p. 795.) corymbs axillary; leaves oblong, acute, glabrous, shining. ♄. ⌒. S. Native of Brazil. E. grandiflòra, Willd. herb. but not of others.

Large-flowered Echites. Shrub tw.

64 E. PUBE'SCENS (Willd. herb. ex Rœm. et Schultes. syst. 4. p. 796.) flowers sub-umbellate, axillary; leaves elliptic-ovate, cordate, acuminated, downy beneath. ♄. ⌒. S. Native of South America.

Downy Echites. Shrub tw.

65 E. NODÒSA (Willd. l. c.) racemes axillary; leaves lanceolate, acuminated; branches nodose. ♄. ⌒. S. Native of South America.

Knotted-branched Echites. Shrub tw.

66 E. MUCRONA'TA (Rœm. et Schultes, syst. 3. p. 769.) leaves lanceolate, cordate, acuminated, mucronate, downy beneath; racemes axillary. ♄. ⌒. S. Native of South America. E. acuminàta, Willd. herb.

Mucronate-leaved Echites. Shrub tw.

67 E. FRASE'RI (Rœm. et Schultes, l. c.) leaves crowded, linear, ciliated with pili, acute; panicle terminal, naked. ♄. ⌒. F. Native of Carolina.

Fraser's Echites. Shrub tw.

Cult. All the true species of this genus bear large, elegant, white or yellow flowers. They grow freely in a mixture of loam, sand, and peat; and cuttings strike root readily under a hand-glass, if planted in sand.

II. CHONEMO'RPHA (χωνη, *chone*, a funnel, and μορφη, *morphe*, form; form of corolla). Echìtes species, Wall. Roth. Roxb., &c.

LIN. SYST. *Pentándria*, *Monogýnia*. Calyx small, 5-parted. Corolla funnel-shaped, with a naked throat, and a twisted limb; segments of corolla equal-sided ?. Stamens inclosed; anthers sagittate or lanceolate, adhering to the stigma. Ovarium didymous. Style filiform; stigma somewhat conical, emarginate at apex. Hypogynous scales 5, distinct or connate. Follicles distinct, slender. Seeds furnished with a tuft of hairs at the upper extremity.—Erect or twining shrubs, natives of Asia, with opposite leaves; and interpetiolar glandular ciliæ ?. Peduncles interpetiolar, corymbose. Flowers showy, white or yellow.

* *Erect shrubs.*

1 C. CRISTA'TA; stems erect; leaves oval, mucronate, tomentose beneath, with horizontal ribs; corymbs axillary, dichotomous, divaricate, on short peduncles. ♄. S. Native of the East Indies. Echìtes cristàta, Roth. nov. spec. Bracteas minute, tooth-formed.

Crested Chonemorpha. Shrub.

2 C. DICHÓTOMA; stems erect, dichotomous; leaves ovate, acuminated, downy beneath, when young clothed with silky tomentum; corymbs axillary, dichotomous, on short peduncles, erect. ♄. S. Native of the East Indies. Echìtes dichótoma, Roth, nov. spec. Echìtes Héynii, Spreng. syst. 1. p. 632. Leaves a hand long, downy on the veins and nerves above. The flowers are said to be salver-shaped, but are probably funnel-shaped, very like those of *Jasmínum odoratíssimum*, but a little larger, with the tube downy.

Dichotomous Chonemorpha. Shrub.

3 C. GRANDIFLÒRA; stem erect; leaves oval, acuminated, glabrous above, and rather tomentose beneath; flowers terminal, by threes; peduncles as well as the calyxes downy; corolla glabrous. ♄. S. Native of the East Indies. Echìtes grandiflòra, Roth, nov. spec. but not of Meyer. Echìtes macrántha, Spreng. syst. 1. p. 632. Ribs of leaves almost horizontal, bifid at top. Flowers showy, size of those of *Oleánder*. Segments of corolla ovate, mucronate.

Great-flowered Chonemorpha. Shrub.

4 C. VESTÌTA; stem erect, downy; leaves oval-lanceolate, downy above and tomentose beneath; corymbs axillary, almost sessile, dichotomous, somewhat divaricate; corolla downy. ♄. S. Native of the East Indies. Echìtes vestìta, Rœm. et Schultes, syst. 4. p. 394. E. tomentòsa, Roth, nov. spec. Bracteas lanceolate, concave. The corolla is said to be salver-shaped, but is probably funnel-shaped, like the rest. Perhaps a species of *Aganósma*.

Clothed Chonemorpha. Shrub.

5 C. ANTIDYSENTE'RICA; stem erect? angular; leaves ovate-lanceolate, with obsoletely crenulated edges, glabrous on both surfaces; corymbs axillary, dichotomous; calyx and corolla downy. ♄. S. Native of the East Indies. Echìtes antidysentérica, Roth. nov. spec. Bracteas linear, downy. The corolla is said to be salver-shaped, but is probably funnel-shaped.

Antidysenteric Chonemorpha. Shrub.

* * *Twining shrubs.*

6 C. RETICULA'TA; stem twining, angular, roughish; leaves oval, mucronate, glabrous on both surfaces, reticulately veined; corymbs axillary, pedunculate; bracteas imbricate. ♄. ◠. S. Native of the East Indies. Echìtes reticulàta, Roth. nov. spec.

Var. β, *tomentòsa* (Roth. l. c.) leaves tomentose on the ribs and veins, especially beneath.

Reticulated-leaved Chonemorpha. Shrub tw.

7 C.? MALABA'RICA; stem scandent; leaves ovate, acuminated; flowers disposed in axillary cymose racemes, villous. ♄. ◡. S. Native of Malabar. Echìtes Malabárica, Lam. dict. 2. p. 343.—Pal-valli. Rheede, mal. 9. t. 12. Stem slender, kneed. Flowers light green, reddish outside, with a whitish neck. Follicles stiff, narrow, rather flattened.

Malabar Chonemorpha. Shrub cl.

8 C. MACROPHY'LLA; stems twining; leaves large, roundish, acuminated, downy beneath; cymes terminal. ♄. ◡. S. Native of Silhet. Echìtes grándis, Wall. cat. no. 1658. Echìtes macrophýlla, Roxb. fl. ind. 2. p. 13. Leaves from oval to roundish, 10-12 inches long, and 7-10 broad. Flowers very large, white. Calyx campanulate, 5-toothed. Filaments hairy. Follicles pendulous, about a foot long. Seeds spatulate. Embryo inverted. Habit of *Beaumóntia grandiflòra*.

Large-leaved Chonemorpha. Shrub cl.

9 C. DENSIFLÒRA (Blum. bijdr. p. 104. under *Echìtes*) leaves on short petioles, oblong-lanceolate, coriaceous, glabrous; corymbs axillary and terminal, fastigiate, subumbellate, many-flowered; corolla funnel-shaped: having the tube angular at bottom. ♄. ◡. S. Native of Java, about Kuripan, where it is called *Tjunkankan*. Flowers white. Hypogynous scales acute, distinct. Stamens inclosed.

Dense-flowered Chonemorpha. Fl. March. Shrub cl.

10 C. BANTAME'NSIS (Blum. bijdr. p. 1040. under *Echìtes*) leaves elliptic-oblong, acuminated, rather attenuated at the base, glabrous, reticulately veined beneath, tomentose on the midrib and veins beneath, as well as on the petioles and branchlets; corymbs axillary and terminal, trichotomous, on long peduncles; corolla funnel-shaped, hairy. ♄. ◡. S. Native of Java, among bushes, in the province of Bantam. E. ferrugínea, Horsfield, in Rœm. Schultes, syst. 4. p. 796. Hypogynous scales acuminated, distinct. Stamens inclosed.

Bantam Chonemorpha. Fl. Feb. Shrub cl.

11 C. CORIA'CEA (Blum. bijdr. p. 1039. under *Echìtes*) leaves lanceolate, coriaceous, glabrous; corymbs axillary or terminal, bifid or trifid; pedicels usually 3 together; corolla funnel-shaped, hairy inside. ♄. ◡. S. Native of Java, in mountain woods, where it is called *Ojot-tjum-pol-kikis*. Flowers small, yellowish. Stamens inclosed. Hypogynous scales connate.

Coriaceous-leaved Chonemorpha. Fl. year. Shrub cl.

12 C. INFLA'TA (Blum. bijdr. p. 1039. under *Echìtes*) leaves elliptic-lanceolate, bluntly acuminated, coriaceous, glabrous, full of parallel reticulated veins; corymbs axillary and terminal, bifid or trifid; pedicels 3 together; corolla funnel-shaped: having the tube widened and 5-angled downwards. ♄. ◡. S. Native of Java, at the foot of Mount Tjerimai. Flowers white, but the throat is yellow. Hypogynous scales roundish, distinct. Nearly allied to *E. reticulàta*, Roth., from which it differs in the anthers being inclosed, and in the tube of the corolla being 5-angled above.

Inflated-flowered Chonemorpha. Fl. August. Shrub cl.

13 C.? CONVOLVULOÌDES; leaves sagittately cordate, acuminated, glabrous, on long petioles; racemes terminal and axillary, 4-5-flowered, on short angular, thick peduncles; tube of corolla very long. ♄. ◠. S. Native of Africa, in the island of St. Thomas, on the banks of rivers. Corolla funnel-shaped, with a naked throat, white. Anthers conniving into a cone. Lobes at base of leaves distant. Follicles long.

Convolvulus-like Chonemorpha. Shrub tw.

Cult. See *Echìtes* above for culture and propagation.

III. AGANO'SMA (from *αγανης, aganes*, mild, and *οσμη, osme*, a smell; scent of flowers). Echìtes, sect. 2. Aganósma, Blum. bijdr. p. 1040. Echìtes species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx large, 5-parted, equal in length to the tube of the corolla, spreading. Corolla funnel-shaped, with an oblique 5-parted limb, and the tube gibbous at the base. Stamens inclosed; anthers sagittate, cohering with the stigma. Ovarium didymous, inclosed by 5 long combined hypogynous scales. Style thick; stigma conical, angular at the base, mucronate at top or bidentate. Follicles cylindrical, divaricate. Seeds large.—Showy Asiatic shrubs, with opposite leaves and terminal corymbs of flowers. Bracteas deciduous, at the base of the pedicels and calyxes.

1 A. caryophylla'ta; leaves oval, acutish at both ends, tomentose beneath as well as the branches; corymbs terminal. ♄. S. Native of the East Indies. Echìtes caryophyllàta, Blum. bijdr. p. 1041.—Rheed. mal. 7. t. 103. t. 55. Flowers pale yellow, tinged with red, very sweet scented.

Clove-scented Aganosma. Fl. Oct. Clt. 1812. Shrub tw.

2 A. Roxbu'rghii; leaves ovate-cordate, acuminated: having the petioles and veins red, glabrous, pale beneath and shining above; with the principal nerves running from the base to the apex of the leaves; corymbs terminal; segments of corolla triangular. ♄. ◠. S. Native of the East Indies, in mountainous tracks only. Echìtes caryophyllàta, Roxb. fl. ind. 2. p. 11. Sims, bot. mag. 1919. but not of Blume.—Rheed. mal. 9. t. 135. Perhaps *Echìtes costàta*, Willd. is the same. Flowers large, pure white, delightfully fragrant. Nectary tubular, 5-toothed. Calyx and corolla hoary outside.

Roxburgh's Aganosma. Fl. Oct. Clt. 1812. Shrub tw.

3 A. cymòsa; hairy; leaves elliptic, acuminated; cymes terminal, shorter than the leaves; segments of corolla oblique, ensiform; nectary cup-shaped, 5-toothed. ♄. S. Native of Silhet. Echìtes cymòsa, Roxb. fl. ind. 2. p. 16. Echìtes confèrta, Wall. cat. no. 1655. Leaves 3-4 inches long. Flowers small, dull white, fragrant. Calyx and corolla hoary outside.

Cymose-flowered Aganosma. Shrub.

4 A. Wallìchii; leaves elliptic-acuminated, shining above, and pale beneath, glabrous; veins parallel; corymbs terminal; nectary tubular, 5-toothed. ♄. S. Native of the East Indies. Echìtes calycìna, Wall. cat. no. 1653. Calyx and corolla downy outside. This species differs from *A. Roxbúrghii* in the veins of the leaves being parallel, not longitudinal, from the base to the apex. Flowers white, fragrant.

Wallich's Aganosma. Shrub tw.

5 A. e'legans; leaves elliptic, short-acuminated, glabrous; corymbs terminal, crowded; calycine segments lanceolate, linear, longer than the tube of the corolla. ♄. ◠. S. Native of the East Indies. Echìtes élegans, Wall. cat. no. 1656. Echìtes bracteàta, Herb. Heyne. Flowers small, apparently purple, being black in the dried state. Corolla downy outside, as well as the calyxes, bracteas, and pedicels.

Elegant Aganosma. Shrub tw.

6 A. acumina'ta; leaves from oblong to broad-lanceolate, acuminated, glabrous; panicles axillary, longer than the leaves, trichotomous, diffuse; segments of corolla linear, falcate, curled. ♄. ◠. S. Native of Silhet, where it is called *Pingoree* and *Bengeree*. Echìtes acuminàta, Roxb. fl. ind. 2. p. 15. Leaves 2-4 inches long. Panicles and bracteas smooth. Flowers large, white, fragrant. Calyx length of the tube of the corolla, smooth. Nectary cup-shaped, obscurely 5-toothed. Follicles very long, slender.

Acuminated-leaved Aganosma. Shrub cl.

7 A. margina'ta; leaves lanceolate, smooth: having the tops of the veins forming a waved line within the margin of the leaf; panicles terminal, lax, corymbose, at first sub-trichotomous, and then dichotomous, glabrous; segments of corolla linear, falcate; nectary annular. ♄. ◡. S. Native of Silhet, where it is called *Dood-luta*. Echìtes marginàta, Roxb. fl. ind. 2. p. 16. Flowers numerous, large, white, fragrant.

Marginate Aganosma. Shrub cl.

† *A species hardly known.*

8 A. affìnis; erect, tomentose; leaves oval, mucronate; corymbs terminal; segments of calyx equal in length to the limb of the corolla. ♄. S. Native of the East Indies. Echìtes caryophyllàta, Roth. nov. spec. E. affìnis, Rœm. et Schultes, syst. 4. p. 393. Leaves densely clothed with soft down above, and grey tomentum beneath. Corolla with a glabrous tube, which is said to be twice as long as the calyx, in the description by Roth; it is consequently not a true species of *Aganósma*.

Allied Aganosma. Shrub erect.

Cult. For culture and propagation see *Echìtes*, p. 76.

IV. BEAUMO'NTIA (named in compliment to the late Mrs. Beaumont, of Bretton Hall, Yorkshire). Wall. tent. fl. nep. p. 14. t. 7. Bot. reg. 911. Echìtes species, Roxb.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5, foliaceous, unequal, erect segments. Corolla with a short tube and a large campanulate 5-lobed limb; lobes erect, ovate, acute; throat destitute of scales. Stamens 5, inserted in the throat of the tube, exserted; anthers sagittate, beardless, cohering to the stigma: hind lobes without pollen; filaments free. Style twisted. Ovarium 2-celled, surrounded by a hypogynous 5-lobed ring. Stigma oblong, with a bifid point. Follicles 2, large, combined, but at length separating. Seeds furnished with a tuft of hairs at the umbilical end.—Large twining shrubs, with permanent opposite leaves: having the axillary and interpetiolar cilia subulate and sphaceolate. Corymbs axillary and terminal, many-flowered. This genus agrees wtth *Lyónsia* on one hand and *Parsónsia* on the other.

1 B. grandiflòra (Wall. l. c.) leaves broad, oblong-obovate; with a little point, tapering towards the base, smooth and shining above, but rather downy beneath; calyx downy. ♄. ◠. S. Native of Chittagong and Silhet. Echìtes grandiflòra, Roxb. fl. ind. 2. p. 14. Corolla large, white, greenish outside near the base, and dark throat. Young leaves and branches rusty.

Great-flowered Beaumontia. Fl. Ju. Clt. 1820. Shrub tw.

2 B. longifòlia (Lodd. bot. cab. p. 6. for 1830.) nothing more than the name is known of this species. ♄. ◠. S. Native of the East Indies.

Long-leaved Beaumontia. Shrub tw.

Cult. See *Echìtes*, p. 76. for culture and propagation.

V. PACHYPO'DIUM (from *παχυς, pachys*, thick, and *πους ποδος, pous podos*, a foot; in reference to the thick fleshy roots). Lindl. bot. reg. 1321.—Echìtes species, Thunb. and Haw.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted. Corolla salver-shaped; with a somewhat curved pentagonal tube; throat and tube scaleless; segments of the limb obtuse, equal. Stamens inserted in the middle of the tube; anthers sagittate, subsessile. Ovaria 2. Styles 2. Hypogynous scales none. Follicles twin, ovate.—Fleshy, lactescent, spiny shrubs, with the habit of some species of *Euphórbia*. Spines 2-3-lobed, infra-petiolar. Leaves scattered. Flowers axillary or terminal, solitary or aggregate. Peduncles 1-flowered.

1 P. gla'brum; leaves ovate-lanceolate, or obovate-lanceolate, glabrous. ♄. G. Native of the Cape of Good Hope, in arid places. Echìtes bispinòsa, Thunb. prod. 37. nov. act. petrop. 14. p. 505. Ait. hort. kew. ed. 2. vol. 2. p. 69. Lin. suppl. p. 167. Prickles connate. Leaves acute, paler beneath, hardly an inch long. Corolla with a somewhat curved, greenish rufescent tube, bearded with white hairs, and an inflated campanulate limb, which is reddish outside, and purplish inside at the base; segments ovate, obtuse, white.

Glabrous Pachypodium. Fl. July, Nov. Clt. 1795. Sh. 1 ft.

2 P. tomentòsum; leaves linear or lanceolate, tomentose beneath; glabrous above. ♄. G. Native of the Cape of Good Hope, in arid places. Echìtes succulénta, Thunb. prod. 37. nov. act. petrop. 14. p. 505. t. 9. f. 2. Lin. suppl. 167. Prickles filiform, setaceous. Leaves green above, but clothed with fine villi beneath, about an inch long. Corollas rufescent. Follicles ovate, acute.

Tomentose Pachypodium. Fl. Jul. Nov. Clt. 1820. Sh. 1 ft.

3 P. tuberòsum (Lindl. bot. reg. 1321.) stem tuberous at the base; leaves oblong, tomentose beneath, glabrous above. ♄. G. Native of the Cape of Good Hope, in barren plains. Echìtes tuberòsa, Haw. syn. pl. succ. p. 6.? Lodd. bot. cab. 1676. Prickles straight, subulate. Corolla red outside, and whitish on the upper surface of the limb, tinged with red.

Tuberous-rooted Pachypodium. Fl. June, Nov. Clt. 1813. Shrub 1 foot.

Cult. These are very pretty succulent shrubs. A mixture of lime-rubbish, sand, and loam is the best soil for them: and cuttings will strike root readily in sand, under a hand-glass. The plants should not get too much water, when not in a growing state.

VI. ICHNOCA'RPUS (ιχνος, *ichnos*, a vestige, and καρπος, *karpos*, a fruit; in reference to the slender follicles). R. Br. in mem. wern. soc. 1. p. 62.—Apócynum frutéscens, Lin.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft. Corolla salver-shaped; segments of the limb dimidiate, twisted, hairy; throat and tube without any scales. Stamens inclosed; anthers sagittate, free from the stigma. Ovaria twin. Style 1, filiform; stigma ovate, acute. Hypogynous threads 5, capitate, alternating with the stamens. Follicles slender.—Climbing shrubs, with opposite leaves; branched, terminal panicles of small, white, inodorous flowers.

1 I. frute'scens (R. Br. hort. kew. ed. 2. vol. 2. p. 69.) stem twining; leaves oblong-lanceolate, tapering to both ends, glabrous; peduncles axillary, very long, racemose; pedicels fascicled; follicles variable. ♄. ⌒. S. Native of Ceylon, Sirmore, Silhet, Nipaul, and Kamaon. Apócynum frutéscens, Lin. fl. zeyl. 114. spec. p. 312. Pers. syn. exclusive of Quiribèlia, Lam. Lyàma, Roxb. in asiat. res. 4. p. 261.—Burm. fl. zeyl. p. 23. t. 12. f. 1. Echìtes frutéscens, Roxb. fl. ind. 2. p. 12. Leaves variable in shape, deep green above and pale beneath. Flowers small, purple. I. radìcans, Wall. cat. hardly appears to be distinct. The Quiribèlia Zeylánica, Lam. et Poir. dict. 6. p. 42., considered by them as Linneus's *Apócynum frutéscens*, must, from the description, be widely different, and perhaps does not belong to the same natural order.

Shrubby Ichnocarpus. Fl. July, Aug. Clt. 1759. Sh. tw.

2 I. fra'grans (Wall. cat. no. 1676.) leaves oblong-lanceolate, or oblong, acuminated, tapering to both ends, glabrous; peduncles axillary, trichotomous, spreading; segments of the corolla long. ♄. ⌒. S. Native of Nipaul. Flowers large. Follicles long, slender, terete.

Fragrant Ichnocarpus. Shrub tw.

3 I.? Afze'lii (Rœm. et Schultes, syst. 4. p. 399.) stems twining; lower leaves oval, acute; superior ones oblong or lanceolate; segments of corolla obtuse; throat nearly naked. ♄. ⌒. S. Native of Sierra Leone, and about the river Bascha, and along the sea shore on the coast of Lower Guinea, in woods and among bushes. Apócynum frutéscens, Afz. rem. guin. 4. p. 28. Shrub glabrous. Peduncles terminal, 2-flowered; Pedicels drooping. Corollas white, sweet-scented. Follicles combined at the base.

Afzelius's Ichnocarpus. Shrub tw.

4 I. Loureìrii (Spreng. syst. 1. p. 635.) stem frutescent, erectish; leaves ovate-oblong; peduncles lateral, usually 3-flowered. ♄. ◡. S. Native of Zanzebar. Apócynum Africànum, Lour. coch. 168. Branches scandent. Leaves small, glabrous. Flowers pale. Corolla campanulate, reflexed. Hypogynous scales subulate, alternating with 5 coloured glands. Stigma acute, bifid. Follicles conical.

Loureiro's Ichnocarpus. Shrub cl.

Cult. See *Echìtes*, p. 76. for culture and propagation.

VII. HOLARRHE'NA (ὁλος, *olos*, entire, and ἀρρην, *arrhen*, a male; in reference to the entire anthers). R. Br. in wern. soc. mem. 1. p. 62.—Carìssa, spec. Vahl.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted; segments subulate. Corolla salver-shaped, with equal-sided segments, and a scaleless throat and tube. Stamens inclosed, inserted in the bottom of the tube; anthers free from the stigma, lanceolate, entire, bearing the pollen longitudinally. Ovaria twin. Style very short; Stigma cylindrical. Hypogynous scales wanting. Follicles slender.—Erect glabrous shrubs. Leaves membranous. Cymes terminal and lateral.

1 H. mìtis (R. Br. l. c.) leaves lanceolate, attenuated. ♄. S. Native of the East Indies. Carìssa mìtis, Vahl, symb. 3. p. 44. t. 59. Leaves 2-3 inches long, shining, purplish beneath.

Mild Holarrhena. Shrub.

2 H.? Coda'ga; leaves ovate, acuminated, with oblique parallel nerves; peduncles terminal; segments of corolla oblong, oblique. ♄. S. Native of Malabar. Codàga-Pàla, Rheed. mal. 1. p. 85. t. 47. Flowers white, sweet-scented. Follicles a span long.

Codaga Holarrhena. Shrub 5 to 6 feet.

3 H. pube'scens (Wall. cat. no. 1673.) leaves ovate-oblong or elliptic-oblong, short-acuminated, downy beneath and on the upper surface while young, as well as the branches, peduncles, and calyxes; corymbs terminal. ♄. S. Native of Nipaul, Kamaon, Martaban, and Tavoy. Echìtes pubéscens, Hamilt. mss. Hardly distinct from *Echìtes antidysentérica*, Roxb.; a native of Silhet and Nipaul, the *H. antidysentérica*, Wall. cat. no. 1672.

Downy Holarrhena. Shrub.

Cult. For culture and propagation see *Echìtes*, p. 76.

VIII. ISONE'MA (from ισος, *isos*, equal, and νημα, *nema*, a filament). R. Br. in wern. soc. mem. 1. p. 63.

Lin. syst. *Pentándria, Monogýnia.* Corolla salver-shaped: limb 5-parted; throat and tube without scales. Stamens exserted. Filaments inserted in the throat, simple at apex. Anthers sagittate, cohering by their middle to the stigma. Ovaria twin. Style 1, filiform; stigma thick, obtuse. Hypogynous scales wanting. Follicles unknown.—An erect hairy shrub, with opposite leaves. Panicles terminal, brachiate; flowers corymbose. Segments of calyx furnished with a double scale inside at base. Corolla half an inch long; with a cylindrical tube, which is bearded inside in the middle.

1 I. Smeathma'nni (Rœm. et Schultes, syst. 4. p. 401.) ♄. S. Native of tropical Africa, on the west coast.

Smeathmann's Isonema. Shrub.

Cult. For culture and propagation see *Echìtes*, p. 76.

IX. VALLA'RIS (from *vallo*, to inclose; used for fences in Java.) Burm. ind. p. 51. R. Br. in mem. wern. soc. 1. p. 63. Blum. bijdr. p. 1042.—Emerìcia, Rœm. et Schultes, syst. 4. p. 401.—Pegulària species, Lin.—Peltanthèra, Roth.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla salver-shaped; with a 5-cleft obtuse limb; and a scaleless throat and tube. Stamens exserted; filaments inserted in the throat, very short, furnished with a fleshy swelling outside at the apex; anthers sagittate, cohering by their middle to the stigma. Ovarium 2-celled. Style filiform; stigma ovate-conical, furnished with a pearl-like gland on the back. Hypo-

gynous scales 5, connate at the base and ciliated at the apex.—Twining shrubs. Leaves opposite. Peduncles interpetiolar, or terminal. Flowers corymbose, sweet-scented. Corymbs trichotomous.

1 V. Pergula'na (Burm. ind. p. 51.) leaves ovate-elliptic, acute, glabrous; corymbs axillary, trichotomous, downy; segment of corolla roundish. ♄. ◠. S. Native of the East Indies. Pergulària glàbra, Lin. mant. p. 53. Willd. spec. 1. p. 1247. Houtt. Lin. pfl. syst. 3. p. 335. t. 20. f. 1. Echìtes hircòsa, Roxb. fl. ind. 2. p. 18. Flos Pergulànus, Rumph. amb. 5. p. 51. t. 29, Emerìcia Pergulària, Rœm. et Schultes, syst. 4. p. 401. Flowers large, pure white, with a goatish smell. Calycine segments lanceolate, acute.

Pergulana Vallaris. Fl.? Clt. 1818. Shrub tw.

2 V. laxiflòra (Blum bijdr. p. 1043.) leaves ovate-oblong, acuminated, glabrous; corymbs axillary and terminal, trichotomous, on long peduncles, glabrous. ♄. ◠. S. Native of Java, in shady mountain woods, in the province of Buitenzorg.

Loose-flowered Vallaris. Shrub tw.

3 V. dichótoma (Wall. cat. no. 1621.) leaves lanceolate-oblong, glabrous; racemes axillary, dichotomous; segments of corolla roundish; filaments bearded and woolly. ♄. ◠. S. Native of Bengal, in forests near Calcutta. Echìtes dichótoma, Roxb. fl. ind. 2. p. 19. Leaves on very short petioles, 3 inches long. Flowers large, pure white, fragrant. Calycine segments cordate, pointed. Follicles oblong, large, 6 inches long.

Dichotomous-racemed Vallaris. Shrub tw.

4 V.? clava'ta; dichotomous; leaves broad-lanceolate, entire, villous beneath; panicles axillary dichotomous; tube of corolla clavate; with the segments of the border falcate; anthers linear, inclosed. ♄. ◠. S. Native of the Moluccas. Echìtes clavàta, Roxb. fl. ind. 2. p. 20. This comes nearest to *V. dichótoma*, but differs sufficiently in the length of the tube, the segments of the border, and the stamina, to authorize its being considered as a distinct species. (Roxb.)

Clavate-tubed Vallaris. Shrub tw.

† *The seeds of the two following species being naked, they probably belong to the genus Strophánthus, or will form a nearly allied genus.*

5 V.? divarica'ta; stems nearly erect; leaves broad-lanceolate, glabrous, undulated; peduncles 2-flowered, divaricate, terminal. ♄. G. Native of China. Pergulària divaricàta, Lour. coch. p. 168. Periplòca divaricàta, Spreng. syst. 1. p. 836. Emerìcia divaricàta, Rœm. et Schultes, syst. 4. p. 401. Flowers yellow, suffused with red. Segments of calyx subulate. Corolla with a thick tube, and very long subulate segments. Scales 5, sagittate, seated in the mouth of the tube of the corolla. Ovarium ovate, 2-lobed. Style filiform, length of stamens; stigma acute, erect, bifid. Follicles 2, oblong, many-seeded. Seeds longish, naked. Perhaps a species of *Strophánthus*, or a new genus nearly allied to it.

Divaricate Vallaris. Shrub erectish.

6 V.? Sine'nsis; leaves ovate-oblong, obtuse, glabrous; peduncles many-flowered, axillary, and terminal. ♄. ◠. G. Native of China. Pergulària Sinénsis, Lour. p. 168. Emerìcia Sinénsis, Rœm. et Schultes, syst. 4. p. 402. Periplòca Chinénsis, Spreng. syst. 1. p. 836. Corollas yellow; with long, linear segments. Scales 5, sagittate, seated in the mouth of the corolla. Style filiform; stigma conical, 5-furrowed. Follicles oblong, many-seeded. Seeds naked, ovate. Perhaps a species of *Strophánthus*.

China Vallaris. Shrub tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

X. HEYLY'GIA (meaning not explained by the author). Blum. bijdr. p. 1043.

Lin. syst. *Pentándria, Monogýnia.* Calyx quinquefid. Corolla rotate, with a short, ventricose tube, and oblique segments. Stamens exserted; filaments inserted in the tube of the corolla, surrounding the style in a spiral manner. Anthers sagittate, cohering to the stigma. Stigma clavate. Ovarium didymous, girded by 5 hypogynous scales. Seeds with a tuft of hairs at the upper extremity.—A twining shrub; with opposite, ovate-elliptic, glabrous leaves; and axillary, dichotomous, corymbs of flowers.

1 H. Java'nica (Blum. bijdr. p. 1043.). ♄. ◠. S. Native of Java, among bushes on the mountains, where it is called *Aroy Ferrung-utang*.

Java Heylygia. Fl. year. Shrub tw.

Cult. See *Echìtes*, p. 76. for culture and propagation.

XI. PARSO'NSIA (named in memory of James Parsons, M.D., author of an unfinished work, named The Microscopical Theatre of Seeds; and of a Dissertation on the Analogy between the Propagation of Animals and that of Vegetables). R. Br. in mem. wern. soc. p. 64. prod. p. 465. but not of P. Browne. Echìtes species, Jacq. et Swartz.

Lin. syst. *Pentándria, Monogýnia.* Corolla funnel-shaped; with a 5-parted recurved limb; segments of the limb equal-sided; throat and tube without scales. Stamens exserted; filaments filiform, inserted in the middle or nigh the base of the tube; anthers sagittate, cohering by their middle to the stigma: having the hind lobes destitute of pollen. Ovaria twin or solitary, 2-celled. Style 1; stigma dilated. Hypogynous scales 5, distinct or connate. Follicles 2, distinct or combined.—Twining shrubs. Leaves opposite. Flowers cymose or racemose; racemes usually compound, terminal, or interpetiolar.

* *Americànæ. Ovaria twin. Follicles distinct. Forsterònia, Meyer. ess.* 133.

1 P. corymbòsa (R. Br. l. c.) racemes corymbose; stamens elongated; leaves oval-lanceolate, glabrous. ♄. ◠. S. Native of St. Domingo, in woods. Echìtes corymbòsa, Jacq. amer. 34. t. 30. ed. pict. t. 37. Swartz, obs. p. 105. Forsterònia corymbòsa, Meyer. ess. 134. Leaves ovate or obovate, 2 inches long. Flowers small, red. Segments of calyx concave, connivent.

Corymbose-flowered Parsonsia. Fl. June, Aug. Clt. 1820. Shrub tw.

2 P. floribu'nda (R. Br. l. c.) racemes compound, corymbose; leaves ovate or elliptic, acuminated, glabrous; branches erectish. ♄. ◠. S. Native of Jamaica, among bushes on the mountains. Echìtes floribúnda, Swartz, prod. p. 52. fl. ind. occ. 1. p. 534. Leaves shining, stiffish. Racemes axillary. Flowers small, white. Corolline segments acuminated. Calycine teeth acute.

Bundle-flowered Parsonsia. Fl. Ju. Aug. Clt. 1820. Sh. tw.

3 P. spica'ta (R. Br. l. c.) spikes racemose, dense-flowered, axillary, short, opposite; stamens elongated; leaves nearly ovate or oblong-acuminated, bifarious, smoothish. ♄. ◠. S. Native of Carthagena, in woods. Echìtes spicàta, Jacq. amer. 34. t. 29. ed. pict. t. 36. Forsterònia spicàta, Meyer. ess. 135. Leaves ½ foot long. Flowers numerous, white, almost sessile. Calycine segments ovate, concave, white. Segments of corolla lanceolate, acute.

Spicate-flowered Parsonsia. Shrub tw.

* * *Australásicæ. Ovarium 2-celled. Follicles cohering lengthwise.*

4 P. Forste'ri; cymes axillary, diffuse; leaves lanceolate, glabrous. ♄. ◠. G. Native of New Zealand. Periplòca capsulàris, Forst. prod. no. 126. Willd. spec. 1. p. 1251.

Forster's Parsonsia. Shrub tw.

5 P. velutìna (R. Br. prod. p. 466.) cymes pedunculate. opposite; leaves cordate, ovate, acute or acuminated, downy, ♄ . ◠. S. Native of New Holland, within the tropic. Echìtes velutìna, Spreng. syst. 1. p. 634.

Velvety Parsonsia. Shrub tw.

6 P. móllis (R. Br. l. c.) cymes bifid; leaves lanceolate, acuminated, soft, downy. ♄ . ◠. S. Native of New Holland, within the tropic. Echìtes móllis, Spreng. syst. 1. p. 634.

Soft Parsonsia. Shrub tw.

7 P. lanceola'ta (R. Br. l. c.) cymes bifid; leaves lanceolate, acuminated, glabrous. ♄ . ◠. S. Native of New Holland, within the tropic. Echìtes lanceolàta, Spreng. syst. 1. p. 634.

Lanceolate-leaved Parsonsia. Shrub tw.

§ 3. *Asiáticæ. Ovarium 2-celled. Follicles cohering lengthwise? Natives of Asia.*

8 P. ova'ta (Wall. cat. no. 1630.) panicle terminal, diffuse; composed of trichotomous peduncles; flowers corymbose; leaves on long petioles, ovate-acuminated, somewhat cordate at the base, glabrous. ♄ . ◠. S. Native of Silhet. Cudícia trichótoma, Hamilt. herb.

Ovate-leaved Parsonsia. Shrub tw.

9 P. spira'lis (Wall. cat. no. 1631.) glabrous; peduncles axillary, dichotomous or trichotomous; flowers corymbose; leaves coriaceous, ovate, acute. ♄ . ◠. S. Native of the East Indies. Follicle ovate-lanceolate.

Spiral Parsonsia. Shrub tw.

10 P. oblónga (Wall. cat. no. 1632.) glabrous; peduncles axillary, trichotomous; flowers corymbose; leaves coriaceous, oblong, acuminated. ♄ . ◠. S. Native of Rangoon and Moalmeyne.

Oblong-leaved Parsonsia. Shrub tw.

11 P. Java'nica (Blum. bijdr. p. 1041.) leaves ovate or elliptic-oblong, acuminated, coriaceous, glabrous; corymbs terminal or axillary, trichotomous; throat of corolla naked; branches subsarmentose. ♄ . ◠. S. Native of Java, in mountain woods.

Java Parsonsia. Fl. year. Shrub tw.

12 P. barba'ta (Blum. bijdr. 1042.) leaves on short petioles, opposite, or 3 in a whorl, oblong, acuminated or bluntish, glabrous, tomentose in the axils of the veins beneath; corymbs axillary or terminal, trichotomous; throat of corolla bearded; branches climbing. ♄ . ◡. S. Native of Java, among bushes, at Kuripan, where it is called *Tjunkankan*.

Bearded-flowered Parsonsia. Fl. May, June. Shrub cl.

† *A species hardly known.*

13 P. myrtifòlia (Rœm. et Schultes, syst. 4. p. 403.) leaves ovate, acute at both ends, glabrous; flowers subumbellate, much shorter than the leaves. ♄ . ◠. S. Native of Madagascar. Echìtes myrtifòlia, Poir. suppl. 5. p. 637. Said by Poiret to be very nearly allied to *P. corymbòsa*. Flowers terminal. Segments of the corolla oblong, narrow.

Myrtle-leaved Parsonsia. Shrub tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

XII. LYO'NSIA (in memory of Israel Lyons, author of Fasciculus Plantarum circa Cantabrigiam nascentium; and from whom Sir Joseph Banks received his earliest instructions in botany). R. Br. in mem. wern. soc. 1. p. 66. prod. p. 466.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft. Corolla funnel-shaped; with a 5-parted recurved limb; segments of the limb equal-sided, valvate in æstivation; throat and tube without scales. Stamens exserted; filaments inserted in the middle of the tube, filiform; anthers sagittate, cohering by their middle to the stigma; with the hind lobes destitute of pollen. Ovarium 2-celled. Style 1, filiform, dilated at the apex; stigma somewhat conical. Hypogynous scales connate. Capsule cylindrical, 2-celled, with follicle-formed valves, and a free, parallel dissepiment, which is seminiferous on both sides, and adnate placentas.—Shrub twining. Leaves opposite. Cymes terminal, trichotomous. Flowers small, with bearded limbs. *Lyónsia* differs principally from *Parsónsia* in the fruit being a capsule.

1 L. stramínea (R. Br. prod. p. 466.). ♄ . ◠. G. Native of New South Wales, and Van Diemen's Land.

Straw-coloured Lyonsia. Shrub tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

XIII. THENA'RDIA (named by Kunth after his friend L. J. Thenard, who has written on the chemical physiology of plants). H. B. et Kunth, nov. gen. amer. 3. p. 209.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, 5-parted. Corolla rotate, with a very short tube, and a 5-parted limb; segments of the limb equal-sided; throat naked. Stamens exserted, inserted in the base of the corolla; anthers sagittate, adhering by their middle to the stigma. Ovaria 2, girded by 5 hypogynous scales. Style filiform; stigma pentagonal, terminated by a clavate tubercle.—Shrubs twining. Leaves opposite. Peduncles interpetiolar, somewhat trichotomously branched. Flowers umbellately crowded on long pedicels, bracteate, with the appearance of those of *Solànum tuberòsum*. This genus differs from *Exothostèmon* in the corolla being rotate.

1 T. floribu'nda (H. B. et Kunth, nov. gen. amer. 3. p. 210. t. 240.) leaves ovate-oblong, acuminated, glabrous. ♄ . ◠. S. Native near the city of Mexico. Leaves $2\frac{1}{2}$ to 3 inches long. Flowers greenish white.

Bundle-flowered Thenardia. Clt. 1823. Shrub tw.

2 T. umbella'ta (Spreng. syst. 1. p. 636.) leaves ovate, acuminated, tomentose beneath; cymes terminal. ♄ . ◠. S. Native of Cayenne. Apócynum umbellàtum, Aubl. guian. 1. p. 275. t. 108. Flowers purplish, on bibracteate pedicels. Calycine segments oblong, obtuse.

Umbellate-flowered Thenardia. Shrub tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

XIV. ADE'NUM (Aden is the Arabic name of the tree.) Rœm. et Schultes, syst. 4. p. xxxv. and 411.—Nèrium species, Forsk.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla salver-shaped, downy, furnished with 5 villous lines inside; segments of the limb roundish. Filaments short, inserted in the upper end of the narrower part of the tube; anthers sagittate, cohering with the stigma, ending in a pilose bristle at the apex, length of corolla. Ovaria 2, globose. Style length of anthers; stigma capitate, bidentate at apex, side quinquidentate. Hypogynous scales none. Throat of corolla naked.—A shrub, with a soft caudex, referrible to a bulb, of the size of a man's head. Branches thickness of a finger, same substance as the caudex, attenuated at top; floriferous branches woody, and full of cicatrices. Leaves approximate at the tops of the branches, 3 inches long, oblong, narrowed at the base, mucronate, veinless, villously tomentose beneath, when young soft on both surfaces, with some rigid bristles in the axils. Corymbs terminal, many-flowered; pedicels short, villous. Anthers yellow, with a brown mark inside.

1 A. obe'sum (Rœm. et Schultes, syst. 4. p. 411.) ♄ . G. Native of Arabia Felix, on Mount Melhan. Nèrium obèsum, Forsk. descr. p. 205. Vahl. symb. 2. p. 45. Camerària obèsa, Spreng. 1. p. 641.

Fat Adenium. Shrub.

Cult. See *Pachypòdium*, p. 78., for culture and propagation.

XV. APO'CYNUM (a name adopted by Dioscorides, from *απο, apo*, from, and *κυων κυνος, kyon kynos*, a dog; because it was sup-

posed to kill dogs). R. Br. in mem. wern. soc. 1. p. 67.—Apócynum species, Lin. and Juss.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla campanulate; tube inclosing 5 acute teeth, which are opposite the segments of the limb; throat naked. Stamens inclosed; anthers sagittate, cohering by the middle to the stigma; having the hind lobes without pollen. Ovaria 2. Styles almost wanting; stigma dilated, conical at top. Hypogynous scales 5. Follicles slender, distinct.—Perennial erect herbs; natives of North America and the south of Europe. Leaves opposite, membranous. Flowers cymose.

FIG. 12.

1 A. androsæmifòlium (Lin. spec. 311. R. Br. l. c.) leaves ovate, glabrous; cymes terminal and lateral; tube of corolla twice as long as the calyx. ♃. H. Native of Virginia and Canada. Pursh. fl. amer. sept. 1. p. 179. Lam. ill. t. 176. f. 1. Curt. bot. mag. t. 280.—Bocc. sic. 35. t. 16. f. 3.—Mor. hist. 3. p. 609. sect. 15. t. 3. f. 16. Leaves pale beneath. Corollas pale red, with darker stripes.

Androsæmum-leaved Dogs'-bane. Fl. July, Sept. Clt. 1688. Pl. 1 to 2 feet.

2 A. canna'binum (Lin. spec. 311. R. Br. l. c. p. 68.) leaves lanceolate, acute at both ends, glabrous; cymes panicled; calyx equal in length to the tube of the corolla. ♃. H. Native of Canada and Virginia, in fields and woods, where it is commonly called *Indian hemp.* Flowers yellowish-green, small. The Indians prepare the stems of this plant as we do hemp, and make fishing-nets, twine, bags, &c. of it.

Var. β; leaves oblong-oval, clothed with white down beneath; panicles downy. ♃. H. A. cannábinum, Michx. fl. bor. amer. 1. p. 122. Pursh, fl. amer. sept. 1. p. 179.—Pluk. alm. t. 13. f. 1.

Hemp Dogs'-bane. Fl. July, Sept. Clt. 1699. Pl. 2 to 3 ft.

3 A. pube'scens (R. Br. l. c.) leaves ovate-oblong, mucronate, obtuse at the base, downy on both surfaces, as well as the cymes; calyx about equal in length to the corolla. ♃. H. Native of Virginia.

Downy Dogs'-bane. Pl. 1 to 2 feet.

4 A. hypericifòlium (R. Br. in Ait. hort. kew. ed. 2. vol. 2. p. 74.) leaves oblong, glabrous, mucronate, on very short petioles, obtuse and somewhat cordate at the base; cymes shorter than the leaves: calyx about equal in length to the tube of the corolla. ♃. H. Native from New York to Virginia, on the gravelly shores of rivers. A. Sibíricum, Jacq. hort. 3. t. 66. Flowers small, white, or reddish.

St. John's-wort-leaved Dogs'-bane. Fl. June, July. Clt. 1758. Pl. 1 to 2 feet.

5 A. Sibíricum (R. Br. l. c. p. 68. Led. fl. alt. illust. t. 240.) leaves ovate-oblong or lanceolate, mucronate, glabrous, obtuse at the base; cymes alternate, pedunculate, disposed in a terminal panicle; tube of corolla exceeding the calyx; pedicels and calyxes clothed with powdery down. ♃. H. Native about Astrachan and Lotewsk, in salt marshy deserts, where it was collected by Pallas and Ledebour. A. venètum, Bieb. fl. taur. 1. p. 177. exclusive of the syn. of Falck and Hablitz. Asclèpias rùbra, Sievers, in Pall. fl. nord. beitr. There are 2 varieties of this species, a broader and a narrower leaved variety.

Siberian Dogs'-bane. Pl. 2 feet.

6 A. Vene'tum (Lin. spec. 311. R. Br. l. c.) leaves oblong-elliptic, glabrous, mucronate, somewhat attenuated at the base; cymes panicled, lateral and terminal; calyx about equal in length to the tube of the corolla. ♃. H. Native of the south of Europe, islands of the Adriatic sea, and in the sand along the Euxine sea, &c.—Falck, itin. 2. t. 4.—Lob. icon. 372. f. 1-2. Flowers red.

Var. β; leaves narrower; flowers white. Tourn. inst. p. 92.

Venetian Dogs'-bane. Fl. June, July. Clt. 1690. Pl. 2 ft.

† *Species not so well known as to be inserted in their proper genera in the order; they have been placed with Apocýnum by various authors, but certainly do not properly belong to the genus.*

7 A. reticula'tum (Lin. spec. 312.) stem twining; leaves cordate-ovate, veiny, glabrous. ♄. ◠. S. Native of the East Indies. Roy. lugdb. 412. O'lus crùdum, Rumph. amb. 5. p. 75. t. 40. f. 2. Loureiro's plant under this name is said to have hairy stems; ovate, acuminated, shining leaves; axillary umbels of small flowers, and the 5 fertile filaments alternating with sterile ones. Perhaps a species of *Ichnocárpus.*

Reticulated leaved Apocynum. Shrub tw.

8 A. tiliæfòlium (Lam. dict. 1. p. 214.) stems twining, suffruticose; leaves roundish-cordate, acuminated. on long petioles. ♄. ◠. S. Native of the East Indies.—Rheed. mal. 9. t. 15.—Rumph. amb. 5. t. 175. f. 2.? Leaves green on both surfaces, length of petioles. Flowers large, in axillary umbel-formed fascicles, shorter than the leaves. Corolla campanulate, villous inside. Perhaps a species of *Dæ'mia.*

Tilia-leaved Apocynum. Shrub tw.

9 A. panicula'tum (Lam. dict. 1. p. 212.) stem twining, shrubby; leaves ovate-lanceolate, acute, glabrous; flowers terminal, and axillary, panicled. ♄. ◠. S. Native of Guiana, in meadows about Sinemari. A. Acoúci, Aubl. guian. 1. p. 274. t. 107. Bark of stem white. Leaves 3 inches long. Flowers small, white, in corymbs of 3-5 flowers; with scaly bracteas at the base.

Panicled-flowered Apocynum. Shrub tw.

10 A. vincæflòrum (Burm. ind. p. 71.) stem erectish, perennial; leaves ovate-oblong; peduncles lateral, 2-flowered. ♄. S. Native of the East Indies. Asclèpias Javánica angustifòlia, Garcin, herb. Stems reddish. Leaves acuminated, rusty beneath.

Vinca-flowered Apocynum. Pl.

11 A. Canarie'nse (Lam. dict. 1. p. 215.) shrubby; leaves ovate, acuminated; tops of follicles recurved. ♄. G. Native of the Canary islands. Apocyn. arboresc. Canariénse, Elæagni facie, Tourn. p. 92.—Pluk, alm. 35. t. 260. f. 3. Flowers small, axillary, sub-cymose. Follicles long.

Canary-island Apocynum. Shrub.

12 A. cotinifòlium (Lam. dict. 1. p. 215.) leaves roundish, obtuse, green; flowers small, corymbose, terminal. ♄. S. Native of Java. Flowers campanulate, on bibracteate trichotomous peduncles, which are rather tomentose at top.

Cotinus-leaved Apocynum. Shrub.

13 A. agglomera'tum (Poir. dict. suppl. 1. p. 407.) stem climbing; leaves elliptic, obtuse, mucronate; flowers cymose, glomerate; corolla with a pilose throat. ♄. ◠. S. Native of St. Domingo. Leaves downy beneath and hairy; the veins confluent at the margins. Calycine segments ovate, obtuse, white, membranous, ciliated.

Glomerate-flowered Apocynum. Shrub cl.

14 A. juve'ntas (Lour. coch. p. 167.) stem twining; leaves ovate, pilose; racemes dichotomous, axillary. ♄. ◠. S. Native of Cochinchina, in fields. Branches red, hairy. Root large, fleshy, undivided. Flowers small, greenish yellow. Corolla campanulate. Hypogynous scales 5, combined. Anthers 5, scale-formed, adhering to the base of the nectarium; and 5 sterile, erect filaments. Stigma sessile, concave, bifid. Follicles

2. The Chinese physicians fancy the roots of this plant to refresh the animal spirits to such a degree as by a long use of it to endow old age with all the strength and vigour of youth.

Youthful Apocynum. Shrub tw.

15 A. sca'ndens (Mill. dict. no. 5.) leaves oblong, cordate, stiff; flowers lateral; stem fruticose, twining. ♄. ⌒. S. Native about Carthagena. A. scandens foliis citri, siliquis maculatis. Plum. cat. no. 2. Leaves quite glabrous. Racemes short. Flowers green.

Climbing Apocynum Shrub tw.

16 A. nervòsum (Mill. dict. no. 9.) stem fruticose, scandent; leaves ovate, nerved; cymes lateral; flowers yellow, large, with a very long tube. ♄. ◡. S. Native of Carthagena. Leaves mucronate. Follicles compressed, marginated on one side. Seeds striated.

Nerved-leaved Apocynum. Shrub cl.

17 A. corda'tum (Mill. dict. no. 10.) leaves oblong-cordate, mucronate, sessile; flowers lateral; stems scandent. ♄. ◡. S. Native of Vera Cruz. Houst. mss. fig. pl. no. 8. t. 44. f. 5. Flowers large, yellow. Probably a species of *Echìtes*.

Cordate-leaved Apocynum. Shrub cl.

18 A. villòsum (Mill. dict. no. 11.) leaves cordate, glabrous; flowers villous, sessile, longer than the petioles; stem scandent. ♄. ◡. S. Native of Vera Cruz. Houst. mss. pl. t. 44. f. 2. Flowers large, villous, yellow. Follicles tumid, angular. Perhaps a species of *Echìtes*.

Villous Apocynum. Shrub cl.

Cult. Common garden soil answers well for the species; and they are easily increased by suckers from the root, which in most of the species rise in great numbers. Some of the rarer kinds may be grown in a peat border with greater success.

XVI. CRYPTOLE'PIS (from κρυπτω, *krypto*, to hide, and λεπις, *lepis*, a scale; in reference to the scales in the tube of the corolla). R. Br. in wern. mem. soc. 1. p. 69.

Lin. syst. *Pentándria, Monogýnia*. Corolla funnel-shaped; tube inclosing 5 obtuse, wedge-shaped scales, which alternate with the segments of the limb; throat naked. Stamens inclosed, inserted in the bottom of the tube; anthers sagittate. Ovaria 2. Style wanting; stigma dilated, 5-sided, ending in a conical point. Hypogynous scales 5. Follicles lanceolate, horizontal.—Shrubs twining. Leaves opposite, of a different colour beneath, and veiny. Corymbs interpetiolar, almost sessile, very short.

1 C. Buchana'ni (Rœm. et Schultes, syst. 4. p. 409.) flowers small, yellow; leaves oblong, white and veiny beneath; corymbs interpetiolar, almost sessile. ♄. ⌒. S. Native of the East Indies. Nèrium reticulàtum, Roxb. fl. ind. 2. p. 9. C. Wightiàna, Wall. cat. no. 4457. and C. reticulàtum, Wall. cat. 1640. are only different states of *C. Buchanàni*.

Buchanan's Cryptolepis. Shrub tw.

2 C. e'legans (Wall. cat. no. 1639.) leaves oblong, mucronate, glaucous beneath, somewhat cordate at the base; peduncles terminal, panicled. ♄. S. Native of Silhet and Goalpara. Caméttia tenélla, Hamilt. mss.

Elegant Cryptolepis. Shrub tw.

Cult. See *Echìtes*, p. 76, for culture and propagation.

XVII. EXOTHOSTE'MON (εξωθω, *exotho*, to protrude, and στημων, *stemon*, a stamen; in reference to the exserted stamens).—Echìtes species, H. B. et Kunth, &c. and some other authors.

Lin. syst. *Pentándria, Monogýnia*. Calyx 5-parted; segments each furnished with a scale inside at the base. Corolla funnel-shaped; throat clothed with silky hairs; segments of the limb unequal-sided, roundish on one side and acuminated or angular on the other. Stamens exserted; filaments short, dilated at top, pilose inside; anthers oblong or oblong-linear, emarginately 2-lobed at the base, cohering with the stigma. Ovaria twin, girded by 5 hypogynous, fleshy scales. Style filiform. Follicles slender, torulose.—Twining shrubs, natives of South America. Leaves opposite, with interpetiolar glands at the base. Peduncles interpetiolar, racemose. Flowers showy, white, or yellow. This genus comes near to *Parsónsia* or *Fosterònia*, Meyer.

1 E. bractea'tum; leaves elliptic, mucronately cuspidate, cordate, downy above, but canescent from tomentum beneath; bracteas large, ovate, acuminated, coloured, much longer than the calyx. ♄. ⌒. S. Native of New Granada, near Mariquita, in the temperate regions of the mountains. Echìtes bracteàta, H. B. et Kunth, nov. gen. amer. 3. p. 217. Glands about 4, subulate, glabrous, situated at the base of the middle nerve of each leaf. Calycine segments lanceolate; with a subulate point, with ovate deltoid scales inside. Corollas orange-coloured, hairy outside.

Bracteate Exothostemon. Fl. June. Shrub tw.

2 E. mollíssimum; leaves oblong-cordate, downy above, but canescent from short hair-like tomentum beneath; bracteas lanceolate-subulate, about equal in length to the calyx. ♄. ⌒. S. Native of New Granada, between Honda and the mine of Santanna. Echìtes mollíssima, H. B. et Kunth, nov. gen. amer. 3. p. 218. Leaves without glands at the base? Calycine segments ovate, acuminated, furnished each with an ovate, lanceolate scale inside. Corollas yellow, hairy outside.

Very soft Exothostemon. Fl. July. Shrub tw.

3 E. macrophy'llum; leaves somewhat obovate-elliptic, cuspidate, cordate, clothed with adpressed hairs above, and subcanescent hair-like down beneath; bracteas ovate-lanceolate, about equal in length to the calyx. ♄. ⌒. S. Native of the banks of the Orinoco, near San Borja; and of the island of Panunama. Echìtes macrophýlla, H. B. et Kunth, nov. gen. amer. 3. p. 218. Echìtes móllis, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 795. Glands at base of leaves hardly seen. Corollas yellow, size of those of *Vínca ròsea*, downy outside. Segments of calyx lanceolate-oblong, acuminated, furnished each with a scale inside. Leaves 5 inches long and $2\frac{1}{2}$ broad.

Long-leaved Exothostemon. Fl. May. Shrub tw.

4 E. gra'cile; leaves oblong-lanceolate: superior ones lanceolate, acuminated, cordate, glabrous above and hairy beneath; bracteas lanceolate-subulate, about equal in length to the pedicels; calycine segments ovate-lanceolate, furnished each with an ovate deltoid scale inside. ♄. ⌒. S. Native on the banks of the river Orinoco, in humid places, between Maypure and Ature. Echìtes grácilis, H. B. et Kunth, nov. gen. amer. 3. p. 219. Leaves $2\frac{1}{2}$ inches long; with the glands at the base hardly visible. Corollas yellow, glabrous outside.

Slender Exothostemon. Fl. May. Shrub tw.

5 E. speciòsum; leaves oblong, acuminated, cordate, glabrous above, and hairy beneath; bracteas linear-subulate, minute; calycine segments ovate, acuminated, furnished each with a scale inside. ♄. ⌒. S. Native along with the preceding. Echìtes speciòsa, H. B. et Kunth, nov. gen. amer. 3. p. 219. Corollas yellow. Leaves $2\frac{1}{2}$ inches long, furnished with glands inside at the base.

Showy Exothostemon. Shrub tw.

6 E. Javite'nse; leaves elliptic-oblong, short-acuminated, rounded at the base, smoothish above and roughish beneath; spikes terminal, solitary; bracteas large, oblong, acuminated, coloured; calycine segments roundish-ovate, obtuse, furnished each with a scale inside. ♄. ⌒. S. Native in the Missions of the Orinoco, in shady places, on the banks of the river Temi, near Javita. Echìtes Javiténsis, H. B. et Kunth, nov. gen.

amer. 3. p. 220. Leaves 4-4½ inches long; with the glands at the base hardly visible. Spikes almost sessile, half a foot long. Flowers sessile. Corolla glabrous, with a green tube and a yellow limb, with reflexed segments. This species differs particularly from the rest in the flowers being disposed in terminal spikes, instead of interpetiolar racemes.

Javita Exothostemon. Fl. June. Shrub tw.

7 E. paludòsum; leaves oblong or oblong-linear, acute at both ends, glabrous; flowers 2-4 together, terminal, pedunculate; calycine segments oblong, acute. ♄. ⌒. S. Native of Cuba, and other parts of America, on the sea shore. Echìtes paludòsa, Vahl. eclog. 2. p. 19. t. 5. H. B. et Kunth, nov. gen. amer. 3. p. 221. Leaves 2 or 2½ inches long, without any glands at the base. Corollas white, glabrous outside.

Marsh Exothostemon. Fl. March. Shrub tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

XVIII. HÆMADI'CTYON (from αἱμα, *haima*, blood, and δικτυον, *dictyon*, a net; in reference to the veins and nerves of the leaves being red). Lindl. in hort. trans. 6. p. 71. Echìtes species, Sims and Tussac.

Lin. syst. *Pentándria*, *Monogýnia*. Corolla salver-shaped; segments reflexed, equal, dilated; throat of the tube furnished with 5 inclosed scales. Stamens inclosed; anthers sagittate, cohering by their middle to the stigma. Ovaria twin. Style filiform; stigma capitate. Hypogynous glands 5, alternating with the calycine segments.—Twining shrubs, with opposite leaves, and axillary racemes of flowers.

1 H. venòsum (Lindl. l. c.) leaves lanceolate, glabrous, a little blistered, and beautifully traversed by crimson veins; racemes drooping. ♄. ⌒. S. Native of St. Vincent. Echìtes nùtans, Sims, bot. mag. 2473. Echìtes sanguinolénta, Tussac. fl. ant. Flowers of a yellow green colour, pale in the center.

Veined-leaved Hæmadictyon. Fl. June, Aug. Clt. 1821. Shrub tw.

2 H. suberé'cta; leaves rather ovate, downy beneath, mucronate; racemes many-flowered. ♄. ⌒. S. Native of Jamaica and St. Domingo. Echìtes suberécta, Swartz, obs. 101. Jacq. amer. 32. t. 26. icon. pict. t. 33. Andr. bot. rep. 187. Sims, bot. mag. 1064. Apócynum speciosíssimum, Mill. dict. Nèrium sarmentòsum, Browne, jam. 180.—Sloan. jam. p. 89. hist. 1. p. 206. t. 130. f. 2. Corollas large, with a cylindrical tube: hairy outside, yellow. Hypogynous scales concave, obtuse. Stems scandent, hardly twining. Calycine segments lanceolate.

Erectish Hæmadictyon. Fl. Ju. Aug. Clt. 1759. Sh. cl.

3 H. circina'lis; leaves elliptic, glabrous; racemes many-flowered: having the peduncles articulated; teeth of calyx acute. ♄. ⌒. S. Native of the Antilles, and St. Domingo. Echìtes circinàlis, Jacq. Swartz. prod. 52. fl. ind. occ. 1. p. 529. Flowers small, white, with undulated segments and villous throat. Calyx and corolla velvety outside.

Circinal Hæmadictyon. Shrub tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

XIX. CERCOCO'MA (from κερκος, *kerkos*, a tail, and κομη, *kome*, a head of hair; in reference to the stipitate tuft of hairs at the top of the seed). Wall. cat. no. 1623.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx short, 5-toothed. Corolla salver-shaped; with a terete tube and a 5-lobed spreading limb. Stamens inclosed. Follicles 2, divaricate, horizontal, large, 9 inches long, acuminated, 2-valved, many-seeded. Seeds lanceolate, tapering to the top, where it ends in a long, stipitate tuft of white hairs.—Branches warted. Leaves opposite, glabrous, oblong, acuminated. Panicles corymbose, furnished with many opposite, ovate, acute small bracteas.

1 C. Singaporia'na (Wall. cat. no. 1623.). ♄. S. Native of the East Indies.

Singapore Cercocoma. Shrub.

Cult. For culture and propagation see *Echìtes*, p. 76.

XX. PRESTO'NIA (named after Charles Preston, M. D., a correspondent of Ray; and styled by him "Eruditissimus vir, et Curiosissimus stirpium Observator." Many of his observations, chiefly on the more minute plants, occur in Ray's "Methodus emendata." Blair also mentions him as an ingenious and expert botanist). R. Br. in mem. wern. soc. 1. p. 69. H. B. et Kunth, nov. gen. amer. 3. p. 221.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx 5-parted. Corolla salver-shaped; throat crowned with an undivided annular tube, and 5 scales, which alternate with the segments of the limb. Anthers semi-exserted, sagittate, cohering by their middle to the stigma; with the hind lobes destitute of pollen. Ovaria 2. Style 1, filiform, dilated at top; stigma turbinate: with a narrower point. Hypogynous scales 5, distinct or joined. Follicles like those of *Echìtes*.—Twining shrubs. Leaves opposite. Corymbs or racemes crowded, interpetiolar. Calyx foliaceous: having the segments furnished each with a scale inside at the base.

1 P. tomentòsa (R. Br. l. c. p. 70.) tomentose; corymbs crowded; hypogynous scales combined into an urceolus. ♄. ⌒. S. Native of Brazil, near Rio Janeiro, where it was collected by Sir Joseph Banks. Flowers large, yellow.

Tomentose Prestonia. Shrub tw.

2 P. móllis (H. B. et Kunth, nov. gen. amer. 3. p. 221. t. 242.) leaves ovate-oblong, acute, subcordate, hairy above, but clothed with soft canescent down beneath; flowers racemose; hypogynous scales free. ♄. ⌒. S. Native on the banks of the river Amazon, near Tomependa, in the province of Jaen de Bracamoros. Flowers large, yellow: hairy, ventricose at the base, and downy.

Soft Prestonia. Fl. Aug. Shrub tw.

3 P. glabra'ta (H. B. et Kunth, nov. gen. amer. 3. p. 222.) leaves ovate-oblong, short-acuminated, cordate, glabrous; flowers racemose; hypogynous scales free. ♄. ⌒. S. Native of Quito, near Guayaquil, on the shore of the Pacific Ocean. Corollas yellow, size of those of *Vinca ròsea*. Pedicels hairy.

Glabrous Prestonia. Fl. Feb. Shrub tw.

4 P. hirsu'ta; leaves oblong-oval, acuminated, villous beneath; flowers racemose; hypogynous scales free. ♄. ⌒. S. Native of Peru, in forests. Echìtes hirsùta, Ruiz et Pav. fl. per. 2. p. 19. t. 136. Glands one or two at the base of each leaf. Calycine segments acute in the flowering state, but blunt in the fruiting state. Corollas yellow.

Hairy Prestonia. Shrub tw.

5 P. Peruvia'na (Spreng. syst. 1. p. 637.) leaves roundish, cordate, acuminated, tomentose, glanduliferous; peduncles racemose. ♄. ⌒. S. Native of Peru, in woods. Echìtes glandulòsa, Ruiz et Pav. fl. per. 2. p. 19. t. 135. Stems bearing glands at the joints, in the recesses at the base of the leaves, and along the petioles and stipulas. Leaves large, white beneath, with red or purplish veins. Pedicels reflexed. Corollas large, yellow. Perhaps a species of *Hæmadictyon*.

Peruvian Prestonia. Shrub tw.

6 P. quinquangula'ris (Spreng. syst. 1. p. 637.) leaves obovate or oblong-ovate, acuminated; peduncles racemose, generally 8-flowered; calycine segments with reflexed tops. ♄. ⌒. S. Native of South America, and the West Indies. Echìtes quinquangulàris, Jacq. amer. 32. t. 25. ed. pict. t. 32. Stems scabrous. Leaves 3 inches long. Corolla large, green, with a yellowish limb: and having the throat of the tube pen-

tagonal and white; segments of limb broad and truncate at the apex. Anthers length of tube. Said to be non-lactescent.

Five-angled-flowered Prestonia. Shrub tw.

7 P. annula'ris; leaves large; corolla furnished with a prominent ring; racemes pedunculate, bifid; hypogynous scales distinct. ♄. ⌒. S. Native of Surinam. Echìtes annulàris, Lin. suppl. 166. Leaves nearly a foot long. Segments of corolla emarginate. Stigma obtuse, girded by a ring.

Annular-flowered Prestonia. Shrub tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

XXI. BALFOU'RIA (in memory of Sir Andrew Balfour, the founder of the Edinburgh Botanic Garden and Museum, of whose merits in natural history, especially in botany, an interesting account is given by his friend Sir Robert Sibbald, in a small volume entitled "Memoria Balfouriana."). R. Br. in mem. wern. soc. 1. p. 70. prod. p. 467.

Lin. syst. *Pentándria, Monogýnia.* Corolla salver-shaped, throat crowned by a little crenulated tube; segments of the limb straight, equal-sided. Stamens inserted in the throat, a little exserted: anthers sagittate, mucronate, cohering by their middle to the stigma. Ovarium 2-celled. Style 1, filiform, dilated at apex; stigma angular. Scales 10, inserted at the base of the calyx outside the corolla: hypogynous ones none. Follicles unknown.—A small tree, about 12 feet high. Leaves opposite, lanceolate-linear, falcate; furnished with interpetiolar teeth. Cymes trifid, lateral, and terminal.

1 B. salígna (R. Br. prod. 467.). ♄. S. Native of New Holland, within the tropic.

Willowy Balfouria. Tree 12 feet.

Cult. For culture and propagation see *Nèrium*, below.

XXII. NE'RIUM (from *νηρος, neros*, humid; habitat of species.) R. Br. in mem. wern. soc. 1. p. 71. Lam. ill. t. 174. f. 1.—Nerium, species of Lin. ed Juss.

Lin. syst. *Pentándria Monogýnia.* Calyx 5-cleft. Corolla salver-shaped; throat crowned by lacerated multifid segments; segments of the limb twisted, unequal-sided, tailless. Filaments inserted into the middle of the tube. Anthers sagittate, awned, cohering by their middle to the stigma. Ovaria 2. Style 1, filiform, dilated at top; stigma obtuse. Hypogynous scales wanting; but there are toothlets at the base of the calyx, outside the corolla. Follicles cylindrical.—Erect shrubs. Leaves 3 in a whorl, elongated, coriaceous, with numerous parallel veins. Flowers terminal, corymbose.

1 N. Olea'nder (Lin. spec. 805.) leaves lanceolate, 3 in a whorl, veiny beneath; segments of corona trifid or tricuspidate. ♄. G. Native of the East Indies, in humid places; but has now become apparently wild in many places of the south of Europe, by the sides of streams, and near the sea coast.—Blackw. t. 531.—Duham. arb. 2. p. 46. t. 12.—Lob. icon. t. 364. N. lauriförme, Fl. fr. 2. p. 209. Leaves 4-5 inches long, dark green. Flowers rather large, bright red. Like *Rhododéndron*, this shrub has the name of *Rose Bay*, and for the same reason; but it is more commonly known by the officinal name, Oleander, which is also adopted in all the European languages, except the French, in which it is *Laurose*, or *Laurier-Rose*, that is, *Rose Bay*. The Italians have adopted Nerio, or Rosa-laura, as well as Oleandro. Oil, in which the leaves are infused, was formerly recommended for cutaneous disorders, in preference to mercurial preparations, for weak constitutions.

Var. β, flòre albo; flowers white; leaves pale green. ♄. G. Lodd. bot. cab. t. 700.—Ger. emac. 1406. f. 2. Park. theatr. 1407. 1.

Var. γ, spléndens (Hort.) flowers large, showy, double, bright red. ♄. G. N. latifòlium, Mill. dict. no. 3.? Herm. lugdb. 447. t. 440. Nèrium grandiflòrum, Hort. Par.

Var. δ, variegàtum (Hort.) leaves edged with white or yellow; flowers red. ♄. G. Lodd. bot. cab. 666.

Common *Oleander*. Fl. June, Oct. Clt. 1596. Shrub 6-14 feet.

2 N. odòrum (Ait. hort. kew. 1. p. 297.) leaves linear-lanceolate, 3 in a whorl, coriaceous, veiny beneath, with revolute edges; segments of the crown multifid, filamentose at apex. ♄. G. Native of the East Indies, on the banks of rivers, and by the sea side. Heyne, term. bot. t. 22. f. 1. Sims, bot. mag. t. 2032. N. odoràtum, Lam. dict. 3. p. 456.—Rheed. mal. 9. t. 2. N. I'ndicum, Mill. dict. no. 2. N. Oleánder, Lour. coch. 115. Leaves light green, 6-10 inches long. Flowers pale red, with an agreeable musky scent. Bracteas lanceolate, mucronate, permanent. Calycine segments lanceolate mucronate. There is also a variety of this species with white flowers, and another with semi-double flowers. See Ker. bot. reg. t. 74.

Sweet-scented-flowered Oleander. Fl. June, Aug. Clt. 1683. Shrub 6-8 feet.

3 N. flave'scens (Di Spino, jard. de St. Sebastian, 1812.) leaves linear-lanceolate, 3 in a whorl, or opposite, veined beneath; flowers and peduncles yellowish. ♄. G. Native country unknown, but cultivated in Italian gardens. N. odòrum, var. *β*, lùteum, Targion Tazzet. obs. bot. dec. 1-2, p. 27.

Yellowish-flowered Oleander. Fl. July, Aug. Clt. 1817. Shrub 6-10 feet.

4 N. salícinum (Forsk. desc. 205. Vahl. symb. 2. p. 45.) leaves linear-lanceolate, 3 in a whorl, nerveless. ♄. G. Native of Arabia Felix. Said to differ from *N. Oleánder*, in the leaves being obtuse, and almost veinless beneath, not with copious parallel nerves. A large tree, with the habit of *Sàlix frágilis*. Leaves flat, shining, a span long.

Willowy Oleander. Tree.

† *A doubtful species.*

5 N.? reticula'tum (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 797.) leaves elliptic, mucronate, reticulated, stem scandent. ♄. ⌣. S. Native of the East Indies. Perhaps a species of *Wríghtia*.

Reticulated-leaved Oleander. Shrub cl.

Cult. All the species of *Oleander* are very showy when in blossom. They thrive well in a light rich soil; and cuttings strike root freely in any kind of soil, if kept moist; or by placing the ends of them in water. All require a good deal of heat, to flower freely in this country.

XXIII. STROPHA'NTHUS (from *στροφος, strophos*, a twisted thong; and *ανθος, anthos*, a flower; segments of corolla long, narrow, and twisted.) D. C. in bull. d. soc. philom. no. 64. p. 123. t. 8. f. 1. Desf. ann. mus. 1. p. 410. t. 27. R. Br. in mem. wern. soc. 1. p. 72.—Echìtes species, Lin.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted (f. 13. *a.*) Corolla funnel-shaped; throat crowned by 10 undivided scales; segments of the limb ending in a long tail each (f. 13. *e.*) Stamens inserted in the middle of the tube; anthers sagittate, awned (f. 13. *c. d.*) or mucronate. Ovaria 2. Style 1, filiform, dilated at the apex; stigma sub-cylindrical. Hypogynous scales 5. Follicles ovate, acuminated, many-seeded. — Sarmentose shrubs, with opposite leaves.

§ 1. *Anthers glabrous, drawn out into a thread (f. 13. c.)*

1 S. sarmentòsus (D. C. bull. philomat. no. 64. p. 123. t. 8. f. 1. Desf. ann. mus. 1. p. 410. t. 27.) glabrous, sarmentose; flowers glomerate, terminal and lateral, rising with the leaves; corollas sub-campanulate. ♄. S. Native of Sierra Leone,

rambling among bushes. Branches besprinkled with white tubercles. Leaves ovate, acute. Corolla red, ending in long tail each.

Sarmentose Strophanthus. Fl. May, July. Clt. 1824. Shrub rambling.

2 S. laurifòlius (D. C. l. c. Desf. l. c. p. 411.) erect; leaves opposite, and 3 in a whorl; flowers glomerate, terminal and lateral, rising after the leaves have fallen. ♄. S. Native of Sierra Leone, by the sea side. We have seen this species growing by the sea side, near Cape Shilling, where it forms a bush, about 6 or 8 feet high, covered with blossoms, before the leaves rise. Flowers red and white. Very nearly allied to *S. sarmentòsus*, but the stems are erect, and the corollas less spreading.

Laurel-leaved Strophanthus. Shrub 6 to 8 feet.

3 S. dichótomus (D. C. l. c. Desf. l. c.) branches dichotomous; leaves elliptic-oblong, acute at both ends, glabrous, mucronately acuminated; corolla funnel-shaped; tails of segments of corolla 3 inches long; scales of corolla curled. ♄. S. Native of the East Indies. Ker. bot. reg. 469. S. terminàlis, Blum. cat. hort. buitz. p. 56. Echìtes caudàta, Lin. mant. 52. Burm. ind. t. 26. Nèrium caudàtum, Roxb. fl. ind. 2. p. 9. Echìtes dichótoma, Carey, hort. beng. p. 20. Stems sarmentose, besprinkled with white tubercles. Corollas yellowish in this country, but are said to be red in their native country. (f. 13.)

FIG. 13.

Var. β, rotundàtus (Pers. ench. 1. p. 269.) leaves ovate-roundish. ♄. S. Native of the East Indies. Nèrium caudàtum, Lam. dict. 3. p. 458.

Dichotomous Strophanthus. Fl. Feb. March. Clt. 1812. Shrub 3-4 feet.

4 S. divarica'tus (Wall. cat. no. 1642.) branches and peduncles dichotomous; leaves lanceolate or oblong-lanceolate, acuminated, glabrous, pale beneath; flowers small, with short segments. ♄. ◡. S. Native of the East Indies.

Divaricate Strophanthus. Shrub cl.

5 S. Jackia'nus (Wall. cat. no. 1643.) leaves oblong-lanceolate, downy beneath while young; peduncles short, axillary, dichotomous; corolla campanulate, with short tails to the segments. ♄. S. Native of Penang. Follicles very long.

Jack's Strophanthus. Shrub.

6 S. Chine'nsis; branches erect, dichotomous; leaves nearly sessile, ovate-lanceolate, glabrous; peduncles terminal, few-flowered, becoming lateral, or in the forks of the branches; tails of the segments of the corolla ensiform; stamens inserted in the base of the tube. ♄. E. Native of China. Nèrium Chinénsis, Hunter, in Roxb. fl. ind. 2. p. 9. S. divérgens, Graham? S. dichótomus, Ker. bot. reg. 469? Dr. Roxburgh could not find any scales in the tube of the corolla.

Chinese Strophanthus. Shrub erect.

7 S.? sca'ndens (Rœm. et Schultes, syst. 4. p. 412.) stems scandent; peduncles terminal, many-flowered; leaves ovate-oblong, a little acuminated, glabrous; tails of the segments of the corolla long. ♄. ◡. S. Native of Cochinchina, among bushes. Nèrium scándens, Lour. coch. p. 116. Calyx tubular, with fleshy, erect segments. Corolla funnel-shaped; having the lower part of the tube cylindrical, and the superior part urceolate, white; limb red, having the segments long-linear and repand. Corona of the tube of many acute segments; anthers ending in a long, thread-like tail, each. Follicles thick, obtuse, horizontal.

Climbing Strophanthus. Shrub cl.

8 S. alterniflòrus (Spreng. syst. 1. p. 637.) scandent; leaves ovate, acuminated, glabrous; alternate axils umbelliferous. ♄. ◡. G. Native of China, in small islands near Canton. Apócynum alterniflòrum, Lour. coch. 168. Flowers pale. Corolla campanulate, crowned by 10 scales.

Alternate-flowered Strophanthus. Shrub cl.

§ 2. *Anthers hispid, mutic.*

9 S. híspida (D. C. l. c. Desf. l. c. p. 412.) corollas funnel-shaped: with long, acuminated segments; anthers acute. ♄. S. Native of Sierra Leone. Shrub hispid, almost with the habit of a *Justícia*. Leaves sessile, ovate-oblong. Flowers fasciculate, on peduncles, which are repeatedly trichotomous. Corollas red; having the tails of the segments 7 inches long.

Hispid Strophanthus. Shrub.

Cult. Shrubs of easy culture. A mixture of peat, loam, and sand, is the best soil for them; and cuttings strike root readily in sand, under a hand glass, in heat. The species are worth cultivating for the singularity as well as beauty of their flowers.

Tribe II.

WRIGHTIE'Æ. Fruit of 2 follicles. Tuft of hairs at the lower end of the seed, or at that end contrary to the umbilicus. Embryo with involute cotyledons.

XXIV. WRI'GHTIA (named after the late William Wright, M.D. F.R.S. F.L.S. and Edinb., whose ardour in the pursuit of botanical knowledge, even while engaged in extensive medical practice in the island of Jamaica, has long entitled him to this mark of distinction.) R. Br. in mem. wern. soc. 1. p. 73.—Nèrium species. Lin.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla salver-shaped; throat crowned by 10 divided scales. Stamens exserted; filaments inserted in the throat; anthers sagittate, cohering by their middle to the stigma. Ovaria 2, cohering. Style 1, filiform, dilated at top; stigma narrower. Scales 5-10, inserted at the base of the calyx, outside the corolla. Follicles distinct or combined, with adnate placentas.—Erect shrubs, or small trees. Leaves opposite. Corymbs almost terminal. Flowers white. Albumen none. Cotyledons longitudinally involute, white, but immersed in hot water they become rose-coloured.

1 W. antidysente'rica (R. Br. l. c. p. 74.) leaves obovate-oblong, short-acuminated, glabrous; corymbs nearly terminal; tube of corolla 6 times longer than the calyx; follicles distinct. ♄. S. Native of Ceylon. Nèrium antidysentéricum, Lin. spec. ed. 2d. p. 306. Lour. coch. p. 116.—Plenck. offic. t. 119.—Burm. zeyl. 167. t. 77. Codaga Pala, Rheed. mal. 1. p. 85. t. 47.? Flowers white, sweet-scented, form of a species of *Jasmìnum*. The wood being white, of a fine grain, is useful for the turner, and to make cabinets, and other elegant furniture. The bark is reputed to be a specific in dysentery, and most complaints of the bowels, and is the Conessi bark of the Materia Medica.

Anti-dysenteric Wrightia. Clt. 1778. Shrub 6 to 10 feet.

2 W. Zeyla'nica (R. Br. l. c.) leaves oblong-lanceolate, sub-acuminated, glabrous; corymbs terminal; tube of corolla 4-5 times longer than the calyx; follicles distinct. ♄. S. Native of Ceylon. Nèrium Zeylánicum, Lin. amœn. acad. 4. p. 309. Burm. zeyl. 23. t. 12. f. 2. W. divaricàta, Herb. madr. Very nearly allied to *W. antidysentérica*, from which it differs, in the figure of the leaves, which are also rather smaller.

Ceylon Wrightia. Shrub 6 to 10 feet.

3 W. tinctòria (R. Br. l. c.) leaves elliptic-lanceolate, and ovate-oblong, acuminated, glabrous; panicles terminal; branches and corymbs divaricate; tube of corolla twice longer than the calyx; follicles distinct, but united at the apex. ♄. S. Native of the East Indies. Lindl. bot. reg. 933. Nèrium tinctòrium, Roxb. fl. ind. 2. p. 5. Chite-ancaloo of the Telingas. Flowers white, fragrant, when expanded an inch and a half in diameter.

Dyer's Wrightia. Fl. June, July. Clt. 1812. Shrub 10 to 15 feet.

4 W. mollíssima (Wall. pl. rar. 2. p. 39. t. 146.) leaves ovate, acuminated, clothed with hoary villi beneath, as well as the branchlets; corymbs erect; tube of corolla twice longer than the calyx, downy; follicles parallel, beset with many callous dots, combined into a clavate cylindrical fruit. ♄. S. Native of Nipaul, on mountains, in the Great Valley; and of Kamaon. Habit of *W. tinctòria*. Corolla downy outside, yellow, tinged with red.

Very soft Wrightia. Shrub.

5 W. Ròthii; leaves oval-lanceolate; corymbs terminal, loose, flaccid; calyx and corollas downy. ♄. S. Native of the East Indies. W. tinctòria, Roth. nov. spec. Tabernæmontàna divaricàta, Roth.? and probably Rheed. mal. 1. t. 46. and 2. t. 54.

Roth's Wrightia. Shrub 10 to 15 feet.

6 W. du'bia (Spreng. syst. 1. p. 638.) leaves ovate-lanceolate, somewhat undulated; corona in the throat of the corolla 10-cleft, alternate segments shorter and obtuse; peduncles few-flowered in the forks of the branches. ♄. S. Native of the East Indies. Camerària dùbia, Hook. bot. mag. t. 1646. Lodd. bot. cab. 403. Flowers large, scarlet. Segments of corolla lanceolate, acuminated, yellow beneath.

Doubtful Wrightia. Shrub or tree.

7 W. coccí'nea (Sims, bot. mag. t. 2696. Lodd. bot. cab. 894. Wall. cat. no. 1626.) leaves almost sessile, ovate-oblong; flowers 3-4 together, terminal; corona in the throat 5-lobed; lobes crenulated; follicles distinct, rough; tube of corolla short. ♄. S. Native of Silhet. Nèrium coccíneum, Roxb. fl. ind. 2. p. 2. Flowers large, dull red. Corona scarlet. A large timber tree. Wood white, remarkably light, but firm, and much used by turners, to make palkies, &c.

Scarlet-flowered Wrightia. Fl. June. Clt. 1812. Tree.

8 W. pube'scens (R. Br. l. c. p. 75.) leaves elliptic-oblong, acuminated, and are, as well as the calyxes, downy; corymbs erect; tube of the corolla a little longer than the calyx; follicles cohering. ♄. S. Native of New Holland, in Arnhem's Land, on the north coast; and the Island of Timor, near Coepang; as well as of Java, among bushes. Zimm. reis. xi. 2. 1812. p. 132. with a figure. Roth. nov. spec. W. tomentòsa, Rœm. et Schultes, syst. 4. p. 414. Flowers white. The tube of the corolla is described both by Blume and Roth, to be twice as long as the calyx.

Downy Wrightia. Shrub.

9 W. tomentòsa; leaves oblong, acuminated, downy; corymbs terminal, small; tube of corolla longer than the calyx; corona fleshy, lacerated into obtuse segments; follicles scabrous; distinct. ♄. S. Native of the Circars. Nèrium tomentòsum, Roxb. fl. ind. 2. p. 7.—Nelam-Pala, Rheed. mal. 9. t. 3-4. Branches downy. Leaves 2-3 inches long. Flowers with a white corolla, and orange-coloured corona. Follicles 8-9 inches long, and 2 in circumference. With the yellow juice which flows from every part of this plant when wounded, diluted with water, pieces of cotton cloth were dyed a pretty good yellow.

Tomentose Wrightia. Tree.

10 W.? piscídia; leaves oblong, acuminated, shining; panicles terminal, bracteate, shorter than the leaves; tube of corolla longer than the calyx; corona of 5 bifid, villous segments; follicles swollen, oblong, obtuse. ♄. S. Native of Silhet, where it is called *Echaulut*. Nèrium piscídium, Roxb. fl. ind. 2. p. 7. Seeds with broad, membranous edges, crowned. The bark contains a quantity of fibrous matter, which the natives of the country where the plant grows use as a substitute for hemp. Dr. Roxburgh found, by steeping the roots in a fish-pond, in order to accelerate the removal of the bark, and cleansing the fibres, many, if not the whole, of the fish were killed: hence the specific name.

Fish-killing Wrightia. Shrub rambling.

Cult. For culture and propagation see *Strophánthus*, p. 85.

XXV. KIBATA'LIA (Kibatala is the name of the tree in Java.) Hasséltia, Blum. bijdr. p. 1047, but not of H. B. et Kunth.

Lin. syst. *Pentándria, Monogy'nia.* Calyx 5-parted, permanent. Corolla having the tube coarctate in the middle, the throat naked, and the limb campanulate, 5-parted, and twisted. Stamens 5, inserted in the throat of the corolla; anthers large, cuspidate, callose on the back, adhering to the stigma. Ovarium didymous, girded by a fleshy ring. Style didymous; stigma clavate. Fruit of 2 elongated, distinct follicles. Seeds furnished at the lower extremity, with a stipitate tuft of hairs. Embryo involute.—A beautiful tree; with opposite, oval leaves, which are acutish at both ends, glabrous above, paler and a little downy beneath; and axillary fascicles of large, whitish yellow flowers. *Kibatàlia* is distinguished from *Wrightia*, in the throat of the corolla being without scales; and in the tuft of hairs to the seed being furnished with a stipe.

1 K. arbòrea (Blum. bijdr. p. 1046, under *Hasséltia.*) ♄. S. Native of Java, about Tjampian, in the province of Buitenzorg, where it is called *Kibatala*.

Tree Kabatalia. Fl. June. Tree.

Cult. For culture and propagation see *Strophánthus*, p. 85.

Tribe III.

ALSTONIE'Æ. Fruit of 2 follicles. Seeds peltate, ciliated; having the cilia more elongated at both ends.

XXVI. ALSTO'NIA (in memory of Dr. Alston, the predecessor of Dr. Hope, of Edinburgh.) R. Br. in mem. soc. wern. 1. p. 75.—Echìtes species, Lin.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla salver-shaped; throat and tube without scales. Stamens inclosed; anthers lanceolate, bearing pollen their whole length, and free from the stigma. Ovaria twin. Style 1, filiform, dilated at top; stigma somewhat conical. Hypogynous, as well as calycine scales, wanting. Follicles terete.—Usually tall, lactescent trees. Leaves verticillate or opposite, ribbed, glabrous. Cymes terminal, panicled. Flowers usually white. Follicles for the most part very long.

1 A. schola'ris (R. Br. l. c. p. 76.) leaves 5-7 in a whorl, obovate-oblong, obtuse, ribbed, and having the veins approximating the margin; cymes on short peduncles; limb of corolla a little bearded; follicles very long. ♄. S. Native of the East Indies and the Moluccas. Echìtes scholàris, Lin. mant. 53. A. oleandræfòlia, Lodd. Nèrium tinctòrium, Hort. Pala, Rheed. mal. 1. p. 81. t. 45. Lignum scholare, Rumph. amb. 2. p. 246. t. 82. Flowers white. Segments of corolla roundish.

Var. β; leaves cuneate-oblong, obtuse; umbels effuse. ♄. S. Native of Java, at the foot of Mount Salak. Blum. bijdr. 1037.

School Alstonia. Fl. March, May. Clt. 1803. Tree.

2 A. specta'bilis (R. Br. l. c.) leaves 4 in a whorl, elliptic-

oblong, somewhat acuminated, ribbed, with simple edges; cymes pedunculate, shorter than the leaves; limb of corolla bearded; follicles very long. ♄. S. Native of the islands of Timor and Java. Flowers very nearly allied to the preceding.

Showy Alstonia. Fl. March, May. Clt. 1825. Tree.

3 A. SPATULA'TA (Blum. bijdr. p. 1037.) leaves on short petioles, opposite or 4 in a whorl, spatulate, rounded at the apex, and glabrous; flowers sub-umbellate, terminal; throat of corolla bearded a little; corolline segments obtuse, about equal in length to the tube. ♄. S. Native of Java, about Rompien, where it is called *Lameh*.

Spatulate-leaved Alstonia. Fl. April. Shrub.

4 A. VILLÒSA (Blum. bijdr. p. 1038.) leaves almost sessile, 4 in a whorl, elliptic-oblong, acutish at both ends, remotely ribbed, villous beneath; cymes effuse, terminal. ♄. S. Native of Java, on the calcareous mountains of Kuripan.

Villous Alstonia. Fl. Nov. Shrub.

5 A. SERÍCEA (Blum. bidjr. p. 1038.) leaves 3-4 in a whorl, lanceolate, much acuminated at both ends, lined transversely, clothed with silky down beneath; cymes crowded, terminal; throat of corolla bearded; segments of corolla lanceolate, acuminated. ♄. S. Native of Java, on the Salak mountains.

Silky Alstonia. Fl. April. Shrub or tree.

6 A. MACROPHY'LLA (Wall. cat. no. 1648.) leaves 3 in a whorl, oblong, short-acuminated, downy beneath; peduncles numerous, at the tops of the branches, trichotomously corymbose at the top. ♄. S. Native of Penang. Follicles linear, very long. A. costata, R. Br. in Wall. cat. no. 1649, does not appear to differ from *A. macrophýlla*, unless in the leaves being glabrous, narrower, and the veins more distinct.

Large-leaved Alstonia. Tree or shrub.

7 A. CUNEA'TA (Wall. cat. no. 1645.) leaves obovate, retuse at top, rusty beneath, 3 in a whorl. ♄. S. Native of Sirmore, where it was collected by Dr. Gowan. Follicles linear. Peduncles 3-flowered.?

Cuneate-leaved Alstonia. Shrub or tree.

8 A. NERIIFÒLIA (D. Don, prod. fl. nep. p. 131.) leaves 3-5 in a whorl, lanceolate, acuminated, feather-nerved, velvety beneath, cymes terminal, sessile, downy; throat of corolla downy: segments of the limb lanceolate, acute, twice shorter than the tube. ♄. G. Native of Nipaul.

Nerium-leaved Alstonia. Tree or shrub.

9 A. LU'CIDA (D. Don, prod. fl. nep. p. 131.) leaves opposite, elliptic, acuminated, glabrous, shining, reticulated; cymes terminal, pedunculate, trichotomous; throat of corolla bearded; segments of the limb oblong, obtuse, about equal in length to the tube. ♄. G. Native of Nipaul. Echìtes triangulàris, Hamilt. mss.

Shining-leaved Alstonia. Shrub or tree.

10 A. COSTA'TA (R. Br. l. c. p. 77.) leaves opposite, elliptic-oblong, acuminated, ribbed; cymes effuse; segments of the corolla beardless, lanceolate, longer than the tube; follicles very long. ♄. S. Native of the islands of Otaheite and Ulaietea, between the ranges of the mountain, where it is called *Attahé*. Flowers white.

Ribbed-leaved Alstonia. Tree.

11 A. PLUMÒSA (Labill. sert. cal. p. 28. t. 28.) leaves opposite, elliptic-oblong, obtuse, ribbed, attenuated at the base; floriferous cymes length of leaves, but the fruit bearing ones are much longer; segments of corolla oblong, obtuse, pilose; follicles very long. ♄. G. Native of New Caledonia. Corolla with a ventricose tube, and a pilose throat.

Feathered Alstonia. Shrub 8 feet.

12 A. VENENA'TA (R. Br. l. c.) leaves 4 in a whorl, oblong-lanceolate, acuminated, attenuated at the base; cymes dichotomous; tube of corolla widened upwards; limb acute, beardless; follicles attenuated at both ends, hardly equal in length to the leaves. ♄. S. Native of the East Indies. Flowers white.

Poisonous Alstonia. Tree.

Cult. See *Strophánthus*, p. 85, for culture and propagation.

Tribe IV.

GELSEMIE'Æ. Fruit of 2 joined follicles, which are at length separable, 2-valved, 2-celled; valves 1-celled, with inflexed, seminiferous edges, which constitute the dissepiment. Seeds flat, winged. This tribe seems to connect the *Gentiàneæ* with *Apocýneæ*, through *Crawfúrdia*.

XXVII. GELSE'MIUM (from Gelsemino, an Italian name of the Jasmine.) Michx. fl. amer. bor. 1. p. 120.—Gelsemìnum. Juss. gen. 168.

LIN. SYST. *Pentándria, Monogy'nia*. Calyx small, 5-lobed. Corolla large, funnel-shaped; with a 5-cleft, almost equal limb. Stigma trifid. Capsule ovate-oblong, rather compressed, 2-celled, composed of 2 joined follicles, which are separable, furrowed in the middle; 2-valved; valves keeled, with inflexed edges, which constitute the dissepiment. Seeds numerous, flat, imbricate, membranous at the apex, fixed to the edges of the valves.—An evergreen, lactescent, climbing shrub. Leaves opposite, furnished with small, axillary glands. Flowers axillary and terminal, yellow.

1 G. NÍTIDUM (Mich. fl. bor. amer. 1. p. 120.) glabrous; leaves lanceolate, shining: fascicles axillary, few-flowered. ♄. ◡. G. Native of North America, in the vicinity of rivers, from Virginia to Florida. Pursh. fl. sept. amer. 1. p. 184. G. sempervìrens, Pers. ench. 1. p. 267. Bignònia sempervìrens, Lin. spec. p. 869. Jacq. coll. 3. p. 258. Anònymos sempervìrens, Walt. fl. car. p. 98. Lisiánthus sempervìrens, Mart. Mill. dict. no. 5.—Catesb. car. 1. p. 53.—Plukn. alm. 359. t. 112. f. 5. Flowers sweet-scented, yellow. Called, in America, *Carolina Jessamine*.

Shining Gelsemium, or Carolina Jasmine. Fl. June, July. Clt. 1640. Shrub cl.

Cult. A pretty climbing shrub, of easy culture. The best soil for it is a mixture of loam and peat. Cuttings strike root readily under a hand-glass.

XXVIII. PLECTANE'IA (meaning unknown.) Pet. Th. gen. mad. no. 35. Rœm. coll. p. 203.

LIN. SYST. *Pentandria Monogýnia*. Calyx urceolate, 5-cleft, or 5-toothed. Corolla with a short ventricose tube, and a twisted, coarctate limb. Anthers sessile, sagittate. Ovarium solitary. Style short; stigma capitate. Capsule follicular, very long, sub-tetragonal, 2-celled, probably composed of 2 joined follicles; with introflexed, seminiferous edges. Seeds compressed, winged, fixed to the edges of the valves by slender funicles. Albumen thin. Embryo straight, with flat cotyledons. —A lactescent, twining shrub; with opposite leaves, and small corymbose flowers. Fruit like that of *Bignònia*. The genus is said to be nearly allied to *Gelsèmium* by some, and by others to *Plumièra*, but totally distinct from both.

1 P. THOUA'RSII (Rœm. et Schultz, syst. 4. p. 420.) ♄. ◠. S. Native of Madagascar.

Petit Thouar's Plectaneia. Shrub tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

Tribe V.

TABERNÆMONTA'NEÆ. Fruit of 2 follicles, rarely solitary by abortion. Seeds neither tufted nor winged, usually nestling in the pulp of the fruit, usually albuminous.

XXIX. TABERNÆMONTA'NA (so named by Plumier, in honour of James Theodore, surnamed Tabernæmontanus, from Berg-Zabern, the place where he was born. He published

Kraeuterbuch, 1589, and Figures of Plants, 1590, in an oblong quarto form. He was physician to the Elector Palatine, and died in 1590.) Plum. gen. 30. Lin. gen. no. 301. Juss. 145. R. Br. prod. p. 467.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-cleft. Corolla salver-shaped; limb 5-parted; segments unequal-sided. Stamens inclosed; anthers sagittate, cohering to the stigma. Ovaria 2. Style filiform; stigma bifid, from the dilated base. Hypogynous glands wanting.? Follicles 2, ventricose. Seeds immersed in pulp.—Small trees. Leaves opposite. Stipulas interpetiolar, adnate at bottom, and loose at top. Cymes subdichotomous, interpetiolar. Calyx permanent.

* *Natives of New Holland.*

1 T. ORIENTA'LIS (R. Br. prod. p. 468.) leaves lanceolate-oblong, acuminated, glabrous, as well as the branches; bracteas subulate, slowly deciduous. ♄. S. Native of New Holland, within the tropic; and of Malabar, if Rheede's Curuta Pala, mal. 1. p. 83, t. 46, be the same which is T. alternifòlia, Lin. in which there is not a specimen in his herbarium. Flowers white, sweet-scented. Follicles yellow, ex Rheede.

Eastern Tabernæmontana. Shrub 6 feet.

2 T. PUBE'SCENS (R. Br. prod. p. 468.) leaves elliptic-oblong, sub-acuminated, downy beneath, as well as the branchlets; branches of cyme erect, and are, as well as the calyxes, pilose; bracteas very minute, caducous. ♄. S. Native of New Holland, within the tropic.

Downy Tabernæmontana. Shrub.

3 T. EBRACTEA'TA (R. Br. prod. p. 468.) leaves oval or elliptic, and are, as well as the cymes, downy; branches and peduncles spreading, bractless. ♄. S. Native of New Holland, within the tropic.

Bractless Tabernæmontana. Shrub or tree.

* * *Natives of South America, and the West India Islands.*

4 T. CITRIFÒLIA (Lin. spec. 210.) leaves ovate-lanceolate, glabrous; flowers in sub-umbellate, axillary fascicles, towards the tops of the branches. ♄. S. Native of Jamaica, and other West India Islands. Willd. spec. 1. p. 1244, exclusive of the syn. of Jacq. Lam. ill. t. 170. f. 1.—Plum. icon. t. 248. f. 2. Leaves 4-6 inches long. Flowers beautiful yellow, sweet-scented. Segments of corolla narrow, elongated, bluntish. Teeth of calyx acute. Follicles acuminated, recurved.

Citron-leaved Tabernæmontana. Clt. 1784. Tree 15 feet.

5 T. A'LBA (Mill. dict. no. 2.) leaves oblong ovate, acuminated, shining, glabrous; corymbs terminal, large. ♄. S. Native of Martinico, in woods, and the adjacent continent. T. citrifòlia, Jacq. amer. 38. Leaves 5 inches long, and 1½ inch broad. Flowers white, sweet-scented, like those of a *Jasmìnum*.

White-flowered Tabernæmontana. Fl. May, Aug. Clt. 1780. Shrub 10 to 12 feet.

6 T. LAURIFÒLIA (Lin. spec. 2. p. 210.) leaves ovate or oval, bluntish, glabrous; flowers lateral, subumbellate. ♄. S. Native of St. Domingo, Jamaica, on the banks of rivers. Jacq. amer. p. 39. pict. p. 25. Ker. bot. reg. 716.—Sloane, hist. 2. p. 62. t. 186. f. 2. Ait. hort. kew. ed. 2d. vol. 2. p. 72. Flowers small, yellow, sweet-scented. Leaves 4 inches long, and 2 broad. Linnæus cites under this species T. laurifòliam, flore albo, fructu rotundiore, Amm. herb. 212, which probably belongs to the preceding species.

Laurel-leaved Tabernæmontana. Fl. May. Clt. 1768. Shrub 5 to 10 feet.

7 T. ODORA'TA (Vahl. eclog. amer. 2. p. 22. Poir. dict. 7. p. 532.) leaves ovate-oblong or lanceolate-elliptic, acuminated, reticulately veined, glabrous; corymbs terminal, and in the forks of the branches. ♄. S. Native of Guiana and Surinam. Camerària Tamaquarìna, Aubl. guian. 1. p. 260. t. 102. Camerària lùtea, *a*, Lam. dict. 1. p. 566. Pedicels bractless. Calycine segments subulate. Segments of the corolla linear-lanceolate, ex Vahl. Flowers corymbose, in the forks of the branches, large, yellow, sweet-scented, ex Aubl.

Sweet-scented Tabernæmontana. Fl. Oct. Nov. Clt. 1793. Shrub 4 feet.

8 T. ECHINA'TA (Aubl. guian. 1. p. 263. t. 103.) leaves ovate-oblong, acuminated, somewhat undulated, clothed with fine white tomentum beneath; flowers terminal, almost sessile, 10-12 in each fascicle: each flower furnished with a small, scale-like bractea; follicles echinated by soft tubercles. ♄. S. Native of Guiana. Leaves 4-6 inches long, and 2 broad. Flowers sweet-scented. Calyx white, 5-toothed. Corolla seated on a yellow disk, with a red margin, and dotted with red; lobes of limb large, yellowish, undulated, acute. Follicles yellow, ovate. Teeth of calyx small, acute. Perhaps a distinct genus.

Echinated Tabernæmontana. Shrub 4-5 feet.

9 T. FASCICULA'TA (Poir dict. 5. p. 531. no. 14.) leaves ovate, acuminated, nerved, glabrous, shining above; flowers lateral towards the tops of the branches, axillary, numerous, in fascicles, inclining to a short, sub-umbellate corymb; branches opposite, articulated, sub-dichotomous; bracteas very short, caducous. ♄. S. Native of Cayenne. Leaves almost lanceolate, blunt at the apex, rufescent beneath, 2-3 inches long, with parallel nerves confluent to the margin. Teeth of calyx short, obtuse. Corollas small; segments of the limb narrow, obtuse. Allied to *T. muricàta*.

Fascicled-flowered Tabernæmontana. Shrub.

10 T. RIPA'RIA (H. B. et Kunth, nov. gen. amer. 3. p. 228.) glabrous; leaves oblong, acuminated, with undulated margins; peduncles dichotomous, few-flowered; calycine segments elliptic-oblong, obtuse, undulated, 3 times shorter than the tube of the corolla; segments of corolla obovate, roundish, oblique. ♄. S. Native of New Granada, on the banks of the river Magdalena, near El Peron, in shady places. Leaves membranous, glandless at the base, 4 to 4½ inches long. Corolla yellow. Ovaria girded by a fleshy ring.

River-side Tabernæmontana. Fl. May. Tree 20 feet.

11 T. LITORA'LIS (H. B. et Kunth. l. c.) glabrous; leaves elliptic-oblong, sub-acuminated; peduncles sub-dichotomous, few-flowered; calycine segments elliptic-oblong, obtuse, 4 or 5 times shorter than the tube of the corolla; segments of corolla dimidiately obovate, roundish. ♄. S. Native of Mexico, near Campeche, on the sea-shore. This species differs from *T. ripària*, in the flowers being twice the size, and in the structure of the calyx.

Shore Tabernæmontana. Tree.

12 T. HETEROPHY'LLA (Vahl. ecl. amer. 2. p. 22.) leaves elliptic-lanceolate, and somewhat cordate, sub-undulated, acuminated, glabrous; peduncles in the forks and tops of the branches, glabrous, 5-7-flowered, racemose; bracteas minute, twin at the base of each pedicel. ♄. S. Native of Cayenne. T. echinàta, Rohr. mss. from which name the follicles are probably echinated. Leaves petiolate and sessile. Pedicels alternate. Calycine segments linear lanceolate. Corolla ½ an inch long, with some silky hairs in the throat; segments of the limb lanceolate, obtuse.

Variable-leaved Tabernæmontana. Shrub or tree.

13 T. GRANDIFLÒRA (Jacq. amer. 40. t. 31. ed. pict. p. 25. t. 41.) leaves oval, attenuated at both ends, acute, glabrous, shining, unequal in size; peduncles irregular, 2-3-flowered at the sides of the ultimate bifurcations; calyxes unequal; stem dichotomous. ♄. S. Native of Carthagena, in woods. Lin. mant. p. 53. Lam. ill. t. 170. f. 2. Flowers white, scentless, larger than those of other species of the genus. Calycine seg-

ments unequal, flat, white; the outer 3 very large and cordate, and the inner 3 oblong, narrow. Corolla twisted above the calyx, with a very wide limb. Follicles roundish-ovate, acuminated.

Great-flowered Tabernæmontana. Clt. 1823. Shrub 6 to 8 feet.

14 T. cymòsa (Jacq. amer. 39. t. 181. f. 14. ed. pict. p. 25. t. 259. f. 10.) leaves ovate-lanceolate, acute, glabrous; cymes large, axillary, dense, convex. ♄. S. Native of Carthagena, in woods. An elegant tree, with beautiful cymes of whitish, scentless flowers. Calycine segments oblong-lanceolate. Corolla with a 5-angled, ventricose tube. Follicles reddish, oblong, obtuse, recurved.

Cymose-flowered Tabernæmontana. Fl.? Clt. 1820. Tree 10 to 15 feet.

15 T. amygdalifòlia (Jacq. amer. 39. t. 181. f. 15. ed pict. p. 25. t. 259. f. 11.) leaves ovate-lanceolate, shining; peduncles few-flowered; stamens exceeding the tube of the corolla. ♄. S. Native of Carthagena, in woods. Ker. bot. reg. 338. Flowers white, very sweet-scented. Follicles ovate or oblong, green, shining, acuminated.

Almond-leaved Tabernæmontana. Fl. May, Sept. Clt. 1780. Shrub 6 feet.

16 T. díscolor (Swartz, prod. p. 52. fl. ind. occ. 1. p. 535.) leaves ovate-lanceolate, glabrous; peduncles axillary, 2-flowered; branches terete, dichotomous; branchlets tetragonal. ♄. S. Native of Jamaica, among bushes. Pedicels longer than the peduncles. Corolla cream-coloured, having the tube ventricose in the base and middle; segments of the limb roundish, undulated. Calycine segments acute. Stigma capitate.

Two-coloured Tabernæmontana. Fl. April, May. Clt. 1822. Shrub 5 to 6 feet.

17 T. neriifòlia (Vahl, eclog. amer. 2. p. 21.) leaves lanceolate, acute at both ends, glabrous; peduncles solitary, few-flowered, sub-racemose; bracteas minute, linear, deciduous. ♄. S. Native of Porto Rico. Very nearly allied to *T. persicæfòlia*. Leaves 2-3 inches long, paler beneath. Calycine segments oblong, acute. Segments of corolla wedge-shaped, glabrous, hardly downy at the base, inside. Anthers beaked, exceeding the tube of the corolla.

Oleander-leaved Tabernæmontana. Shrub 10 feet.

18 T. arcua'ta (Ruiz. et Pav. 2. p. 22. t. 143.) leaves obovate-oblong, acuminated; corymbs by threes, many-flowered, lateral and axillary; bracteas small, ovate, acute. ♄. S. Native of Peru, in forests, at Pozuzo. Branches dichotomous. Calyx campanulate, with acute teeth. Corolla cream-coloured, with an inflated tube, which is globose at the base; segments of the limb large, ovate-roundish. Follicles arched, acuminated, rufescent. Seeds and pulp red.

Arched-follicled Tabernæmontana. Clt. 1824. Tree 30 to 40 feet.

19 T. Sana'nho (Ruiz. et Pav. fl. per. 2. p. 22. t. 144.) leaves oblong, acuminated, shining, glabrous; corymbs lateral and terminal, 4-5 times divided; bracteas roundish, cordate. ♄. S. Native of Peru, in forests. Leaves 6-8 inches long, undulated. Calycine teeth obtuse. Corolla large, cream-coloured: with a very long, angularly striated tube. Follicles obovate-roundish, acuminated, white, size of an Apricot.

Sananho Tabernæmontana. Tree 12 to 15 feet.

20 T. undula'ta (Vahl, eclog. amer. 2. p. 20.) leaves lanceolate-elliptic, acuminated, undulated, glabrous; peduncles first terminal, then axillary, bifid, sub-cymose. ♄. S. Native of Trinidad. Leaves 5 inches long. Calycine segments thick. Corolla orange-coloured, with a terete tube, widened at the top; segments of the limb linear, obtuse, incurved, conduplicate at the sides; throat glabrous. There is a hypogynous, glandular ring, girding the ovarium. Anthers linear, very narrow, almost sessile, inclosed. Stigma capitate, mucronate, girded by a minute membrane at the base. Follicles reflexed, a little incurved at both ends, oblong-triquetrous.

Undulated-leaved Tabernæmontana. Fl. June, July. Clt. 1824. Tree 10 to 20 feet.

21 T. Meye'ri; leaves oblong, ending in a linear, obtuse acumen, tapering into the petioles at the base, glabrous; flowers terminal; ovarium not girded by any scales, nor a glandular ring. ♄. S. Native of Essequibo. T. undulàta, Meyer, ess. p. 135. Calycine segments unequal, obtuse. Corolla with a downy throat.

Meyer's Tabernæmontana. Tree.

22 T. speciòsa (Poir. suppl. 5. p. 275.) leaves large, lanceolate, acuminated, nerved beneath; corymbs axillary, many-flowered. ♄. S. Native of Cayenne. In the leaves this species is like *T. macrophýlla*. Leaves membranous, 8-10 inches long, acute at the base. Calycine segments obtuse. Corolla red, with a cylindrical tube; segments of the limb ovate, much shorter than the tube.

Showy Tabernæmontana. Tree or shrub.

23 T. populifòlia (Poir. suppl. 5. p. 276.) leaves broad-ovate, acuminated, glabrous; flowers small, disposed in nearly terminal, panicled cymes; bracteas ovate, acute, upper ones subulate. ♄. S. Native of South America. Leaves 1½ to 2 inches long, acute at the base. Branches of panicle very short. Corollas white, small, hardly twice longer than the calyx, which is short.

Poplar-leaved Tabernæmontana. Shrub or tree.

24 T. macrophy'lla (Poir. suppl. 5. p. 276.) leaves ovate, obtuse, glabrous; flowers cymose; cyme trifid at bottom, sub-umbellate, axillary: bracteas small, scale-like. ♄. S. Native of Cayenne. T. Cestroïdes, Nees, in act. bonn. 11. p. 83. Leaves 2 inches long, and 3 lines broad, bluntly acuminated, with a small mucrone. Peduncles opposite. Corollas white, with linear-oblong, obtuse segments, which are longer than the tube. Calycine segments short, obtuse.

Long-leaved Tabernæmontana. Shrub or tree.

25 T. parviflòra (Poir. suppl. 5. p. 276.) leaves ovate-lanceolate, acute, glabrous; flowers small, terminal, cymosely umbellate; bracteas scale-like, scarious. ♄. S. Native of South America. Leaves 2 inches long, deep green above, but greenish yellow beneath. Pedicels furnished with a short, scarious scale at the base of each.

Small-flowered Tabernæmontana. Shrub.

26 T. coria'cea (Link, herb. ex Rœm. et Schultes, syst. 4. p. 431.) leaves glabrous, oval, obtuse, somewhat acuminated, furnished with impressed dots beneath; cymes dichotomous, in the forks of the branches. ♄. S. Native of Brazil. Branchlets bearing 2 leaves at the apex. Calycine teeth roundish, obtuse. Corolla having the tube nearly an inch long, and the segments obtuse.

Coriaceous-leaved Tabernæmontana. Shrub or tree.

27 T. multiflòra (Link, l. c.) leaves ovate-lanceolate, acuminated, sub-repand, glabrous; panicles dichotomous in the forks of the branches. ♄. S. Native of Brazil. Leaves 3-4 inches long, and 1½ broad. Tube of corolla 3 times longer than the calyx. Segments ovate, obtuse, much shorter than the tube.

Many-flowered Tabernæmontana. Shrub or tree.

28 T. murica'ta (Link. l. c.) leaves ovate-oblong, acuminated, with bullately elevated veins beneath, and impressed dots, and with sub-repand margins; flowers cymose. ♄. S. Native of Brazil. Leaves a span long. Calycine teeth short, obtuse. Corolla having the tube almost an inch long, filiform; and oblong segments. Follicles muricated.

Muricated Tabernæmontana. Shrub or tree.

29 T. FLAVÌCANS (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 797.) leaves lanceolate, acuminated, bluntish, glabrous, tapering at both ends; peduncles racemose, 3-4-flowered, scaly. ♄. S. Native of Brazil. Corolla $1\frac{1}{2}$ inch long.

Yellowish Tabernæmontana. Shrub or tree.

30 T. FLAVE'SCENS (Willd. herb. l. c.) leaves oblong, acuminated; flowers umbellate. ♄. S. Native of Brazil. Leaves broader, and less acuminated than those of *T. flavìcans*: having woody, scaly buds in the axils of the leaves, from which numerous 1-flowered pedicels rise.

Yellowish Tabernæmontana. Shrub or tree.

† *Calyx deciduous. Styles 2, distinct. The species contained in this division will probably form a new genus. Leaves glandless at the base.*

31 T. JASMINOÌDES (H. B. et Kunth, nov. gen. amer. 3. p 225.) glabrous; leaves oblong, sub-acuminated; corymbs dichotomous, many-flowered; calycine segments ovate, bluntish, 4 times shorter than the tube of the corolla; segments of corolla obovate-oblong, roundish, curled. ♄. S. Native of New Granada, near Turbaco, where it is called *Jasminillo;* and Cumana, where it is called *Lyrio del Monte*. Rauwólfia lævigàta, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 105. Leaves membranous, 3-4 inches long. Flowers size of those of Jasmine, white. Ovarium girded by glands.

Jasmine-like Tabernæmontana. Fl. June. Tree or shrub.

32 T. UMBRÒSA (H. B. et Kunth. l. c. p. 226.) glabrous; leaves elliptic-oblong, acute; corymbs sub-dichotomous; calycine segments lanceolate, acute, 5-6 times shorter than the tube of the corolla; segments of corolla dimidiately obovate, roundish. ♄. S. Native of New Andalusia, in shady places, near Bordones and Cumanacoa. Leaves membranous, $2\frac{1}{2}$ inches long. Flowers white. Ovaria girded by 5 scale-formed, parted glands. This differs from the preceding in the form of the leaves and calyx.

Shaded Tabernæmontana. Fl. Sept. Tree.

33 T. PSYCHOTRIOÌDES (H. B. et Kunth, l. c. p. 227.) glabrous; leaves obovate, acute; peduncles dichotomous, corymbosely crowded; calycine segments lanceolate, 6-7 times shorter than the tube of the corolla, recurved at the apex; segments of corolla half obovate, curled. ♄. S. Native along with the preceding. Branchlets whitish. Leaves $3\frac{1}{4}$ inches long. Flowers white, about the size of those of *Jasmìnum frúticans*. Ovaria lagenæform.

Psychotria-like Tabernæmontana. Tree?

34 T. TETRASTA'CHYA (H. B. et Kunth, l. c.) glabrous; leaves oblong, acuminated, with obsoletely repand, undulated edges; peduncles dichotomous, of 4 spikes; calycine segments somewhat orbicularly-ovate, rounded at apex, 4 or 5 times shorter than the tube of the corolla; segments of corolla obliquely oblong. ♄. S. Native of New Granada, on the banks of the river Magdalena, between Morales and Teneriffe. Leaves membranous, 6-7 inches long, and 2 or $2\frac{1}{2}$ broad. Flowers white, about the size of those of *Jasmìnum officinàle*. Scales many, in the bottom of the calyx. Said to be nearly allied to *T. Sanánho*, Ruiz. et Pav.

Four-spiked Tabernæmontana. Fl. April. Tree.

* * * *Species natives of the African Islands.*

35 T. PERSICARIÆFÒLIA (Jacq. coll. 4. p. 139. icon. t. 320.) leaves long, lanceolate, acuminated at both ends, glabrous; peduncles axillary, many-flowered, dichotomous; bracteas small, lanceolate, acute. ♄. S. Native of the Mauritius. Leaves linear-lanceolate, pale green, sub-undulated: with white veins. Calycine segments lanceolate, acute. Corolla cream-coloured, having the tube contracted in the middle, and the limb reflexed; segments of the limb wedge-shaped, undulated, oblique.

Persicaria-leaved Tabernæmontana. Clt. 1819. Tree 10 ft.

36 T. MAURITIA'NA (Poir. dict. 7. p. 530.) leaves ovate, obtuse, membranous, glabrous; flowers in axillary racemes; racemes articulated, brittle, very short, drooping a little, and a little branched; corolla funnel-shaped. ♄. S. Native of the Mauritius, and the East Indies. Branches beset with small white tubercles. Leaves rounded at both ends, shining above, and paler beneath, and hardly downy, soft to the touch, 3-4 inches long, and $2\frac{1}{2}$ broad. Calycine segments obtuse. Corolla cream-coloured; tube narrow in the middle, and inflated at both ends; lobes obtuse.

Mauritian Tabernæmontana. Shrub or tree.

37 T. TELFAIRIA'NA (Wall. in bot. reg. under no. 1273.) leaves oval, very blunt at both ends; peduncles sub-axillary, twice or thrice forked; calycine segments oval, bluntish; segments of corolla oblong, about equal in length to the tube. ♄. S. Native of the Mauritius. Probably different from *T. Mauritiàna*.

Telfair's Tabernæmontana. Shrub.

38 T. OBTUSIFÒLIA (Poir. suppl. 5. p. 276.) leaves oblong-lanceolate, cuneated at the base, and rounded at the apex; flowers racemose. ♄. S. Native of Madagascar. Leaves nearly 8 inches long, and 2 broad, glabrous, thin. Corolla tubular; segments ovate, acute, a little recurved.

Obtuse-leaved Tabernæmontana. Shrub or tree.

* * * * *Species native of New Guinea.*

39 T. PANDA'CQUI (Poir. dict. 7. p. 529.) leaves ovate-lanceolate, glabrous, acuminated; corymbs axillary, sub-umbellate. ♄. S. Native of New Guinea. Pandácqui, Sonn. voy. en guin. p. 49. t. 19. Leaves membranous, nearly 3 inches long, with arched yellowish nerves. Flowers white. Calycine segments obtuse. Corolla with a cylindrical tube, and short, linear segments. Style bifurcate at the base.

Pandacqui Tabernæmontana. Shrub or tree.

* * * * * *Natives of Asia.*

40 T. BUFALÌNA (Lour. coch. 117.) leaves lanceolate, shining; peduncles 1-flowered, pendulous. ♄. G. Native of Cochinchina. Corolla with a long, slender, cylindrical tube, which is ventricose at the base. Follicles rather ventricose, divaricate, acuminated, torulose, resembling buffalos' horns. Seeds imbedded in red pulp.

Buffalo's Tabernæmontana. Shrub 5 feet.

41 T. BOVÌNA (Lour. coch. 117.) leaves lanceolate, glabrous; peduncles axillary, solitary, many-flowered. ♄. G. Native of Cochinchina. Branches reclinate. Flowers white. Follicles horizontal, recurved, short, ventricose, acuminated, resembling oxen's horns. Seeds imbedded in red pulp.

Ox's Tabernæmontana. Shrub 4 feet.

42 T. CORONA'RIA (R. Br. in Ait. hort. kew. ed. 2d vol. 2. p. 72. Willd. enum. 1. p. 275.) leaves elliptic or oblong, bluntly acuminated, glabrous; peduncles from the forks of the branches twin, 1-3-flowered; bracteas deciduous; calycine teeth very short, rounded; anthers exserted; stigma undivided; follicles torulose. ♄. S. Native of the East Indies, every where, in gardens; but seemingly wild, according to Wallich, in the forests of Lower Nipaul, about the Hetounda; and of Singapore. Nèrium divaricàtum, Lin. fl. zeyl. 109. Willd. spec. 1236. Nèrium coronàrium, Ait. hort. kew. 1. p. 297. Jacq. icon. rar. 1. t. 52. coll. 1. p. 269. no. 8. Lodd. bot. cab. 406.—Burm. fl. zeyl. 129. t. 59.—Rumph. amb. 4. p. 87. t. 39.—Rheed. mal. 2. p. 105. t. 54, 55. Flowers pure white, very sweet-scented, with a yellowish tube. There is a double-flowering variety of it, see bot. mag. 1865. The Nèrium divaricàtum, Thunb. jap. p. 110, is very different from this, and does

not belong to the present genus, nor even probably to the order.

Garland Tabernæmontana. Fl. May, Sept. Clt. 1770. Shrub 4 to 6 feet.

43 T.? DIVARICA'TA; leaves ovate, undulated, shining; branches divaricate; flowers crowded, terminal. ♄. G. Native of Cochinchina. Nèrium divaricàtum, Lour. coch. p. 115., but not of Lin. Flowers reddish yellow. Corolla funnel-shaped, with a short tube, and a reflexed limb. Corona in the throat of the tube composed of short subulate segments. Anthers conniving into a cone in the throat. Stigma ovate. Follicles long, joined a little at the base, erect. Seeds pappose.

Divaricate-branched Tabernæmontana. Tree small.

44 T. RECU'RVA (Roxb. hort. beng. p. 2. fl. ind. 1. p. 26.) leaves oblong-lanceolate, undulated, glabrous; calycine teeth ovate; segments of corolla convex, of two forms, crenulated; cymes divaricate; flowers drooping. ♄. S. Native of the East Indies. T. gratíssima, Lindl. bot. reg. t. 1084. Flowers whitish-yellow, sweet-scented. Like *T. coronàrium*.

Recurved-flowered Tabernæmontana. Fl. May, Sept. Clt. 1824. Tree small.

45 T. DENSIFLÒRA (Wall. in bot. reg. t. 1273.) leaves lanceolate, acuminated, approximate, sometimes 3 in a whorl; cymes many-flowered, on short peduncles; calycine segments and bracteas linear-lanceolate, acute; limb of corolla about equal in length to the tube; follicles 1-seeded. ♄. S. Native of the East Indies. Flowers white, sweet-scented.

Dense-flowered Tabernæmontana. Fl. June. Clt. 1824. Shrub 4 to 6 feet.

46 T. CRÍSPA (Roxb. hort. beng. p. 20. fl. ind. 1. p. 24.) leaves oblong, undulated; peduncles few-flowered; pedicels elongated; calyx deeply 5-parted; segments broad-ovate, foliaceous. ♄. S. Native of the East Indies. Perhaps Curata-Pala, Rheed. mal.

Curled-leaved Tabernæmontana. Fl. May, Oct. Clt. 1818. Shrub 6 to 8 feet.

47 T. DICHÓTOMA (Roxb. hort. beng. p. 20. fl. ind. 1. p. 21.) leaves oblong, obtuse, coriaceous, shining, with many parallel nerves beneath; cymes elongated, dichotomous; calycine segments obtuse; segments of corolla oblong-falcate, about equal in length to the tube. ♄. S. Native of Ceylon and Malabar. Flowers yellowish, delightfully fragrant.

Dichotomous Tabernæmontana. Tree 12 to 16 feet.

48 T. PAUCIFLÒRA (Blum. bijdr. p. 1028.) leaves oblong-lanceolate, long-acuminated, membranous, glabrous; fascicles of flowers twin, bifid, few-flowered, furnished with setaceous bracteoles; segments of corolla obliquely rounded, flat. ♄. S. Native of Java, among bushes, about Rompien. Allied to *T. floribúnda*.

Few-flowered Tabernæmontana. Fl. year. Tree.

49 T. FLORIBU'NDA (Blum. bijdr. p. 1028.) leaves oblong, bluntish at the apex, acute at the base, membranous, glabrous; corymbs twin, dichotomous, divaricate, many-flowered, bractless; corolline segments obtuse, sub-undulated. ♄. S. Native of Java, on the mountains, where it is called *Susu-monding*. Allied to *T. divaricàta*.

Bundle-flowered Tabernæmontana. Fl. year. Tree.

50 T. CORYMBÒSA (Roxb. fl. ind. 1. p. 25. Wall. in bot. reg. under no. 1273.) leaves oblong-elliptic, bluntly acuminated, attenuated upwards; cymes many-flowered, on long peduncles; calycine segments ovate, acutish; segments of corolla somewhat obovate, and 3 times shorter than the tube, ♄. S. Native of Prince of Wales Island.

Corymbose Tabernæmontana. Tree or shrub.

51 T. HEYNEA'NA (Wall. l. c.) leaves ovate-lanceolate, acuminated; peduncles few-flowered; calycine segments obtuse; segments of corolla obovate-curled, about equal in length to the tube. ♄. S. Native of the East Indies. *T. corymbòsa* and *T. oblónga*, Heyne, mss.

Heyne's Tabernæmontana. Shrub or tree.

52 T. PEDUNCULA'RIS (Wall. l. c.) leaves oblong-lanceolate, ending in a very slender acumen, transversely nerved beneath; peduncles filiform, very long; pedicels sub-umbellate; follicles pedicellate, ovate, a little beaked. ♄. S. Native of Pulo-Penang.

Peduncular Tabernæmontana. Shrub or tree.

53 T. GRACILIFLÒRA (Wall. l. c.) leaves oblong, sub-caudately acuminated; peduncles axillary, very long; flowers sub-racemose; lobes of calyx ovate, acute; segments of corolla oblong, and 3 times shorter than the tube, which is very slender, ♄. S. Native of Martaban, in Moolmeyne; and Amherst.

Slender-flowered Tabernæmontana. Shrub or tree.

54 T. CALYCÌNA (Wall. l. c.) leaves lanceolate; peduncles few-flowered; flowers on short pedicels, sub-fasciculate; calycine segments and bracteas at length decaying or falling off, elongated and linear; lobes of corolla lanceolate, one half shorter than the tube. ♄. S. Native of Tavoy, on the coast of Tenasserin.

Large-calyxed Tabernæmontana. Shrub or tree.

55 T. ROSTRA'TA (Wall. l. c.) leaves lanceolate, with a very slender acumen; peduncles few-flowered; calycine segments sub-ligulate; tube of corolla slender, tumid, and bearing the stamens in the middle, longer than the limb; follicles oblong, bi-carinated above, and attenuately beaked. ♄. S. Native of the East Indies, on the lime hills of Segaen.

Beaked Tabernæmontana. Shrub or tree.

56 T. SUBCAPITA'TA (Wall. l. c.) leaves oblong-lanceolate; peduncles slender, with many crowded flowers at the apex; pedicels short; calycine segments ovate, acute; segments of corolla nearly ovate, about equal in length to the tube. ♄. S. Native of the East Indies.

Sub-capitate-flowered Tabernæmontana. Shrub or tree.

57 T. MICROCA'RPA (Wall. l. c.) leaves oblong, acuminated; peduncles few-flowered, in fascicles; follicles sessile, ovate, 1-seeded. ♄. S. Native of the Burmese Empire, on the mountains called Taong Dong, near Ava. This, with T. macrocárpa, Jack., may form a distinct genus, from the follicles being 1-seeded.

Small-fruited Tabernæmontana. Shrub or tree.

58 T. SALICIFÒLIA (Wall. l. c.) leaves linear-lanceolate, attenuately acuminated, with undulated edges, glaucous beneath; calycine segments lanceolate, acute. ♄. S. Native of the East Indies. T. parviflòra, Heyne, herb.

Willow-leaved Tabernæmontana. Shrub or tree.

59 T. MACROCA'RPA (Jack, in mal. misc. 2. no. 8. p. 80.) leaves ovate-elliptic, attenuated at the base; corymbs terminal, dichotomous; follicles large, nearly globose, 1-seeded. ♄. S. Native of Bencoolen.

Large-fruited Tabernæmontana. Tree large.

60 T. SPHÆROCA'RPA (Blum. bijdr. p. 1028.) leaves elliptic, oblong, obtuse, acute at the base, coriaceous, glabrous, one smaller than the other; corymbs twin, dichotomous, cymosely many-flowered, bracteolate; segments of corolla rounded, undulated; fruit apple-shaped. ♄. S. Native of Java, among bushes, about Linga Jattie, in the province of Cheribon, where it is called *Hampru-badak*.

Round-fruited Tabernæmontana. Fl. Oct. Tree.

61 T.? NERVÒSA (Desf. hort. par. Poir. suppl. 5. p. 275.) leaves oblong, obtuse, much nerved. ♄. S. Native of the East Indies. Flowers unknown.

Nerved-leaved Tabernæmontana. Shrub or tree.

62 T. PARVIFLÒRA (Nouv. ann. mus. 3. p. 379.) leaves unequal, lanceolate, acuminated, quite glabrous, on short petioles;

cymes sub-dichotomous, pedunculate, many-flowered; calycine segments ovate, obtuse; segments of corolla oblong, oblique; follicles 2-seeded, ovate, beaked, fulvous. ♄. S. Native of the Island of Timor. Corolla white. Cotyledons bipartite, as in the genus *Amsýnkia* in the order *Boragíneæ*.

Small-flowered Tabernæmontana. Shrub or tree.

† *The three following are doubtful species of the genus, in the glands at the base of the calyx girding the ovarium beyond the corolla and hypogynous ring.*

63 T. verrucòsa (Blum. bijdr. p. 1029.) stem climbing; branches warted; leaves oval-oblong, acuminated, glabrous; peduncles axillary, umbellately trifid at the apex. ♄. S. Native of Java, in woods, on Mount Salak.

Warted-branched Tabernæmontana. Fl. Dec. Shrub cl.

64 T. polya'ntha (Blum. bijdr. p. 1029.) climbing; leaves oblong-lanceolate, acuminated, glabrous; flowers disposed in panicled fascicles, axillary and terminal, small. ♄. ب. S. Native of Java, on Mount Salak, and the Seribu mountains, where it is called *Tjunkankan*.

Many-flowered Tabernæmontana. Fl. Nov. Shrub cl.

65 T. orienta'lis (Blum. bijdr. 1026.) stem sarmentose; leaves lanceolate, parallel-veined, glabrous; cymes compound, axillary; crown of the throat furrowed. ♄. S. Native of Java, on Mount Salak, in woods; and of the Island of Nusæ-Kambanga.

Eastern Tabernæmontana. Shrub straggling.

† † *Doubtful species.*

66 T.? lu'cida (H. B. et Kunth, nov. gen. amer. 7. p. 209.) glabrous; leaves oblong-lanceolate, rounded at the apex, cuneately narrowed at the base; corymbs dichotomous; calyx small, with ovate, obtuse segments. ♄. S. Native of South America. Psychótria? lùcida, Rœm. et Schultes, syst. 4. p. 189. Branches rather compressed. Leaves 3-3½ inches long. Corolla funnel-shaped, white; segments oblong, revolute at the apex. Berry edible, fleshy, 2-celled, 2-seeded. Seeds oblong, convex on one side, and flat on the other.

Shining-leaved Tabernæmontana. Tree 20 feet.

Cult. Shrubs and trees of easy culture; some of them very elegant when in flower; and the flowers of all are fragrant. The soil best suited for them is a mixture of loam, sand, and peat; and cuttings of them strike root readily in sand, under a hand-glass, in heat.

XXX. CAMERA'RIA (so named by Plumier, from Joachim Camerarius, a physician and botanist of Nuremberg, who published an edition of Matthiolus in Latin and German, with new figures and many observations). Plum. gen. 18. t. 29., Lin. gen. no. 300. Juss. 145. Lam. ill. 173.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, 5-toothed, acute. Corolla of a funnel-salver shape; tube long, cylindrical, ventricose at the base and apex; segments of the limb unequal-sided. Stamens inserted at the tube; anthers acuminated, connivent, drawn out into a thread. Style hardly any; stigmas obsolete. Follicles 2, reflexed, horizontal, obtuse, emitting a lobe on each side at the base. Seeds numerous, inserted in a peculiar membrane.—Trees or shrubs. Leaves opposite. Peduncles axillary, and in the forks of the branches 1 or many-flowered. Flowers beautiful yellow.

1 C. latifòlia (Jacq. amer. p. 37 t. 182. f. 86. edit. pict. p. 24. t. 39.) leaves ovate, acute, shining; flowers terminal, corymbose. ♄. S. Native of Cuba, Jamaica, and St. Domingo. Andr. bot. rep. t. 261. Tratt. tab. t. 715. Lam. ill. t. 173. f. 2. Plum. icon. t. 72. f. 1. An elegant tree, with forked branches. Corollas white, with a yellow base.

Broad-leaved Cameraria. Fl. Aug. Clt. 1733. Tr. 20 to 30 ft.

2 C. angustifòlia (Lin. spec. p. 308.) leaves linear. ♄. S. Native of South America. Lam. ill. t. 173. f. 3. Plum. icon. t. 72. f. 2. Mill. dict. no. 2. Flowers and fruit as in *C. latifòlia*, but smaller, as is the whole plant.

Narrow-leaved Cameraria. Fl. Sept. Clt. 1752. Sh. 8 ft.

3 C. Guiane'nsis (Aubl. guian. 1. p. 262.) leaves ovate, acuminated, glabrous; flowers small, axillary, sweet-scented. ♄. S. Native of Guiana. C. lùtea β, Lam. dict. 1. p. 573.

Guiana Cameraria. Shrub 3 to 4 feet.

Cult. For culture and propagation see *Tabernæmontàna*.

XXXI. VA'HEA (meaning unknown to us). Lam. ill. t. 169. Poir. suppl. 5. p. 409. Urceòla, Roxb. in asiat. res. 5. p. 167. but not of Vandelli.

Lin. syst. *Pentandria, Monogynia.* Calyx small, 5-parted. Corolla funnel-shaped, with an elongated tube, which is ventricose at the base, and a 5-cleft limb; segments twisted (ex Lam. ill. t. 169.) Corolla urceolate. Ovarium girded by a cylindrical entire urceolus. Stamens inserted in the bottom of the corolla; anthers sagittate. Follicles 2, 1-celled, 2-valved. Seeds numerous, imbedded in pulp. Roxb. asiat. res. 5. p. 167. Spreng. in Schrad. journ. bot. 1800. 2. p. 236.—A glabrous tree or shrub, with terete branches, opposite leaves, and terminal cymes of flowers.

1 V. gummífera (Poir. suppl. 5. p. 409.). ♄. ب.? S. Native of Madagascar and the East Indies. Urceòla elástica, Roxb. asiat. res. 5. p. 167. 175.? Tabernæmontàna elástica, Spreng. syst. 1. p. 639. Leaves coriaceous, elliptic-obovate, obtuse, shining, nerved, quite entire, 2 inches long. Bracteas small, at the base of the pedicels (ex Poir.). Shrub climbing. Leaves ovate, acuminated, ribbed. Flowers panicled. The juice which comes from this shrub is one of those which constitute India rubber or caoutchouc.

Gum-bearing Vahea. Shrub cl.?

Cult. For culture and propagation see *Tabernæmontàna*.

XXXII. VOACA'NGA (meaning unknown to us). Pet. Th. gen. mad. no. 32.

Lin. syst. *Pentándria, Monogy'nia.* Calyx of 5 involute segments. Corolla funnel-shaped, with a spreading, twisted limb, and broad segments. Anthers sessile, sagittate, inserted in the throat of the corolla. Ovarium didymous, seated on a fleshy receptacle. Style short; stigma double: lower one peltate: upper one 3-lobed; with 2 tubercles at top. Follicles 2, baccate, spherical, large. Seeds numerous, nestling in pulp.—A tree, with large, opposite leaves. Flowers disposed in terminal, corymbose panicles. Fruit variegated from warts.

1 V. Thoua'rsii (Rœm. et Schultes, syst. 4. p. 439.). ♄. S. Native of Madagascar.

Petit Thouars' Voacanga. Tree.

Cult. For culture and propagation see *Tabernæmontàna*.

XXXIII. REJOU'A (named in honour of M. Rejou, chief physician and professor of botany and chemistry of the Marine of France; author of many important mémoires on the secretion of vegetables). Gaud. in Freyc. voy. part. bot. p. 450. pl. 61.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, 5-parted. Corolla salver-shaped, with an elongated tube, which is inflated beneath the middle, bearing stamens every where inside; limb 5-parted, spreading much; segments obliquely ovate, equal, shorter than the tube. Stamens 5; filaments very short; anthers cordate-sagittate, fixed by their base, free, inclosed. Ovaria twin. Styles 2, combined; stigma sub-clavate, bicuspidate at apex. Fruit roundish-elliptic, sub-umbilicate, many-seeded, not dehiscent; rind membranous; pulp dry, cellular

shining. Seeds nestling in the pulp, ovate, compressed, wrinkled, bay-coloured externally.—An unarmed tree. Leaves opposite, oblong-lanceolate, membranous. Panicles terminal, pedunculate, bracteate. Flowers scattered, greenish white. Fruit large, of a reddish orange colour, and of the shape of an orange.

1 R. aurantìaca (Gaud. l. c. p. 451. t. 61.). ♄. S. Native of the Moluccas, in the island of Raddak. Tabernæmontàna aurantìaca, Gaud. gen. p. 50. and 55.

Orange-fruited Rejoua. Tree.

Cult. See *Tabernæmontàna*, p. 92. for culture and propagation.

XXXIV. ORCHIPE'DA (meaning unknown to us). Blume, bijdr. p. 1026.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx tubular, deciduous; limb bluntly 5-cleft. Corolla funnel-shaped: having the throat half closed inside by a tumid ring; tube length of calyx, inflated in the middle; limb spreading, 5-lobed. Stamens inclosed; anthers sagittate, cohering to the stigma. Ovarium didymous, girded by a ring. Style 1; stigma conical, 5-angled: with 2 notches at top. Drupes twin, fleshy, globose, 1-celled, pulpy inside, dehiscing at the side. Seeds numerous, wrinkled, convolutely 2-lobed at one side. Albumen fleshy. Cotyledons foliaceous.—A tree, with opposite, oblong, glabrous, leaves; and lateral and terminal, bifid, few-flowered peduncles.

1 O. fœ'tida (Blum. bijdr. p. 1027.). ♄. S. Native of Java, among bushes on the mountains, where it is called *Hamprubadak*.

Fetid Ochipeda. Fl. year. Tree.

Cult. See *Tabernæmontàna*, p. 92. for culture and propagation.

XXXV. PLUMIE'RA (so named by Tournefort, in honour of Charles Plumier, of Marseilles, a Franciscan traveller in South America, and author of several excellent works, as Plantæ Americanæ, 1693, and by Burmann in 1755.; Genera, 1703; Fougeres Americaines, 1705, &c.). Tourn. coral. t. 439. Lin. gen. 298. Juss. 45. Lam. ill. t. 173. f. 2.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx small, 5-parted, blunt. Corolla funnel-shaped, with a long, slender tube; segments of the limb oblong, unequal-sided: throat scaleless. Stamens inserted in the middle or base of the tube of the corolla, inclosed, free; anthers connivent. Style hardly any; stigma thick, emarginate; ovaria 2, immersed in a fleshy ring. Follicles 2, long, acuminated, ventricose, spreading or bent upwards. Seeds numerous, oblong, imbricated, ending in a peculiar membrane at the base.—Trees or shrubs, with thick, fleshy branches. Leaves alternate, forming tufts at the tops of the branches. Peduncles terminal, corymbose. Flowers showy.

1 P. ru'bra (Jacq. amer. p. 35. pict. p. 23. Lin. hort. cliff. p. 76. spec. 306.) leaves obovate-oblong, acute, with flat edges, glabrous; peduncles elongated, trifid; flowers crowded in fascicles; corollas red. ♄. S. Native of Jamaica, Surinam, and the main land of South America. Curt. bot. mag. t. 279. —Catesb. car. 2. t. 92.—Ehret. pict. t. 10. Trew. ehret. t. 41. —Sloan. hist. 2. p. 61. t. 185. f. 1. and t. 186. f. 1.—Merian, surin. t. 8.—Plukn. alm. 109. t. 207. f. 2. Peduncles downy. Corolla red, with a pilose throat, and obliquely obovate-oblong segments, which are rounded at the apex. The flowers are so sweet as well as beautiful, that the women of South America adorn themselves with them, and put them among linen to scent it, as we do lavender. It is called by the French in the West Indies *Frangipanie rouge*.

Red-flowered Plumiera. Fl. July, Aug. Clt. 1690. Tree 12 to 20 feet.

2 P.? arbore'scens; leaves ovate-oblong, flat; petioles biglandular; flowers twin, disposed in terminal spikes. ♄. S. Native of Jamaica.—Lin. hort. cliff. p. 76. Brown. jam. p. 181. Flowers red.

Arborescent Plumiera. Tree 10 to 12 feet.

3 P. purpu'rea (Ruiz et Pav. fl. per. 2. p. 20. t. 137.) leaves oblong-ovate, with revolute edges; flowers terminal, cymose; corollas reddish purple. ♄. S. Native of Peru, in gardens. Petioles biglandular. Corollas sweet-scented, purple, with a yellow hairy throat, smaller than the other species. Perhaps *P. incarnàta*, *P. carinàta*, and *P. trícolor* are only varieties of *P. purpùrea*, differing in the size and colour of the flowers. In Peru the corollas are used by the women to ornament their hair.

Purple Plumiera. Fl. July, Aug. Clt. 1820. Tr. 20 ft.

4 P. incarna'ta (Ruiz et Pav. l. c. t. 138.) leaves ovate-oblong, acute; flowers cymose; corollas flesh-coloured, with a fulvous disk. ♄. S. Native of Peru. Cymes subumbellate.

Flesh-coloured-flowered Plumiera. Fl. July, Aug. Clt. 1820. Tree 20 feet.

5 P. carina'ta (Ruiz et Pav. fl. per. 2. p. 21.) leaves oblong-ovate, acuminated, keeled: with flat, red edges; corollas large, 3-coloured. ♄. S. Native of Peru. Very nearly allied to *P. incarnàta*, but differs in the edges of the leaves being usually red. Corollas yellow, with the centre white outside in the middle, and reddish above. Calyx red.

Keeled-leaved Plumiera. Tree 25 feet.

6 P. trícolor (Ruiz et Pav. l. c. t. 139.) leaves oblong, acute, and acuminated: with flat, veiny edges; flowers corymbose; corollas tricoloured. ♄. S. Native of Peru. Leaves with red veins. Corolla with a red tube, a copper-coloured throat, and the limb white, tinged with red.

Tricoloured-flowered Plumiera. Tree 30 feet.

7 P. Ke'rrii; leaves obovate-oblong, tapering at both ends, entire, with parallel veins and flat edges; peduncles terminal, cymose; corollas with a yellow throat, white above the yellow part, and red round the margins of the segments. ♄. S. Native of Mexico. P. trícolor, Ker. bot. reg. 510. but not of Ruiz et Pav.

Ker's Plumiera. Fl. July, Oct. Clt. 1815. Tree 15 feet.

8 P. Mille'ri; leaves ovate-oblong; flowers corymbose; corollas flesh-coloured. ♄. S. Native of St. Christopher. P. incarnàta, Mill. dict. no. 2. but not of Ruiz et Pav. Very nearly allied to *P. rùbra*, but of more humble growth, and the leaves are thicker and more veiny. Flowers 10 or more in each corymb.

Miller's Plumiera. Fl. July, Aug. Clt.? Tree or shrub.

9 P. bícolor (Ruiz et Pav. l. c. t. 140.) leaves oblong, acuminated: with flat edges; flowers corymbose; corollas cream-coloured: with a curved tube, yellow throat, and milk white limb. ♄. S. Native of Peru.

Two-coloured-flowered Plumiera. Fl. July, Oct. Clt. 1815. Tree 25 feet.

10 P. lu'tea (Ruiz et Pav. l. c. t. 142.) leaves oblong-obovate, acuminated; flowers corymbose; corollas yellow, variegated with white. ♄. S. Native of Peru. Tube of corolla curved, yellowish.

Yellow-flowered Plumiera. Fl. July, Aug. Clt. 1815. Tr. 15 feet.

11 P. a'lba (Jacq. amer. 36. t. 174. f. 12. ed. pict. t. 38. Lin. spec. p. 307.) leaves lanceolate-oblong; with revolute edges, acuminated; peduncles thickened at top, corymbose; corollas white: with a yellow throat. ♄. S. Native of the West Indies, as of Jamaica and Martinico, and of the main land of South America.—Plum. icon. t. 231.—Commel. hort. 2. p. 47. t. 24. Corolla with a very long, thick, incurved tube, and obovate-oblong oblique segments. Follicles reflexed. Flowers spicate, ambrosiacal, exciting cephalalgia, Lin. Leaves

a foot long. Called by the French in Martinico *Frangipanie blanc*.

Var. β; fragrantíssima (H. B. et Kunth, nov. gen. amer. 3. p. 230.) leaves obovate-lanceolate, short-acuminated, with flat edges, glabrous except the nerve and veins, which are downy beneath; flowers paniculately spicate, very fragrant; corolla with a white limb and yellow throat. ♄. S. Native of New Granada, and Peru, in the gardens of the Indians. Tree 40 feet high. P. bícolor, Ruiz et Pav. fl. per. 2. p. 21. t. 141.? Tube of corolla green, and ventricose at the base; segments of the limb obovate-oblong, obtuse, equal: throat hairy.

Var. γ, inodòra; stem with very few branches, about 8 feet high; flowers white, scentless, large. ♄. S. Native of Carthagena, in woods. P. inodòra, Jacq. amer. p. 36. Leaves like those of *P. rùbra*.

White-flowered Plumiera. Fl. July, Aug. Clt. 1733. Tr. 15 feet.

12 P. móllis (H. B. et Kunth, nov. gen. amer. 3. p. 230.) creeping or procumbent, rarely erectish; leaves obovate, acute, flat, glabrous above, but clothed with soft down beneath; corolla white. ♄. S. Native in the Missions of the Orinoco, in the island of Panumana, in places formerly cultivated. Leaves membranous, 6 inches long. Corolla with a downy tube and funnel-shaped limb; and ovate, acutish, equal segments. Perhaps a variety of *P. álba*.

Soft Plumiera. Shrub procumbent.

13 P. obtu'sa (Lin. spec. 307.) leaves lanceolate, petiolate, obtuse; flowers racemosely panicled; corolla white. ♄. S. Native of South America. P. nívea, Mill. dict. no. 7.—Catesb. car. 2. t. 93.—Plum. icon. t. 232. Leaves like those of *Oleánder*.

Blunt-leaved Plumiera. Fl. July, Aug. Clt. 1733. Tree 10 feet.

14 P. dra'stica (Mart. reise. ex Linnæa. 5. p. 40.) leaves on short thick petioles, obovate-oblong, short-acuminated, cuneated at the base while young, but rounded in the adult state, glabrous, distantly ribbed; panicles corymbose, glabrous, many-flowered, shorter than the leaves, bracteate. ♄. S. Native of Brazil, in the province of Rio Negro. Corollas white.

Drastic Plumiera. Tree.

15 P. phageda'nica (Mart. reise ex Linnæa. 6. p. 30.) leaves cuneate-oblong, short-acuminated, or rounded, glabrous on both surfaces, shining above, and veined beneath; flowers racemosely corymbose, involucrated by keeled bracteas; corolla with a slender tube, and obliquely lanceolate segments. ♄. S. Native of Brazil, in the province of Rio Negro.

Phagedanic Plumiera. Tree.

16 P. pudìca (Jacq. amer. 37. ed. pict. 24.) leaves oblong, flat, veined; limb of corolla closed, as in *Achània malvavíscus*. ♄. S. Native of South America, in Curaçoa, where it is highly esteemed, and is there called *Donzelle*. Corolla yellowish, very sweet-scented. The flowers succeed each other for two months together, and have an odour much more agreeable than that of any other species, or even any other flower.

Chaste-flowered Plumiera. Fl. July, Aug. Clt.? Sh. 5 ft.

17 P. articula'ta (Vahl, eclog. amer. 2. p. 20.) leaves elliptic, glabrous, veiny; spikes disposed in fascicles, articulated. ♄. S. Native of Guiana. Leaves scattered towards the tops of the branches, attenuated at both ends, but also rounded, paler beneath. Universal peduncles twin, often terminal, glabrous, elongated: partial ones disposed in something like fascicles, 3-8 together, simple, 3-4 inches long, flexuous, composed of turbinate joints half an inch long, which are dilated on the upper margins, and furnished with many minute teeth at the base of each joint. Flowers alternate, sessile. This is a very doubtful species of *Plumièra*, and may probably form a new genus.

Jointed-spiked Plumiera. Shrub or tree.

18 P. Africa'na (Mill. dict. no. 5.) leaves linear-lanceolate, very long, thick, juicy; corollas yellow. ♄. S. Native of Senegal. Trunk red. Leaves 9-10 inches long, 2 broad.

African Plumiera. Shrub or tree.

19 P. acumina'ta (Ait. hort. kew. ed. 2. vol. 2. p. 70.) leaves scattered, lanceolate, acuminated, glabrous, flat; flowers corymbose, terminal. ♄. S. Native of Amboyna, China, and Cochinchina. Ker. bot. reg. 114. P. acutifòlia, Poir. suppl. 2. p. 667. P. obtùsa, Lour. coch. 117. Flos. convolùtus, Rumph. amb. 6. p. 35. t. 38. Leaves with many transverse veins. Flowers terminal, in compound, spreading upright racemes. Corolla sweet-scented, white, mixed with red outside, and yellow inside; tube curved; segments obovate. Follicles reflexed.

Acuminated-leaved Plumiera. Fl. June, Sept. Clt. 1790. Tree 20 feet.

20 P. Mexica'na (Lodd. bot. cab. t. 1024.) leaves elliptic-lanceolate, acuminated; corollas white, with a yellow throat. ♄. S. Native of Mexico. Perhaps the same as the following.

Mexican Plumiera. Fl. June, July. Clt. 1810. Tree.

21 P. Lambertia'na (Lindl. bot. reg. t. 1378.) leaves oblong, acuminated, flat; corollas white, with a yellow throat; segments of the limb broad-rhomboid, obtuse. ♄. S. Native of Mexico. P. Gouàni, D. Don, ex Loud. hort. brit. p. 68. It differs from *P. Kérrii*, in the flowers being inodorous, and in being a little larger, and in the segments being broader and rounder.

Lambert's Plumiera. Fl. May, Aug. Clt. 1824. Tree 10 to 20 feet.

22 P. tubercula'ta (Lodd. bot. cab. 681. Hamilt. prod. p. 26.) branches tuberculate, especially at the origin of the petioles; leaves coriaceous, narrow-oblong, obtuse, tapering a long way into the petioles, downy beneath; peduncles axillary, much shorter than the leaves, many-flowered. ♄. S. Native of St. Domingo. Flowers white, scentless.

Tubercled-stemmed Plumiera. Fl. Aug. Clt. 1812. Sh. 6 ft.

† *Species under the following names are in Lodd. cat.* 1830. *p.* 15. *and p.* 16., *but they are probably synonymous with those described above.*

1 *P. aurántia*, Lodd. cat. p. 15. 2 *P. Blandfordiàna*, Lodd. cat. p. 15. 3 *P. Jamaicénsis*, Lodd. cat. p. 15. 4 *P. leucántha*, Lodd. cat. p. 15. 5 *P. macrophýlla*, Lodd. cat. p. 15. 6 *P. Northiàna*, Lodd. cat. p. 16. 7 *P. tenuifòlia*, Lodd. cat. p. 16.

Cult. All the species of *Plumièra* are very showy when in blossom, and on that account are favourites with gardeners. Being of a rather succulent or fleshy nature, they require but little water when not in a free growing state. The best soil for them is a mixture of peat, loam, and sand. Large cuttings of them strike readily in the same kind of mould recommended for the plants, if kept dry.

XXXVI. CONOPHARY'NGIA (from κονος, *conos*, a cone; and φαρυνξ, *pharynx*, the throat; in reference to the anthers being combined into a cone, protruding from the throat of the corolla.) Plumièra species, Lam. dict. 2. p. 542.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-toothed. Corolla funnel-shaped; segments oblong, villous, convex outside, and concave inside, regularly twisted into a spire about the centre, opening by a small hole; tube widening gradually to the top. Stamens 5, in the throat of the tube, rising each from the inside of a scrobicle; anthers triangular, very acute, cohering at top, above the throat of the tube, in a cone which clasps the style. Style slender, but thickened at top; stigma subbifid at the apex. Follicles twin, slipper-shaped, thick, fleshy,

many-seeded. Seeds form of those of the grape, attached to a slender central column.—Glabrous shrubs or trees, with opposite leaves, and terminal corymbs of flowers. Juice caustic, milky.

1 C. retu'sa; leaves ovate-wedge-shaped, retuse; corymbs compound, pedunculate. ♄. S. Native of Madagascar, Isle of France, &c. Plumièra retùsa, Lam. dict. 2. p. 542. no. 5. Bois de lait. Leaves smooth above and nerved beneath, 6 inches long and 3 broad; petioles very short, stem-clasping. Scales small, acute, under the pedicels in the corymb. Flowers form and scent of jasmine.

Retuse-leaved Conopharyngia. Shrub or tree.

2 C. longifòlia; leaves oblong-narrow, flat; corymbs panicled, nearly sessile. ♄. S. Native of Madagascar. Plumièra longifòlia, Lam. dict. 2. p. 542. Leaves a foot long, on short, thick, stem-clasping petioles, keeled, without any manifest nerves. Under each division of the corymbs are 2 opposite, concave acute scales; ulterior peduncles of the corymb 3-flowered; the 2 lateral flowers pedicellate and the middle one sessile. Calycine segments concave, roundish.

Long-leaved Conopharyngia. Clt. 1819. Shrub.

Cult. For culture and propagation see *Plumièra*, p. 94.

XXXVII. VI'NCA (from *vinco*, to conquer; because the species subdue other plants by their creeping roots, or bind them by their runners). Lin. gen. no. 295. Juss. 141.—Pervínca, Tourn. t. 45.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft; segments linear or subulate, acute. Corolla salver-shaped; tube longer than the calyx; throat bearded; segments of the limb flat, oblique, truncate at the apex. Stamens 5, inserted in the throat, inclosed; filaments short; anthers ending each in a hairy membrane at apex, which connive over the stigma; stigma bearded, seated on a flat orbicular disk, which is grooved round the circumference. Glands 2, alternating with the ovaria; glabrous as well as them. Follicles 2, erect, terete, narrow, dehiscing lengthwise, few-seeded. Albumen fleshy. Seeds cylindrical, naked.—Creeping, suffruticose, or herbaceous plants. Leaves smooth, shining, opposite. Flowers axillary, solitary, alternate, pedunculate, blue, purple, and white.

1 V. mìnor (Lin. spec. 304.) stems procumbent; leaves elliptic-lanceolate, glabrous; calycine segments linear-lanceolate, bluntish; segments of corolla broadish at top. ♄. H. Native of Europe, as of Germany, Switzerland, France, Italy, &c. In Britain it has been found in many places, in hedges and woods, in rather damp situations. Smith, engl. bot. t. 917. Curt. lond. 3. t. 16. Plenck, icon. t. 113. Blackw. t. 59. Pervínca mìnor, Scop. carn. no. 273.—Pervínca vulgàris, Park. threatr. 381. f. 1. Clématis daphnoìdes, Dodon. pempt. 401. Flowering stems usually erect. Flowers void of scent. Corolla blue; with white throat, varying to purple and white, of a smaller size than those of *V. màjor*. This species varies much in the colour of the flowers; they are also sometimes double; and the foliage is sometimes variegated, either with white or yellow stripes.

Lesser Periwinkle. Fl. Mar. Sept. Brit. Pl. creeping.

2 V. ma'jor (Lin. spec. p. 304.) stems erectish; leaves ovate, acute, ciliated; calycine teeth linear-subulate, ciliated, usually with a small tooth on each side at the base; segments of corolla broad, obovate. ♄. H. Native of Europe, as of France, Spain, Italy, Switzerland, &c. With us it is more common than *V. mìnor*, in moist woods and hedges; but these are probably both escapes from gardens. Smith, engl. bot. t. 514. Curt. lond. 4. t. 19. Plenck, icon. t. 114. Vínca mèdia, Delile. Pervínca màjor, Scop. carn. no. 274.—Garid. aix. t. 81.—Lob. icon. t. 636. This species is larger in all its parts than the preceding. Corollas fine purplish blue. Flowering stems erect; barren ones creeping. There is a variety of this with variegated leaves.

Greater Periwinkle. Fl. Mar. Sept. England. Sh. 2 feet.

3 V. herba'cea (Waldst. et Kit. pl. rar. hung. 1. p. 8. t. 9. Hook, bot. mag. 2002.) stems herbaceous, procumbent, rooting; leaves oblong-lanceolate, minutely ciliated on the edges while young; calycine segments linear-subulate, acute, glabrous; segments of corolla lanceolate, falcate. ♃. H. Native of Hungary, in open, chalky, sandy hills. Flowers purplish blue. A most elegant plant when in blossom.

FIG. 13.

Herbaceous Periwinkle. Fl. June, July. Clt. 1816. Pl. creeping.

Cult. As these plants delight to grow under the cover of trees and bushes, they may be made ornamental, if they are planted in shrubberies, where they will spread and cover the ground; and as their leaves continue green all the year, they will have a good effect in winter, and their elegant and delicate flowers appearing a great part of summer will add to the variety. They are easily increased by separating the rooted trailing shoots.

XXXVIII. CATHARA'NTHUS (from *καθαρος, katharos*, pure, and *ανθος, anthos*, a flower; in reference to the neatness and beauty of the flowers).—Vínca species, Lin.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted; segments subulate. Corolla salver-shaped; segments nearly equal sided, obovate, mucronate; throat bearded; tube long, slender, clavate at top with 5 tubercles. Stamens inclosed, conniving over the stigma. Anthers mucronate, not membranous at top, sessile. Stigma capitate, marginate, bearded at top, and furnished with a cup-shaped membrane below, which sheaths the upper part of the style. Hypogynous glands 2, elongated like the ovaria. Follicles twin, small, terete, glabrous, 2-celled, dehiscing inside; dissepiment double, taking its rise from the suture, which is plaited inwards. Seeds 16-20 in each follicle, attached longitudinally to each side of the dissepiment, small, ovate-acuminated above, grooved and rugged from sharp tubercles on one side, and smooth on the other side. Albumen fleshy.—Small shrubs or herbs. Leaves opposite, evergreen, coriaceous. Flowers elegant, axillary, solitary, or twin.

1 C. ròseus; downy; branches terete; leaves elliptic, obtuse, mucronate; petioles bidentate or bistipulate at the base; flowers axillary, solitary, or twin, sessile. ♄. S. Native every where within the tropics, but probably originally from Madagascar. Vínca ròsea, Lin. spec. 305. Mill. fig. t. 186. Curt. bot. mag. 248. Gærtn. fruct. 2. p. 172. t. 117. f. 5. Flowers bright crimson, or peach or rose-coloured, paler on the under side, with a dark purple eye. Calycine segments ciliated.

Var. α, ròseus; flowers rose-coloured.

Var. β, albus; flowers white.

Var. γ, occellàtus; flowers white, with a purple circle.

Var. δ, villòsus; leaves villous, rounded at top, mucronate. Vìnca ròsea, Poir. dict. 5. p. 199.

Rose-coloured-flowered Catharanthus. Fl. Feb. Oct. Clt. 1726. Shrub 1 to 2 feet.

2 C. pusíllus; stem herbaceous, quadrangular, much branched; leaves lanceolate or ovate-lanceolate, glabrous; furnished with opposite stipulas at the base; flowers twin or solitary, axillary, pedunculate. ⊙. S. Native of Tranquebar. Vínca pusílla, Lin. suppl. 166. syst. 252. Murr. comm. goett. 1772. p. 66. t. 2. f. 1. Vínca parviflòra, Retz. obs. 2. p. 14. no. 33. Ait.

hort. kew. ed. 2. vol. 2. p. 67. Cupa veela, Rheed. mal. 9. p. 61. t. 33. Flowers size and colour of those of *Lithospérmum officinàle*. Follicles longer than those of *C. ròseus*.

Least Catharanthus. Fl. Aug. Clt. 1778. Pl. $\frac{1}{2}$ to 1 foot.

Cult. *C. ròseus* is a very elegant and delicate shrub, of easy culture; and is increased readily by cuttings or seeds. *C. pusíllus*, being annual, is only to be preserved by sowing the seeds in a pot full of light rich earth, and placing it in a hot-bed.

Tribe V.

ALYXIE'Æ (this tribe agrees with *Alýxia* in the fruit being drupaceous). Ovarium double. Fruit drupaceous. Albumen large, ruminated or fleshy.

XXXIX. ALY'XIA (from *αλυξις*, *alyxis*, anxiety, grief; gloomy appearance of the shrubs.) Banks, herb. ex R. Br. prod. p. 469. Cunningh. in bot. mag. no. 3312. Gynopògon, Forst. char. gen. p. 36. t. 18.

Lin. syst. *Pentándria Monogýnia*. Calyx 5-parted. Corolla salver-shaped, with a naked throat. Stamens inclosed. Ovaria twin, few-seeded. Styles sub-adherent. Stigma obtuse. Drupes 2, pedicellate, one of which is usually abortive, simple, containing a semibilocular 1-seeded putamen. Seed semibipartite. Albumen ruminated horny. Embryo erect, straight, or curved. Small, glabrous, lactescent trees or shrubs. Leaves verticillate or opposite, coriaceous, compact, evergreen. Flowers axillary or terminal, sometimes spicate, small, white, and usually sweet-scented. Habit and structure of flowers as in other Apocyneous plants, but differs in the albumen being ruminated, and easily separated into lobes.

* *Leaves verticillate.*

1 A. actinophy'llum (Cunningh. in bot. mag. no. 3313.) corymbs simple, axillary, pedunculate; pedicels 1-3-flowered; calyx bractless; leaves 4-6-8 in a whorl, petiolate, long-lanceolate, glabrous, with revolute edges, glaucous beneath: with obtuse-angled, parallel veins; peduncles only half the length of the leaves; stigma oblong, membranous, beardless; stem arborescent. ♄. S. Native of New Holland, on the shore within the tropic, as at Endeavour River and Montague Sound.

Ray-leaved Alyxia. Shrub.

2 A. spica'ta (R. Br. prod. 1. p. 470.) spikes axillary; flowers verticillate, almost sessile, unibracteate; leaves 3 in a whorl, oval-oblong; petioles shorter than the peduncles: with a simple base; stigma sub-conical, furnished with a short beard. ♄. S. Native of New Holland, on the east coast, within the tropic (R. Br.), Endeavour River (A. Cunningh.).

Spike-flowered Alyxia. Shrub.

3 A. tetragòna (R. Br. prod. p. 470.) spikes axillary; flowers verticillate, almost sessile, tribracteate; leaves 4 in a whorl, oblong; petioles longer than the peduncles: with a gibbous base. ♄. S. Native of New Holland, within the tropic; Lizard Island. A. Cunningh.

Tetragonal Alyxia. Shrub.

4 A. stella'ta (Rœm. et Schultes, syst. 4. p. 439.) umbels axillary, pedunculate, much shorter than the leaves; calyx bractless; leaves 3 in a whorl, lanceolate, somewhat acuminated, bluntish, attenuated at the base, smooth; stigma capitate, bearded (ex Spreng.). ♄. S. Native of the Society and Friendly Islands. Gynopògon stellàtum, Forst. prod. no. 117. char. gen. p. 36. t. 18. Labill. sert. cal. p. 30. t. 34. A. aromática, Reinwdt. A. Reinwárdtii, Blum. cat. hort. buitenz, p. 43.

Starry-leaved Alyxia. Shrub.

5 A. obtusifòlia (R. Br. prod. p. 470.) umbels axillary, pedunculate; calyx bractless; leaves 3 in a whorl, ovate or obovate, very blunt. ♄. S. Native of New South Wales, on the south coast.

Blunt-leaved Alyxia. Shrub.

6 A. laurìna (Gaud. in Freyc. voy. pt. bot. p. 451. t. 62.) peduncles terminal, usually by threes, 1-3-flowered; calyx bractless; leaves 3 in a whorl, oblong, rather coriaceous, terminating in a rounded, emarginate, taper point; stigma ciliated. ♄. S. Native of the Moluccas.—Rumph. amb. 5. p. 34. t. 20. (ex Gaud.)

Laurel-like Alyxia. Shrub.

7 A. olivæfórmis (Gaud. in Freyc. voy. pt. bt. p. 451.) peduncles axillary, solitary, 2-4-flowered; leaves 3 in a whorl, elliptic-oblong, acute at both ends, membranous; fruit olive-formed. ♄. S. Native of the Sandwich Islands.

Olive-formed-fruited Alyxia. Shrub.

8 A. Torresia'na (Gaud. in l. c.) peduncles axillary, solitary, 2-flowered, exceeding the petioles; leaves 3 in a whorl, elliptic, obtuse, sub-emarginate, running into the petioles at the base; fruit roundish elliptic. ♄. S. Native of the Marianne Islands.

Torres's Alyxia. Shrub.

9 A. gynopògon (Rœm. et Schultes, syst. 4. p. 440.) flowers almost sessile, axillary or terminal, solitary or twin; leaves 4-5 in a whorl, obovate, or ovate-oblong, bluntish, attenuated at the base, shining, veinless beneath; stigma beardless; branches twiggy, glabrous. ♄. S. Native of Norfolk Island, in shady humid parts of woods. Wall. cat. 1650. Endlicher, prod. fl. norf. p. 58. Bauer. ill. pl. norf. t. 119. A. Forstèri, Cunningh. mss. 1830. Gynopògon Alýxia, Forst. prod. no. 118.

Gynopogon Alyxia. Clt.? Shrub.

10 A. daphnoìdes (Cunning. in bot. mag. t. 3313.) flowers sessile, axillary, or terminal; leaves 4 in a whorl, obovate-oblong, elliptic, or rhomboid, obtuse, smooth, shining, veiny beneath; stigma tipped by a short, pencil-like beard; branches straight, tomentose, scabrous. ♄. S. Native of Norfolk Island, in dry shady woods.

Daphne-like Alyxia. Clt. 1831. Shrub.

11 A. ruscifòlia (R. Br. prod. p. 470.) flowers almost sessile, terminal; leaves 4 or 3 in a whorl, broad-elliptic or elliptic-lanceolate, acute, mucronate: the mucrone spiny; veins acute, angular; the surfaces and margins rather roughish; stigma truncate at apex, pencilled. ♄. S. Native of the south coast of New South Wales. Lodd. bot. cab. 1811. Cunningh. in bot. mag. 3312. A. Richardsònii, Sweet.

Var. β, *pugionifórmis* (Cunningh. mss. 1828. and l. c.) leaves narrow-lanceolate, mucronate. ♄. S. Native of Morton Bay.

Ruscus-leaved Alyxia. Fl. April, July. Clt. 1820. Shrub 4 to 6 feet.

* * *Leaves opposite.*

12 A. sulca'ta (Hook. ann. in Beech. voy. pt. bot. p. 90.) leaves opposite, ovate, obtuse, rather membranous, shining on both surfaces, obsoletely and parallelly veined; peduncles axillary, solitary, 3-flowered, one half shorter than the leaves; fruit olive-formed, furrowed longitudinally. ♄. S. Native of the Sandwich Islands.

Furrowed-fruited Alyxia. Shrub.

13 A. sca'ndens (Rœm. et Schultes, syst. 4. p. 440.) peduncles axillary, 3-flowered, longer than the petioles; leaves opposite, oval, oblong-elliptic, bluntly acuminated, shining, with parallel veins; branches climbing. ♄. ب. S. Native of the Society Islands. Gynopògon scándens, Forst. prod. no. 119.

Climbing Alyxia. Shrub cl.

14 A. buxifòlia (R. Br. prod. p. 470.) flowers usually twin, interpetiolar; leaves opposite, oval or obovate, smooth on both surfaces, terminating in a callous point; stigma much bearded. ♄. S. Native of New South Wales, on the east and south coasts; also of the island in Bass Straits, as also in the northern regions of Van Diemen's Land.

Box-leaved Alyxia. Shrub.

15 A. odora'ta (Wall. cat. no. 1606.) peduncles axillary, 3-flowered; leaves opposite, or 3 in a whorl, obovate-elliptic, tapering much to the base. ♄. S. Native of Chapedong.

Sweet-scented Alyxia. Shrub.

16 A. glauce'scens (Wall. cat. no. 1607.) leaves opposite, oblong, coriaceous, shining above, glaucous beneath; corymbs axillary, many-flowered; throat of corolla crowned. ♄. S. Native of the Straits of Malacca.

Glaucescent Alyxia. Shrub.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

XL. CE'RBERA (so named from Cerberus, on account of its poisonous qualities). Lin. gen. no. 294. Juss. 149. H. B. et Kunth, nov. gen. amer. 3. p. 223. Blum. bijdr. p. 1031.—Ahoúai, Tourn. inst. 434. Jacq. amer. 48. Thevètia, Juss. in ann. mus. 15. p. 346.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted; segments permanent. Corolla funnel-shaped; tube pilose inside at top; throat 5-toothed: teeth opposite the anthers; limb 5-cleft; segments oblique, or unequal-sided. Anthers seated on the top of the tube, almost sessile, inclosed, ovate, adhering to the stigma. Ovarium didymous, girded by 5 hypogynous scales or glands. Style filiform, didymous; stigma discoid: having the margin crenulated below, but convex and emarginate above. Drupes twin, one of them usually abortive, containing a fibry semi-bivalved, 1-celled putamen; cells divided into two divisions by the moveable dissepiment. Seeds usually solitary.—Lactescent trees or shrubs. Leaves scattered, quite entire. Peduncles extra-axillary at the tops of the branches. Flowers showy yellow or white.

1 C. Theve'tia (Jacq. amer. 48. t. 34. ed. pict. t. 47.) leaves linear, with sub-revolute edges, almost veinless, glabrous; peduncles generally 1-flowered; calycine segments ovate, lanceolate, acute, 3 times shorter than the tube of the corolla. ♄. S. Native of New Granada, in hot places; Mexico, Cuba, Martinico, &c. Lin. spec. 303. Lam. ill. t. 170. f. 2. Hook. bot. mag. 2309.—Plum. icon. t. 18.—Pluk. alm. p. 253. t. 207. f. 3.—Hern. mex. 443. f. 3. Axils of leaves furnished with some subulate scales. Corollas yellow. Drupe half orbicular, truncate at top, 2-celled, size of a bean; cells bipartite.

Thevet's Cerbera. Fl. June, July. Clt. 1735. Tree 12 ft.

2 C. thevetioìdes (H. B. et Kunth, nov. gen. amer. 3. p. 223.) leaves lanceolate-linear, acute, veiny, glabrous, with revolute edges: nerves and veins pilose beneath; flowers crowded at the tops of the branches, on short peduncles, sometimes 2 on a single peduncle; calycine segments oblong-lanceolate, acutish, 3 times shorter than the tube of the corolla. ♄. S. Native of New Spain, in temperate places, near the town of Tasco. Leaves $4\frac{1}{2}$ inches long. Segments of corolla dimidiately obovate. Drupe globose, size of an apple. Corollas yellow.

Thevetia-like Cerbera. Fl. April, July. Clt. 1800. Tree 12 ft.

3 C. Peruvia'na (Pers. ench. 1. p. 267.) leaves linear-lanceolate, crowded, glabrous; peduncles short, few-flowered. ♄. S. Native of Peru, in woods. C. Thevètia, Ruiz et Pav. fl. per. 2. p. 27. t. 153. f. b. C. Thevètia β, Poir. suppl. 1. p. 261.? According to Cav. descr. p. 108. this differs from *Thevètia* in the ovarium being tetragonal, not round, in the peduncles being few-flowered, not 1-flowered. Corollas yellow, with wedge-shaped, oblique, truncate segments, and a villous throat: having 5 subulate teeth, closing the tube.

Peruvian Cerbera. Tree 12 feet.

4 C. Ahou'ai (Lin. spec. 1. p. 303.) leaves ovate, acute, glabrous; peduncles terminal, short, 6-7-flowered; calycine segments reflexed; segments of corolla undulated. ♄. S. Native of Brazil. Curt. bot. mag. 737. Andr. rep. 231. Lam. ill. 2. p. 193. t. 170. f. 1. C. Thevètia, Lin. hort. cliff. p. 75. Ahouai, Thev. antarct. p. 66. Corollas pale yellow. The wood is very fetid; and the fruit is a deadly poison. The Indians are said to put small stones into the empty nuts, string them, and fasten them about their legs when they dance.

Ahouai Cerbera. Fl. June, July. Clt. 1739. Tree 10 to 20 feet.

5 C. ova'ta (Cav. icon. 3. p. 35. t. 270.) leaves oblong-ovate, green above, rather downy beneath, and yellowish; flowers terminal, usually 5 together; calycine segments ovate, acute, reflexed; segments of corolla arched. ♄. S. Native of New Spain. Corolla yellow. Fruit nearly globose, size of a walnut, compressed, bluntly truncate.

Ovate-leaved Cerbera. Shrub 3 to 6 feet.

6 C. cuneifòlia (H. B. et Kunth, nov. gen. amer. 3. p. 224.) leaves oblong-cuneated, rounded at the apex, puberulous above and downy beneath; peduncles sub-dichotomous, few-flowered; calycine segments oblong, acute, hardly shorter than the tube of the corolla; segments of corolla dimidiately obovate. ♄. G. Native of Mexico, on the western declivities of the mountains, between Zumpango and Mescalo. Leaves 3 inches long, and an inch broad at top, with some scales in their axils. Peduncles hairy. Corollas yellow?

Wedge-leaved Cerbera. Fl. April. Tree.

7 C. nítida (H. B. et Kunth, nov. gen. amer. 3. p. 225.) leaves oblong-lanceolate, acuminated, with subrevolute edges, glabrous and shining above, but hairy beneath; flowers racemose; calycine segments ovate, acuminated, 4 times shorter than the tube of the corolla; segments of corolla rounded. ♄. S. Native of New Granada, at the mouth of the river Sinu, and near Turbaco. Leaves 8-10 inches long. Corollas white, about the size of those of *Vinca ròsea;* limb downy outside. Ovaria girded by 5 combined glands. Drupes combined, fleshy, 2-lobed, 4-celled? cells 1-seeded.

Shining Cerbera. Fl. March. Shrub.

† *Doubtful species.*

8 C. alliodòra (Willd. mss. ex Rœm. et Schultes, syst. 4. p. 798.) leaves roundish, obtuse, roughish. ♄. S. Native of South America. Humb. et Bonpl.

Garlic-scented Cerbera. Shrub or tree.

9 C. obova'ta (Willd. l. c.) leaves elliptic-obovate, tapering into the petioles, glabrous, parallelly veined beneath. ♄. S. Native of?

Obovate-leaved Cerbera. Shrub or tree.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

XLI. TANGHI'NIA (*Tanghen* or *Tanghin* is the Madagascar name of *T. venenéflua*, the juice of which is the ordeal water of that island). Pet. Th. gen. med. p. 10. Poir. suppl. 5. p. 283. Bojer. in Hook. bot. misc. 3. p. 290. t. 110.—Cérbera species of authors. Cynóctonum, Gmel. syst. veg. 1. p. 443.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft; segments spreading, deciduous. Corolla salver-shaped, longer than the calyx; with a pentagonal, dilated throat; limb spreading; segments unequal-sided. Stamens 5, inserted into the dilated part of the tube of the corolla; anthers thick, heart-shaped, hidden by as many foliaceous acuminated inflexed lamellæ or scales, which rise from the throat: having an umbilical tubercle under each anther. Ovarium solitary, 4-lobed, girded by a hypogynous ring. Stigma capitate, 2-lobed, inclosed in the dome formed by the anthers. Drupe ovate, containing a fibry nut, which is acute at both ends. Integument of seed membranous. Albumen none, ex Pet. Th.; concatenated, horny, ex Bojer. Cotyledons flat, slender, somewhat cordate, ex Bojer; thick, concave, ex Pet. Th. Embryo superior, inverted.—Glabrous trees, with the habit of *Mango*. Leaves alternate, approxi-

mate at the tops of the branches, coriaceous. Flowers disposed in terminal corymbose panicles. Peduncles and pedicels bibracteate, twice ternate. Corollas white, or pink: with a dark eye.

1 T. venene'flua (Poir. l. c. Bojer. l. c.) leaves elliptic-lanceolate, approximate, coriaceous, glabrous, shining: with revolute, cartilaginous edges; flowers disposed in terminal, corymbose panicles. ♄. S. Native of Madagascar. Cérbera Tánghin, Hook. bot. mag. 2968. Leaves 5-8 inches long. Corollas with a green tube, and pink or rose-coloured limb. This is the famous ordeal tree of Madagascar.

The custom of administering Tanghin as an ordeal, in Madagascar, has become far more universal during the present reign, than at any former period of the Huwa government. When her present majesty, in the beginning of 1830, came to the resolution of cleansing her lands from sorcerers, an ordeal was commanded in every town and village; and in Tannanarivoo scarcely any class of inhabitants escaped. On the 9th of May, 1830, in compliance with the sovereign's mandate, a notable administration of Tanghin took place. The accused persons amounted to about thirty, including some of the highest rank in the kingdom. All the nobility recovered; while the unknown plebeians, who, according to the common jugglery, had been compelled to drink with them, died. The former made the usual triumphant entry into the town, on the 17th, borne in open palanquins, amongst the shouting, dancing, and grimaces of the many thousands of people. In the following month, April, about an equal number of Malagassy ladies submitted to the same ordeal; but all survived, and, in due course, made a grand entry into town. The Tanghin is administered in private, as well as in public. A subject so deeply rooted in the minds of all the Malagassy people, from the sovereign down to the slave, is the belief in witchcraft; and so blindly are they led by this belief, that a whole nation may be considered as labouring under a spell, as powerful as the fascination which they attribute to the unfortunate sorcerers themselves. The fruit of the Tanghin is the part used, and is administered by means of some liquid, as broth, &c.

Poison-flowing Tanghinia. Fl. July. Clt. 1826. Tree 30 feet.

2 T. Ma'nghas; leaves oblong-lanceolate, acute, tapering downwards, approximate, shining; segments of corolla ovate, with an incurved, sub-retuse apex; panicle terminal, corymbose. ♄. S. Native of Singapore, and some of the adjacent islands, Ceylon, &c. Cérbera Mánghas, Lin. fl. zeyl. 106. Gærtn. fruct. 2. p. 192. t. 123-124. f. 1. Cérbera lactària, Hamilt. Arbor lactària, Rumph. amb. 2. p. 243. t. 81. Cérbera quaternifòlia, Roxb. hort. beng. 19.—Burm. zeyl. p. 150. t. 70. f. 1. Leaves dark green and shining above, and paler beneath, with capillary, sub-transverse nerves, which unite by means of a submarginal vein. Panicle large, open, with articulated dichotomous or trichotomous branches. Flowers white, by threes, scentless. Calycine segments lanceolate. Scales in the mouth of the corolla villous, pink-coloured. Drupe ovate-oblong, sometimes twin. The seeds in this and the following are said to be exalbuminous.

Manghas Tanghinia. Fl. July, Sept. Clt. 1800. Tree 20 ft.

3 T. Odóllam; leaves lanceolate, approximate, shining; corymbs terminal; calycine segments linear, revolute; segments of corolla sub-falcate. ♄. S. Native of various parts of India, on the shores, in salt swamps. Cérbera Odóllam, Gærtn. fruct. 2. p. 193. t. 124. Cérbera Mánghas, Sims, bot. mag. 1845. Odóllam, Rheed. mal. 1. p. 71. t. 39. Wood remarkably spongy, and white. Flowers large, white, fragrant. Stigma large and conical, 2-cleft at apex, resting in a saucer-shaped receptacle, the circumference fluted with 10 grooves.

Odollam Tanghinia. Fl. July, Sept. Clt. 1756. Tree 20 feet.

4 T. laurifólia; leaves lanceolate, obtuse, attenuated at the base, coriaceous, quite entire, glabrous, with dense parallel nerves. ♄. S. Native of the East Indies. Cérbera laurifòlia, Lodd. bot. cab. 989. Flowers white.

Laurel-leaved Tanghinia. Fl. May, Sept. Clt. 1818. Shrub.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

XLII. RAUWO'LFIA (so named by Plumier, in honour of Leonhard Rauwolf, physician at Augsburg, who travelled in France and Italy, 1560—1563; and through Palestine and other countries, in 1573—1575. His travels were published in German, in 1582 and 1583, and were translated into English by Nich. Staphorst, under the revision of Mr. Ray, with additions by him. John Fred. Gronovius published a catalogue of the plants which Rauwolf found in his travels to the East in 1775, under the title of Flora Orientalis, Lugdb. oct. He died in 1596.) Plum. gen. 40. Lin. gen. no. 293. Juss. gen. 148. Gærtn. fruct. t. 52. Jacq. amer. 47. Roxb. fl. ind. 2. p. 543. Blum. bijdr. 1033, but not of Ruiz. et Pav.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, permanent. Corolla funnel-shaped, with a bearded throat, a short tube, and a twisted, 5-lobed limb; segments unequal-sided. Stamens 5, inclosed, or a little exserted; anthers free, ovate-cordate. Ovaria 2, combined, girded by a hypogynous ring; 2-celled, bi-ovulate. Style didymous. Stigma sub-capitate, or peltate, emarginate. Drupe didymous, globose, containing 2 1-celled, 1-seeded nuts, or a 2-celled one; cells divided into 2 chambers. Seeds reflexedly conduplicate below, attached to the dissepiment, which is incomplete, and is perhaps a dilated placenta. Embryo uncinately recurved at the base, with a superior radicle. Albumen fleshy, conforming to the seed.—Lactescent shrubs, or small trees; with verticillate leaves; and interpetiolar corymbs of small flowers. Petioles furnished with subulate glands inside.

* *Species natives of South America.*

1 R. psychotrioìdes (H. B. et Kunth, nov. gen. amer. 3. p. 231.) leaves 4 in a whorl, elliptic-oblong, acuminated, glabrous, 2 of which are much smaller than the other 2, having the middle rib ciliated towards the base; corymbs on long peduncles. ♄. S. Native of the Spanish Main, in shady places, near Cumana. R. víridis, Willd. herb, ex Rœm. et Schultes, syst. 4. p. 805. Leaves membranous, shining above, but paler beneath, 4 or 4½ inches long. Bracteas lanceolate-linear. Corymbs small. Corollas white, downy outside. Calycine segments ovate, acute. Segments of corolla dimidiately oblong, obtuse. Perhaps the same as *R. nítida.*

Psychotria-like Rauwolfia. Tree 10 to 15 feet.

2 R. ternifòlia (H. B. et Kunth, l. c. p. 232.) leaves 3 in a whorl, oblong, acuminated, glabrous; peduncles few-flowered, sub-corymbose. ♄. S. Native of New Spain, on the banks of the river Magdalena, near Monpox. Hook. bot. mag. 2440. R. ligustrìna, Willd. herb. no. 5097. Rœm. et Schultes, syst. 4. p. 805. Leaves membranous, 2-4 inches long. Flowers like the preceding. Calycine segments ovate-lanceolate.

Three-leaved Rauwolfia. Fl. May. Clt. 1823. Shrub.

3 R. nítida (Jacq. amer. p. 47. Lin. spec. 303.) leaves 3 and 4 in a whorl, elliptic-lanceolate, acuminated, quite glabrous, shining, having the midrib rather villous beneath; corymbs few-flowered. ♄. S. Native of South America, and St. Domingo, in woods. Lam. ill. t. 172. f. 1. Lodd. bot. cab. 339. R. víridis, Herb. Willd. R. heterophýlla, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 805.—Plum. gen. 19. icon. 236. f. 1. Leaves approximate, unequal in size, 3 inches long, and one broad. Calycine teeth acute. Corollas white. Petals ciliated, with thick conical pili. Fruit at first yellowish, afterwards dark purple.

Shining-leaved Rauwolfia. Fl. June, Sept. Clt. 1752. Tree 12 feet.

4 R. Brazilie'nsis (Spreng. syst. 1. p. 834.) leaves 3 in a whorl, elliptic-oblong, acute, opaque, having the veins and nerves downy beneath; peduncles 1-flowered, axillary, thick, and are, as well the calyxes, silky. ♄. S. Native of Brazil.

Brazilian Rauwolfia. Shrub.

5 R. parviflòra (Bert. ex Spreng. syst. 1. p. 834.) leaves 3 in a whorl, oblong-lanceolate, rather unequal; peduncles 1-flowered, capillary, axillary, shorter than the leaves. ♄. S. Native of Brazil.

Small-flowered Rauwolfia. Shrub.

6 R. cane'scens (Lin. syst. 250.) leaves 4 in a whorl, oblong-obovate, acuminated, downy; corymbs few-flowered. ♄. S. Native of Jamaica, and other West India Islands. R. subpubéscens, Lin. spec. 303. R. hirsùta, Jacq. amer. p. 47. ed. pict. p. 259. f. 17.—Plum. gen. 9. icon. 236. f. 2.—Sloane, jam. 173. hist. 2. p. 107. t. 188. f. 1.—Pluk. phyt. 266. f. 2. Branches rather tomentose. Leaves more tomentose beneath than hairy. Calycine segments lanceolate. Segments of corolla nearly square, sub-emarginate. Drupes dark red. Flowers small, red.?

Canescent Rauwolfia. Fl. June. Clt. 1739. Shrub 2 to 8 feet.

7 R. tomentòsa (Lin. spec. 303.) leaves 4 in a whorl, oblong, attenuated at both ends, tomentose; corymbs few-flowered. ♄. S. Native on rocks and walls, of Carthagena, in South America. Jacq. amer. 48. obs. 2. t. 35. Flowers small, white. Calycine segments ovate. Fruit at length nearly black.

Tomentose Rauwolfia. Fl. April, Oct. Clt. 1823. Shrub 3 to 4 feet.

* * *Species natives of the East Indies.*

8 R. Sumatra'na (Jack, mal. misc. 1. no. v. p. 22. ex Roxb. fl. ind. 2. p. 543. Blum. bijdr. p. 1034.) leaves 3-4 in a whorl, cuneate-oblong, or obovate, glabrous; umbels or corymbs terminal, pedunculate, few-flowered; mouth of corolla shut by 5 fascicles of villi. ♄. S. Native of Java and Sumatra, frequent in the neighbourhood of Bencoolen. This shrub resembles the *Manggalaut*, or *Tanghinia Mánghas*, in habit and foliage. Leaves 6 inches long. Flowers small, white. Segments of corolla roundish. Stigma peltate. This species resembles *R. nítida*, but is sufficiently distinguished by its inflorescence. The wood, being light, is employed by the Sumatrans, for scabbards to their swords, and krises.

Sumatra Rauwolfia. Tree 12 to 15 feet.

* * * *A species native of Africa.*

9 R. vomitòria (Afz. rem. guin. ex Spreng.) leaves 4 in a whorl, oblong-lanceolate, on long petioles; branches tetragonal; flowers axillary, umbellate. ♄. S. Native of Guinea.

Vomit Rauwolfia. Shrub.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

XLIII. DISSOLE'NA (from *δις*, *dis*, double; and *σωλην*, *solen*, a tube; the lower part of the tube of the corolla is different from that of the upper.) Lour. coch. p. 138.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx tubular, 5-cleft; segments subulate, erect. Corolla with a long tube of two forms: lower part thick, pentagonal, and staminiferous; upper part cylindrical: limb spreading, 5-cleft. Stamens inserted beneath the mouth of the lower part of the tube. Style shorter than the stamens; stigma sub-ovate, thick, scabrous. Drupe small, ovate, containing a compressed, scabrous, 1-celled, 1-seeded nut.—An upright shrub, with spreading branches. Lower leaves opposite; upper ones 3-4 in a whorl. Racemes subdivided, terminal. Corollas white. Drupes black, glabrous. Nearly allied to *Rauwólfia* or *Ochròsia*.

1 D. verticilla'ta (Lour. coch. p. 138.) ♄. G. Native of China, in the province of Canton. Cérbera Chinénsis, Spreng. syst. 1. p. 643.

Whorled-leaved Dissolena. Fl.? Clt. 1812. Shrub 8 feet.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

XLIV. OCHRO'SIA (from *ωχρος*, *ochros*, pale yellow; colour of flowers.) Juss. gen. 144. Labill. sert. cal. 25. Cérbera species of authors.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx small, 5-toothed, or 5-parted. Corolla funnel-shaped; segments of the limb 2-lobed, spreading, oblique. Stamens 5, inserted in the throat. Anthers inclosed. Stigma thick, 2-lobed. Fruit twin, or solitary by abortion, drupaceous, each containing a 2-4-celled nut; each cell 1-2-3-seeded. Seeds oblong, unequal, flat, with membranous edges, albuminous?—Glabrous shrubs, with verticillate leaves, 4 in a whorl; and dichotomous corymbs of flowers.

1 O. Borbónica (Juss. gen. p. 145.) leaves 4 in a whorl; ovate-lanceolate, shining; corymbs terminal, and in the forks of the branches. ♄. S. Native of Bourbon, Isle of France. Ophióxylon Ochròsia, Pers. ench. 1. p. 266. Rauwólfia striàta, Poir. dict. 4. p. 85. no. 5. suppl. 4. p. 120. and p. 656. Dideròta amphicárpa, Comm. mss. Cérbera Borbónica, Spreng. syst. 1. p. 642. Habit of *Ophióxylon serpentìnum*. Stem yellowish. Leaves 2-5 inches long, greenish yellow beneath. Corymbs dense. Corolla cream-coloured. Drupes 2-celled.

Bourbon Ochrosia. Fl.? Clt. 1823. Shrub.

2 O. macula'ta (Jacq. coll. 4. p. 218. icon. rar. 2. t. 321, exclusive of the syn. of Forst. Dryander, in Lin. trans. 2. p. 227.) leaves 3-4 in a whorl, oblong-lanceolate, acuminated at both ends, undulated, veiny, spotted; corymbs terminal, and in the forks of the branches, or axillary. ♄. S. Native of the Island of Bourbon. Cérbera maculàta, Willd. spec. 1. p. 1223. Cerbèra undulàta, Andr. rep. t. 130. The leaves only spotted in the dried state, shining, 4 inches long. Corolla white, with a red throat. Fruit yellow, acuminated, containing a 2-celled nut.

Spotted-leaved Ochrosia. Shrub 4 to 6 feet.

3 O. ellíptica (Labill. sert. cal. p. 25. t. 30.) leaves elliptic, 3 in a whorl; drupe 4-celled. ♄. S. Native of New Caledonia. An erect shrub. Leaves emarginate, coriaceous; petioles furnished with papillæform or lamellose resin inside. Flowers sub-corymbose, interpetiolar and terminal. Follicles sub-triquetrous.

Elliptic-leaved Ochrosia. Shrub erect.

4 O. parviflòra; leaves 4 in a whorl, oblong, bluntish, parallelly-veined, flat; cymes pedunculate, sub-axillary, branched, divaricate. ♄. S. Native of the Sandwich Islands. Cérbera parviflòra, Forst. prod. no. 121. Hook. and Arn. in Beech. voy. pt. bot. p. 90. Very nearly allied to *O. maculàta*.

Small-flowered Ochrosia. Shrub 3 to 4 feet.

Cult. For culture and propagation see *Tabernæmontána*, p. 92.

XLV. OPHIO'XYLON (from *οφις*, *ophis*, a serpent; and *ξυλον*, *xylon*, wood; twisted root and stems.) Lin. gen. no. 142. Juss. gen. 321. Gærtn. fruct. 2. p. 129. t. 109. Roxb. fl. ind. 2. p. 530. Blum. bijdr. p. 1037.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx 5-cleft, or 5-toothed, permanent. Corolla funnel-shaped, with a long tube, which is thickened in the middle, and a 5-cleft, oblique limb. Anthers almost sessile, inserted in the middle of the tube. Ovarium didymous; lobes 1-ovulate. Style filiform, inclosed; stigma capitate. Drupe baccate, black, size of a pea, twin, or solitary by abortion, each containing a 1-seeded, wrinkled nut. Embryo inverted, straight, nearly as long as the albumen, with round, cordate cotyledons, and a sub-cylindrical radicle. Albumen conforming to the seed, greenish white.—A glabrous, twining

or climbing shrub, with verticillate leaves; and axillary, peduncled fascicles of flowers.

1 O. serpentìnum (Lin. fl. zeyl. p. 398.) ♄. ب. S. Native of the East Indies, in many places; in rich soil it becomes a climber or twiner; but in poor soil it is a small, erect shrub. Wendt, in Rœm. arch. 1. p. 53. t. 7. f. 2. Jacq. hort. schœnbr. 3. t. 389. Sims. bot. mag. 784. O. trifoliàtum, Gærtn. fruct. 2. t. 129.?—Burm. zeyl. 141. t. 64.—Rheed. mal. 6. p. 81. t. 47.—Rumph. amb. 7. p. 29. t. 16. Leaves 3-4-5 in a whorl, cuneate-oblong, acute, waved, 4-5 inches long. Cymes axillary, on long peduncles, erect, and sometimes drooping; pedicels and calyxes red, which, with the white corollas, gives the cymes a pretty appearance. Dr. Wallich seems to think the *O. trifoliàtum*, Gærtn. to be a distinct species, although he knows nothing to be compared to it. In India the root of *O. serpentìnum* is employed for the cure of various disorders, by the Telinga physicians. First, in substance, inwardly, as a febrifuge. Secondly, in the same manner, after the bite of poisonous animals. The juice is also expressed, and dropped into the eye, for the same purpose. And, thirdly, it is administered, in substance, to promote delivery in tedious cases.

Serpentine Snake-Wood. Fl. May, June. Clt. 1690. Shrub.

Cult. For culture and propagation see *Strophánthus*, p. 85.

XLVI. VALLE'SIA (named by the authors of the Flora Peruviàna, after T. Vallesio, physician to Philip II. of Spain.) Ruiz. et Pav. fl. per. 2. p. 26. t. 151. f. B. H. B. et Kunth, nov. gen. amer. 3. p. 233. t. 241.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx small, 5-parted, permanent. Corolla salver-shaped: with a slender, elongated tube, and a widened hairy throat; segments oblique. Stamens inclosed; anthers ovate-sagittate, free. Ovaria two. Style didymous; stigma sub-clavate. Drupes 2, distinct, sub-clavate, containing each a 1-celled, 1-seeded, fibry, striated nut. Embryo straight, central: with oblong, obtuse, plano-convex, fleshy cotyledons: and an inferior, thick, terete, acutish radicle. Albumen thin, fleshy, white.—Small glabrous trees or shrubs. Leaves alternate, without glands. Peduncles opposite the leaves, dichotomous, many-flowered. Flowers small, white.

1 V. chiococcoìdes (H. B. et Kunth, nov. gen. amer. 3. p. 233.) leaves ovate-oblong, acuminated, somewhat conduplicate; peduncles opposite the leaves, dichotomous. ♄. S. Native of South America, in the province of Jaen de Bracamoros, on the banks of the river Amazon, near Tomependa, where it is called *Chuviringana*. Segments of corolla obliquely ovate, obtuse. Corollas white.

Chiococca-like Vallesia. Fl. May. Shrub 5 to 6 feet.

2 V. dichótoma (Ruiz. et Pav. fl. per. 2. p. 26. t. 151. f. *b*.) leaves ovate, acute, undulated, shining; peduncles corymbose, dichotomous, opposite the leaves. ♄. S. Native of Peru. Leaves 2-5 inches long. Corolla white, with a greenish tube. Nut oval-oblong.

Dichotomous Vallesia. Fl. May, June. Clt. 1822. Shrub 8 to 10 feet.

3 V. cymbifòlia (Ort. dec. p. 58.) leaves ovate-lanceolate, boat-shaped, incurved at top; peduncles opposite the leaves, dichotomous, corymbose, few-flowered. ♄. S. Native of New Spain. Rauwólfia glàbra, Cav. icon. 3. p. 50. t. 297. Vallèsia dichótoma, Poir. suppl. 4. p. 656. Calycine teeth small. Corolla white; segments obliquely-ovate, acute.

Boat-leaved Vallesia. Fl. June, July. Clt. 1821. Shrub 3 to 6 feet.

4 V. puncta'ta (Spreng. syst. 1. p. 642.) leaves alternate, petiolate, oblong-attenuated at both ends, full of pellucid dots; branches and petioles granular; fascicles of flowers pedunculate; corolla granular outside. ♄. S. Native of Brazil.

Dotted Vallesia. Shrub.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

Tribe VII.

KOPSIE'Æ. Ovarium double. Fruit drupaceous. Albumen wanting.

XLVII. KO'PSIA (meaning not explained by the author.) Blum. bijdr. p. 1030.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx small, 5-toothed, permanent. Corolla salver-shaped; tube ventricose at apex; throat coarctate, villous; segments of the limb spreading or reflexed. Stamens 5, inclosed, free. Style filiform, not exserted; stigma oblong, undivided, downy at top. Drupes two, or solitary by abortion, coriaceous, divided by an incomplete dissepiment inside, 1-seeded. Embryo inverted. Albumen none.—Lactescent trees or shrubs, with opposite leaves; and lateral and terminal pedunculate, bracteate cymes of flowers.

1 K. arbòrea (Blum. bijdr. p. 1030.) arboreous; leaves oblong-lanceolate; segments of corolla broad-lanceolate. ♄. S. Native of Java, in woods, on the mountains, where it is called *Kilutung*. Flowers white.

Tree Kopsia. Fl. year. Tree.

2 K. vincæflòra (Blum. bijdr. p. 1030.) shrubby; leaves oblong-lanceolate; segments of corolla oval. ♄. S. Native of Java, on the Salak mountains. Throat of corolla red.

Vinca-flowered Kopsia. Fl. year. Shrub.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

XLVIII. CALPICA'RPUM (from καλπις, *calpis*, an urn; and καρπος, *karpos*, a fruit; in reference to the shape of the fruit.) Cérbera species, Roxb. and Lam.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx 5-cleft; segments lanceolate, permanent, each ending in a gland. Corolla funnel-shaped, with a slender tube, swelling at the throat; throat highly coloured and hairy, but neither furnished with teeth nor scales. Segments of limb obovate, oblong, equal-sided. Stamens 5, inserted round the bottom of the swelled part of the tube; anthers sagittate, inclosed. Ovaria twin, 2-celled; on the sides where they meet, there is a small subulate scale covering the fissure: cells 1-ovulate. Ovula attached to the middle of the partition. Stigma large, with a 2-lobed apex, hid by the converging anthers. Drupe, or rather capsule, usually solitary, oblique, urn-shaped, villous, with a slit down the middle, semi-bivalved, 1-celled, opening up the inside, and along the apex; pulp hardly any, the whole substance being thin, and rather fibrous. Seeds solitary, ovate-oblong; integument simple, white, pretty thick and soft. Albumen none. Embryo erect, with pale yellow cotyledons, conforming to the seed; and an ovate, superior radicle.—Glabrous shrubs, with dichotomous branches; broad, opposite, lanceolate leaves; and terminal corymbs of red flowers.

1 C. Roxbu'rghii; leaves opposite, remote, oblong to lanceolate, glabrous, acuminated; corymbs at first terminal, but afterwards in the forks, with sub-trichotomous, short divisions. ♄. S. Native of Pegu. Cérbera fruticòsa, Roxb. fl. ind. 2. p. 526. Ker. bot. reg. 391. Flowers size of those of *Vinca ròsea*, the mouth of a lively red, the rest of a bright pink, rather fragrant, and extremely ornamental.

Roxburgh's Calpicarpum. Fl. year. Clt. 1819. Shrub 4 to 6 ft.

2 C.? Lama'rkii; leaves opposite, ovate-oblong, rounded or blunt at the apex; panicles corymbose, short, in the forks of the branches; flowers small. ♄. S. Native of the East Indies; and the Moluccas, if Cérbera salutàris, Lour. be the same. Lactària salùbris, Rumph. amb. 2. p. 255. t. 84. Cérbera oppositifòlia, Lam. dict. 1. p. 62. suppl. 1. p. 262. Cérbera salutàris, Lour. coch. Blum. bijdr. 1033. Flowers red? Ca-

lycine segments small, connivent, ex Blume. Cymes on long peduncles, dichotomous, many-flowered.

Lamark's Calpicarpum. Shrub or tree.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

Tribe VIII.

MELODINIEÆ. Fruit baccate, 2-celled, solitary. Seeds naked, flattened, imbedded in pulp. Ovula attached to two elevated receptacles, which rise from the middle of the partition.

XLIX. MELODI'NUS (so named by Foster, from *μηλον, melon*, an apple; and *δινεω, dineo*, to turn round; in reference to the fruit being like an apple, and the stems twining.) Forst. gen. 23. Juss. gen. 148. Schreb. gen. no. 425. suppl. 23. Labill. sert. caled. p. 29.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-parted, imbricate. Corolla salver-shaped; segments of the limb oblique, twisted to the right: corona in the throat of 5 bifid or quadrifid segments, alternating with the segments of the corolla. Stamens 5, inserted in the tube, inclosed, with very short filaments, and ovate anthers. Ovarium ovate; placentas 2, fixed to the dissepiment. Style simple; stigma dilated, conical, with a bifid apex. Berry globose, 2-celled, pulpy inside. Seeds many, flattened a little, wrinkled, nestling in the pulp, albuminous.—Lactescent, erect, or climbing shrubs; with opposite leaves, and opposite axillary cymes of flowers.

§ 1. *Segments of corona bifid or quadrifid.*

1 M. PHYLLIRÆOIDES (Labill. sert. cal. p. 29. t. 33.) stem erect, cymes opposite, axillary; leaves rhomboid, coriaceous; corona of 5 quadrifid segments. ♄. G. Native of New Caledonia. Leaves rhomboid, or elliptic-oblong, obtuse, $1\frac{1}{2}$ to 2 inches long.

Phyllirea-like Melodinus. Shrub 6 feet.

2 M. BAUE'RI (Endlicher, prod. fl. ins. norf. p. 57.) leaves elliptic-oblong, acute, ribbed, shining; corymbs axillary, opposite, shorter than the leaves; corona of 5 bifid segments. ♄. ◡. G. Native of Norfolk Island. Bauer. ill. pl. ins. norf. t. 140. and t. 164. Leaves 4 inches long. Berry globose, yellow, warted, about the size of an orange.

Bauer's Melodinus. Shrub climbing.

3 M. SCA'NDENS (Forst. fl. austr. no. 125. Lin. syst. 256.) glabrous; stem climbing; leaves oblong-ovate; cymes opposite, axillary; corona of the corolla of 5 cloven, lacerated segments. ♄. ◡. S. Native of New Caledonia. Lam. ill. t. 179.

Climbing Melodinus. Fl. July, Aug. Clt. 1775. Shrub cl.

§ 2. *Segments of corona entire.*

4 M. MONÓGYNUS (Roxb. fl. ind. 2. p. 56. Ker. bot. reg. 834.) glabrous; climbing; leaves lanceolate, shining, acuminated; panicles axillary and terminal, sub-globular, brachiate, crowded; corolla 5-parted; segments sub-falcate; scales in the mouth of the tube, entire, ensiform; style short; stigma ovate, emarginate at top. ♄. S. Native of Silhet, where it is called *Sadul.* Corolla white, fragrant. Extreme divisions of panicles 3-flowered. Berry 4-cornered, yellow, size of an orange, containing edible pulp.

Monogynous Melodinus. Fl. July. Clt. 1820. Shrub cl.

5 M. EUGENIÆFÒLIA (Wall. cat. no. 1616.) petioles, branchlets, peduncles, and calyxes, clothed with rusty down; leaves elliptic, acuminated, with parallel, alternate veins, running into an almost marginal nerve; peduncles panicled, axillary; bracteas foliaceous. ♄. S. Native of Penang. Fruit size of a middling gooseberry. Scales in the throat of the corolla undivided. Perhaps a distinct genus.

Eugenia-leaved Melodinus. Shrub.

Cult. For culture and propagation see *Echìtes*, p. 76.

L. CARPODI'NUS (from *καρπος, karpos*, a fruit; and *δινεω, dineo*, to turn round; a name given to separate it from Melodinus.) R. Br. mss.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-toothed. Corolla funnel-shaped, hairy, 5-cleft; segments lanceolate, oblique, reflexed; anthers 5, sagittate, conniving. Style 1; stigma round. Fruit orange-formed, 2-celled? many-seeded. Seeds flattened, nestling in pulp.—Climbing, cirrhiferous shrubs; with opposite leaves: and twin, axillary, 1-flowered peduncles.

1 C. DU'LCIS; leaves ovate-lanceolate, glabrous; tendrils axillary; flowers almost sessile, twin, axillary. ♄. ◡. S. Native of Sierra Leone, in the neighbourhood of Freetown, where it is called *Sweet Pishamin*, a name introduced by the Nova Scotia settlers.

Sweet-fruited Carpodinus. Fl. June, July. Clt. 1822. Sh. cl.

2 C. A'CIDA; fruit rounder, and much smaller. ♄. ◡. S. Native of Sierra Leone.

Acid-fruited Carpodinus. Shrub cl.

Cult. For culture and propagation see *Echìtes*, p. 76.

LI. CHILOCA'RPUS (from *χειλος, cheilos*, a lip; and *καρπος, karpos*, a fruit; in reference to the fruit opening at one side.) Blum. bijdr. p. 1025.

LIN. SYST. *Pentándria, Monogýnia.* Calyx small, 5-parted. Corolla salver-shaped; tube thickened in the middle; segments of the limb 5, oblique. Anthers sagittate, almost sessile, inserted in the middle of the tube, inclosed. Stigma capitate, inclosed among the anthers. Capsule large, corticate, 1-celled, filled with granular pulp inside, dehiscing at the side when ripe. Seeds numerous, compressed, convolutely furrowed on one side, wrapped in membranes which rise from the parietes of the capsule. Albumen horny. Cotyledons foliaceous.—Climbing shrubs, with opposite, simple leaves, and axillary cymes of flowers. This genus is nearly allied to *Willughbèia*, but is easily distinguished from that genus, in the fruit being capsular, and in the seeds being albuminous.

1 C. SUAVE'OLENS (Blum. bijdr. p. 1025.) leaves oblong, glabrous, with five parallel veins; flowers sub-cymose, axillary; pedicels covered with imbricating bracteas. ♄. ◡. S. Native of Java, on the mountains, where it is called *Aroy Gambier;* and *Tjunkankan-lalan.*

Sweet-scented Chilocarpus. Shrub cl.

2 C. DENUDA'TUS (Blum. l. c.) leaves lanceolate-oblong, parallelly veined, glabrous; cymes axillary, few-flowered; pedicels bractless. ♄. ◡. S. Native of Java, in woods, on the Salak mountains.

Naked-pedicelled Chilocarpus. Fl. Aug. Shrub cl.

Cult. For culture and propagation see *Echìtes*, p. 76.

LII. WILLUGHBE'IA (named after Francis Willughby, F.R.S., a friend and pupil of Ray; author of Ornithologia, 1676; and Historia Piscium, 1678; published by Ray, after his death, which happened in 1672, at the age of 37 years.) Scop. Schreb. gen. no. 417. Roxb. fl. ind. 2. p. 57. Blum. bijdr. p. 1023.

LIN. SYST. *Pentándria, Monogýnia.* Calyx small, 5-parted. Corolla salver-shaped; tube thickened in the middle; limb of 5 oblique segments. Stamens inclosed; anthers ovate, free. Ovarium 2-celled. Style didymous; stigma conical. Ovula attached to 2 opposite, parietal placentas. Berry large, corticate, half 2-celled, many-seeded. Seeds in rows, exalbuminous, nidulent. Cotyledons plano-convex.—Climbing, usually cirrhiferous shrubs; with opposite, glabrous leaves; and axillary, pedunculate cymes of flowers.

1 W. EDU'LIS (Roxb. fl. ind. 2. p. 57. Blum. bijdr. p. 1024.) climbing, cirrhiferous; leaves elliptic-oblong, obtuse, acuminated, with parallel veins; peduncles cymose, axillary, shorter than the petioles. ♄. ◡. S. Native of the Mauritius, Chittagong, and Silhet. Flowers pale pink. Berry very large, globular, 1-celled. The milky, viscid juice, which flows from

every part of the plant, is changed into a bad kind of elastic rubber, or caoutchouc, on exposure to the air.

Edible Willughbeia. Fl. June, Aug. Clt. 1818. Shrub cl.

2 W. JAVA'NICA (Blum. bijdr. p. 1024.) climbing, cirrhiferous; leaves oblong-lanceolate, bluntish at the apex, with fine parallel veins; peduncles cymiferous, axillary, longer than the leaves. ♄. ◡. S. Native of Java, in woods, on the Seribu and Salak mountains, where it is called *Aroy Kibattarah.*

Java Willughbeia. Fl. March, July. Shrub cl.

3 W. CELE'BICA (Blum. bijdr. p. 1024.) climbing; leaves elliptic-oblong, acuminated, veiny; peduncles axillary, cymiferous, about equal in length to the petioles. ♄. ◡. S. Native of the Celebes.

Celebes Willughbeia. Fl. Aug. Shrub cl.

4 W. MARTABA'NA (Wall. pl. rar. asiat. 3. p. 45. t. 272.) cirrhiferous, scandent, glabrous; leaves ovate-oblong, acuminated, parallelly nerved; berries globose. ♄. ◡. S. Native of the province of Martaban, at Amherst, and Moalmeyne. Fruit yellow, about the size of an orange. This is very nearly allied to *W. edùlis.*

Martaban Willughbeia. Shrub cl.

5 W. CORIA'CEA (Wall. cat. no. 1620.) leaves coriaceous, shining above, and rusty beneath, elliptic, short-acuminated, obtuse, tendrils as in the last species. ♄. ◡. S. Native of Singapore.

Coriaceous-leaved Willughbeia. Shrub cl.

Cult. For culture and propagation see *Echìtes*, p. 76.

LIII. AMBELLA'NIA. (Ambellani is the Guiana name of the shrub.) Aubl. guian. 1. p. 266. t. 104. Juss. gen. 144. Fagræ'a species, Willd. Willughbèia species, Willd.

LIN. SYST. *Pentándria, Monogýnia.* Calyx short, 5-parted; segments acute. Corolla tubular, with a narrow throat; and a 5-cleft, oblique, undulated limb. Stamens 5, inclosed; anthers sagittate. Style tetragonal; stigma seated on a flat, orbicular disc; bi-cuspidate at the apex. Berry ovate, oblong, fleshy, large, 2-celled, many-seeded, warted. Seeds broad, compressed, muricate, fixed to the slender receptacle or dissepiment.—A small, lactescent tree. Leaves opposite. Peduncles axillary and terminal, 3-4-flowered, unibracteate.

1 A. A'CIDA (Aubl. guian. 1. p. 266. t. 104.) leaves ovate-oblong, glabrous, quite entire, undulated on the edges. ♄. S. Native of Guiana and Cayenne. Willoughbèia ácida, Willd. spec. 1. p. 1231. Leaves 7 inches long, and 3 broad, on short, half-embracing petioles. Flowers whitish. Berry citron-coloured, warted. Bracteas at the base, of each peduncle, and each flower. The fruit, macerated in water, has a pleasant acid flavour.

Acid-fruited Ambellania. Shrub 6 to 8 feet.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

LIV. PACOU'RIA (Pacouri-rana is the Guiana name of the tree.) Aubl, guian. 1. p. 279, t. 105. Juss. gen. 148. Willughbèia species, Willd.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-parted, permanent; segments obovate, roundish, acute. Corolla with a short tube, and a 5-cleft limb; segments oblique, undulated. Stamens short, inclosed; anthers cuspidate. Style tetragonal; stigma as in *Ambellània.* Berry large, pear-shaped, fleshy, pulpy, 1-celled, many-seeded. Seeds hard, angular, nestling in the pulp. —A lactescent shrub, with sarmentose, nodose branches. Leaves opposite at the nodi. Racemes axillary on long peduncles, twining by tendrils.

1 P. GUIANE'NSIS (Aubl. l. c.) leaves ovate, acute, undulated, glabrous, large, entire, having the nerves red and prominent beneath; petioles stem-clasping; flowers fascicled on the racemes, which are branched. ♄. ◡. S. Native of Guiana. Willughbèia scándens, Willd. spec. 1. p. 1231. Flowers yellow.

Guiana Pacouria. Shrub cl. or tw.

Cult. For culture and propagation see *Echìtes*, p. 76.

LV. HANCO'RNIA (meaning unknown to us.) Gomez in act. acad. Oliss. 1812. p. 51. with a figure. Mart. act. bonn. 11. p. 84. Mangàibo, Pis. med. bras. p. 76.

LIN. SYST. *Pentándria, Monogýnia.* Calyx small, 5-parted. Corolla salver-shaped; tube long, ventricose at top; segments of the limb ovate-acute, 3 times shorter than the tube. Stamens inclosed, pilose; anthers oblong, connivent. Stigma bifid, seated on a cylindre. Berry 1-celled, many-seeded. Albumen hard, fleshy.

1 H. SPECIÒSA (Gomez. l. c.) leaves elliptic, coriaceous, bluntly cuspidate, glabrous; peduncles terminal, usually 3-flowered. ♄. S. Native of Brazil.

Showy Hancornia. Tree 20 feet.

2 H. PUBE'SCENS (Mart. in act. bonn. 11. p. 85.) leaves oblong, acuminated, and are, as well as the branches, downy; cymes terminal, sessile, dichotomous. ♄. S. Native of Brazil.

Downy Hancornia. Shrub.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

LVI. LANDO'LPHIA (named by Beauvois, after M. Landolphe, a captain in the French navy, commander of an expediton to Waree, who was of great assistance to Palisot de Beauvois, during his stay in Africa.) Beauv. fl. d'ow. 1. p. 54. t. 34.

LIN. SYST. *Pentándria, Monogýnia.* Calyx permanent; 5-6-cleft; segments coriaceous, sub-imbricate. Corolla tubular, with oblique segments, and a villous throat. Stamens 5. Ovarium 10-striped. Style thickened at top; stigma sub-bifid. Berry fleshy, nearly globose, depressed at top, 1-celled. Seeds many, ovate, compressed.—A shrub, with straight, terete branches. Leaves opposite, ovate-lanceolate, quite entire, acute, petiolate, glabrous, 5-6 inches long. Flowers white, disposed in terminal, panicled corymbs, with opposite branches; and very short pedicels.

1 L. OWARIE'NSIS (Beauv. fl. d'ow. 1. p. 54. t. 34.) ♄. S. Native of Guinea, in the interior of the kingdom of Waree.

Waree Landolphia. Shrub.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

LVII. COU'MA (Couma is the Caribbean name of the tree.) Aubl. Guian. suppl. p. 39. t. 392.

LIN. SYST. *Pentándria, Monogýnia.*? Calyx, corolla, stamens, and pistil unknown. Berry globose, rusty, compressed at top, 3-4 or 5-celled. Seeds 3-4-5, orbicular, flat, covered with rust-coloured pulp.—A tree, with thick bark, bushy at top; branchlets trigonal, nodose. Leaves 3 in a whorl, at the nodi, stiff, glabrous, ovate, acuminated, pale green above, but paler beneath, on short petioles. Peduncles rising single from the nodi, short, bearing 4-5 berries on long pedicels, which are very palatable when ripe.

1 C. GUIANE'NSIS (Aubl. l. c.) ♄. S. Native of Guiana and Cayenne, in woods. Leaves opposite, or 3-4 in a whorl; the branches always terminated by 3 leaves.

Guiana Couma. Tree 30 to 40 feet.

Cult. For culture and propagation see *Tabernæmontàna*, p. 92.

Tribe IX.

ALLAMANDIE'Æ. Fruit capsular, composed of 2 joined follicles, prickly or smooth. Seeds fixed to a central placenta, of the figure of a buckler, surrounded by a membranous wing. Albumen wanting.

LVIII. ALLAMA'NDA (so named after Frederick Allamand, a surgeon of Holme, who went to Guiana about 1769, and to Russia in 1776. He sent specimens and descriptions

of plants to Linnæus.) Lin. mant. 146. syst. 1295. p. 252. Gærtn. fruct. 1. p. 293. t. 61. Juss. 148. Pohl, bras. 1. p. 70. —Orèlia, Aubl. guian. t. 106.—Galàrips, Allamand.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx 5-parted; segments lanceolate-oblong, acute. Corolla funnel-shaped; with a narrow tube: and a swollen, large, inflated limb, which is 5-cleft at the apex; furnished with 5 scales in the throat of the tube, which cover the anthers. Anthers 5, almost sessile, converging. Style 1; stigma capitate, contracted in the middle, adhering to the anthers. Capsule echinated, roundish elliptic, 1-celled, 2-valved, many-seeded. Seeds surrounded by a membranous edge, fixed to the edge of the valves. Albumen wanting.—Lactescent shrubs or sub-shrubs, with verticillate leaves; terminal and interpetiolar many-flowered peduncles. Flowers large, yellow. This genus differs from all other Apocyneous plants, in the figure of the corolla. It agrees, in some respects, with *Ambellània*, *Pacoúria*, and *Melodìnus*.

1 A. œnotherifòlia (Pohl, bras. 1. p. 71. t. 57.) stem straight; leaves 3 in a whorl, oblong, acute, attenuated at the base, pilose on the nerves beneath. ♄. S. Native of Brazil, in the province of Goyaz, in humid places, among bushes. Stem fistular. Flowers large, yellow.

Evening Primrose-leaved Allamanda. Shrub.

2 A. Schóttii (Pohl, bras. 1. p. 73. t. 58.) stem erect; leaves oblong, acuminated, 4 in a whorl, quite glabrous on both surfaces. ♄. S. Native of Brazil, on the banks of the river Parahyba. A. Braziliénsis, Schott. A. cathártica, Schrad. in Gött. anz. 1821. p. 701. no. 6. and p. 718. no. 42. Flowers large, yellow.

Schott's Allamanda. Shrub 6 feet.

3 A. angustifòlia (Pohl, bras. 1. p. 73. t. 59.) stems erect; leaves 4-5 in a whorl, narrow-lanceolate, acuminated, ciliated, rather pilose. ♄. S. Native of Brazil, in the province of Goyaz, in boggy places, about Meyapoute. Flowers large, yellow.

Narrow-leaved Allamanda. Shrub.

4 A. Linnæ'i (Pohl, bras. 1. p. 74.) stem scandent; leaves 4 in a whorl, obovate, obtuse, acutish, with sub-undulated edges, glabrous. ♄. ◡. S. Native of the Antilles. A. cathártica, Lin. mant. 214. suppl. 165. Schrad. in Wendl. sert. hann. fasc. 1. p. 6. t. 22. Gærtn. fruct. 1. p. 293. t. 61. f. 4.—Plum. icon. p. 21. t. 29. Flowers large, yellow. The branches are said to be downy.

Linnæus's Allamanda. Fl. June, July. Clt. 1785. Shrub cl.

5 A. Auble'tii (Pohl, bras. 1. p. 75.) stems scandent; leaves 4-5 in a whorl, broad-oblong, acuminated, rusty beneath. ♄. S. Native of Guiana, Cayenne, Maranham, Surinam; and in the Island of Arrowabish, near Essequibo; and on the banks of the Orinoco, near Carichana. A. cathártica, Rœm. et Schultes, syst. 4. p. 186, exclusive of the syn. of Lin. and Willd. H. B. et Kunth. nov. gen. amer. 3. p. 229. Meyer, esseq. p. 129. Curt. bot. mag. 338. Lam. ill. 303. t. 171. Orèlia grandiflòra, Aubl. guian. 1. p. 271. t. 106, exclusive of the synonymes. Echìtes salicifòlia, Rœm. et Schultes, syst. 4. p. 796. Leaves rather hairy beneath, especially on the nerves, as well as the young branches. Flowers large, yellow. We have seen this species growing wild in Maranham; but it did not appear to us to be in any way scandent.

Aublet's Allamanda. Fl. June, July. Clt. 1785. Shrub cl.

6 A. verticilla'ta (Desf. tabl. de l'ecol. ed. 2d. p. 93. Pohl, bras. 1. p. 75. Spreng. syst. 1. p. 584.) leaves usually 6 in a whorl, ovate-oblong, obtuse, quite glabrous. ♄. S. Native of South America. Flowers large, yellow.

Whorled-leaved Allamanda. Shrub.

Cult. All the species of *Allamánda* are worth cultivating, in every collection of stove plants, for the sake of the beauty of their large, yellow flowers, and whorls of showy foliage. A mixture of loam, sand, and peat, is the best soil for them; and cuttings strike root freely in the same kind of earth, under a hand glass, in heat. They require a strong, moist heat to make them flower freely.

LIX. ASPIDOSPE'RMA (from *ασπις ασπιδος*, *aspis aspidos*, a buckler; and *σπερμα*, *sperma*, a seed; in reference to the shape of the seeds.) Mart. nov. gen. bras. 1. p. 57.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx campanulate, 5-parted; segments lanceolate. Corolla 5-cleft; segments lanceolate, acute or obtuse, contorted. Stamens 5, adnate to the tube; which is naked beneath the throat; the rest free. Anthers erect, ovate, inserted above the base of the tube, filled with globose pollen, even to the base. Ovaria twin, combined at the base. Stigma clavate, umbonate, bearded or naked. Capsules solitary or twin, obovate, compressed, unequal-sided. Seeds numerous, surrounded by a membranous wing, peltate, without albumen.—Trees with spreading, squarrose, or refracted branches, covered usually with suberose or solid bark; ovate, quite entire, alternate, sessile, petiolate leaves, which are usually clothed with down; and terminal cymes of small white flowers. Fruit usually one in each cyme.

1 A. tomentòsum (Mart. bras. 1. p. 58. t. 34.) bark of branches corky; leaves crowded at the tops of the branches into round heads, ovate, tapering at the base, almost sessile, tomentose; cymes compound, densely crowded. ♄. S. Native of Brazil, in the mine provinces, where it is called *Pereiro do Campo*. Leaves ovate or obovate. Corollas white, villous outside, and downy inside; with linear-lanceolate, acute segments, which are downy outside, and glabrous inside. Capsule obovate, usually solitary.

Tomentose Aspidosperma. Tree 10 feet.

2 A. macroca'rpon (Mart. l. c. p. 59.) bark of branches solid; leaves broad-ovate, sub-cordate, petiolate, bluntish, coriaceous, glabrous above, in the adult state; cymes compound, dense. ♄. S. Native of Brazil, in the mine provinces, between Tejuco and Serra do Gran Mogol. Bark warted, covered with soft down while young. Leaves coriaceous, clothed with dense white tomentum above when young, but always beneath. Cymes tomentose. Corolla white, globose at the base; with lanceolate, obtuse segments, which are tomentose outside, and glabrous inside.

Large-fruited Aspidospermum. Tree 10 feet.

3 A. refra'ctum (Mart. l. c. p. 60.) bark solid; branches dichotomous, refracted; leaves ovate, acute, downy; cymes simple, few-flowered. ♄. S. Native of Brazil, in the province of Bahia, in the woods called Catingas, between the town of Cactete and Maracas.

Refracted-branched Aspidosperma. Tree.

4 A. bícolor (Mart. l. c. p. 60.) bark solid; branches squarrose; leaves petiolate, obovate, obtuse, glabrous above, and clothed with hoary tomentum beneath. ♄. S. Native of Brazil, in the province of Pianhia, among bushes.

Two-coloured-leaved Aspidosperma. Tree or shrub.

5 A. pyrifòlium (Mart. l. c.) bark solid; leaves petiolate, ovate, acute, glabrous on both surfaces. ♄. S. Native of Brazil, in the province of Pianhia, among bushes near Oeiras, and elsewhere, on the edges of woods.

Pear-leaved Aspidosperma. Shrub or tree.

Cult. For culture and propagation see *Allama'nda*, above.

Tribe X.

CARANDIE'Æ (this tribe contains shrubs agreeing with *Carandas* in particular characters). Fruit solitary, baccate. Seeds peltate, naked. Albumen copious, rather horny.

LX. CARI'SSA (*Krishna-pakphula* is the Sanscrit name of *C. Carándas*, and *Oorissa* is that of *C. diffùsa*). Lin. syst. 251. Schreb. gen. 413. Juss. gen. 149. R. Br. prod. 468.

Lin. syst. *Pentándria, Monogy'nia.* Calyx 5-toothed. Corolla funnel-shaped; limb 5-parted; throat naked. Stamens 5, inclosed. Ovarium 2-celled; cells few-seeded. Style filiform; stigma dilated from the base, bifid. Berry 2-celled; cells 1 or few-seeded. Seeds peltate. Embryo inverted.—Shrubs. Leaves opposite, furnished with intrapetiolar bristles. Peduncles axillary and terminal, many-flowered, every where becoming sterile and spinescent. Flowers white.

* *Species natives of New Holland.*

1 C. ova'ta (R. Br. prod. p. 468.) shrub spiny, erect; branches brachiate; branchlets scabrous; leaves broad-elliptic, acute, mucronate, glabrous, with rather branched veins; spines straight, divaricate, 3 times shorter than the leaves. ♄. S. Native of New Holland, within the tropic.

Ovate-leaved Carissa. Fl. June. Nov. Clt. 1819. Shrub.

2 C. sca'bra (R. Br. l. c.) shrub spiny, diffuse; leaves ovate, mucronate, scabrous on both surfaces. ♄. S. Native of New Holland, within the tropic.

Scabrous Carissa. Shrub diffuse.

3 C. lanceola'ta (R. Br. l. c.) spiny; leaves narrow-lanceolate; segments of corolla lanceolate-subulate. ♄. S. Native of New Holland, within the tropic. There are 2 varieties of this species; the one glabrous, with smooth branches; and the other having the branchlets and leaves here and there downy.

Lanceolate-leaved Carissa. Fl. July, Aug. Clt. 1822. Sh.

* * *Species natives of the East Indies.*

4 C. Cara'ndas (Lin. mant. p. 52.) subarboreous; leaves ovate, mucronate, or elliptic, obtuse, glabrous; spines often 2-forked; corymbs terminal and axillary, few-flowered; cells of fruit 4-seeded. ♄. S. Native of the East Indies, in wild, woody, dry, uncultivated places. Lam. ill. t. 118. f. 1. ann. mus. 8. t. 32. f. 2. Roxb. cor. 1. p. 55. t. 77. Lodd. bot. cab. 663. Cápparis Carándas, Gmel. syst. 1. p. 806. Echìtes spinòsa, Burm. ind. p. 69. Carándas, Rumph. amb. 7. p. 57. t. 25.—Plukn. alm. p. 235. t. 305. f. 4. Branches dichotomous. Spines always in pairs at the divisions of the branches, and at every other pair of leaves, often forked. Peduncles terminal, usually twin. Flowers milky-white, jasmine-like. Berry size of a small plum, when ripe of a shining black. The *Carandas* makes exceedingly strong fences; the number and the strength of their thorns render them almost impassable. The fruit, just before ripe, is employed to make tarts and preserves of various kinds, also to pickle, and by most people reckoned superior for these uses to every other fruit in the country, not even the mango excepted. They are universally eaten by the natives, when ripe, and are tolerably pleasant to the taste even of an European.

Carandas Carissa. Fl. July. Clt. 1790. Tree 15 to 20 ft.

5 C. diffu'sa (Roxb. fl. ind. 2. p. 524.) shrub diffuse, spiny, with dichotomous branches; leaves almost sessile, roundish-ovate, cordate, mucronate, polished; corymbs terminal, rarely axillary, many-flowered; cells of berry 2-seeded. ♄. S. Native of the East Indies, in the Ganjan district, and from thence northward to the mouth of the Hoogly. Spines as in *Carándas*, simple bifid or twice bifid. Mucrone of leaves recurved. Flowers pure white. Berries black when ripe, size of a French bean.

Diffuse Carissa. Shrub diffuse.

6 C. macrophy'lla (Wall. cat. no. 1679.) leaves ovate, acuminated, glabrous, shining; spines short, hooked; flowers terminal and axillary, corymbose. ♄. S. Native of the East Indies. C. mìtis, Herb. Heyne, but hardly of Vahl. Leaves 3 inches long and $1\frac{1}{2}$ broad at the base.

Large-leaved Carissa. Shrub or tree.

7 C. villòsa (Roxb. fl. ind. 2. p. 525.) shrub downy, tender parts villous; leaves from broad-lanceolate to oblong, acute, soft from down, particularly while young; flowers terminal, by threes or sevens; cells of fruit 2-seeded. ♄. S. Native of the East Indies. C. hirsùta, Heyne ex Roth. spec. 128. Branchlets dichotomous. Spines strong and very sharp, less frequently compound than in the 2 preceding species. Corolla small, white, with a curved tube, and linear-lanceolate, acute segments. Berries round, the size of a pea, blackish purple. Bark of the woody part of the plant spongy.

Villous Carissa. Shrub.

8 C. salícina (Lam. dict. 1. p. 554.) shrub spiny; leaves lanceolate-oblong, mucronate, veiny, narrower towards the petioles; flowers in sub-corymbose fascicles. ♄. S. Native of the East Indies. Spines strong, straight, simple. Perhaps only a variety of *C. Carándas*, with narrower leaves.

Willowy-leaved Carissa. Shrub or small tree.

9 C. spina'rum (Lin. syst. 251. mant. 559.) shrub spiny; leaves ovate, acute, veiny, shining; peduncles terminal, 4-5-flowered; segments of corolla lanceolate; cells of berry 2-seeded. ♄. S. Native of the East Indies and Japan. Lam. ill. t. 118. f. 2. Lodd. bot. cab. 162. Thunb. jap. 108. Branches dichotomous. Spines 2 at each ramification, opposite, the one above the branch and the other below it, red at top and shining, as in *C. Carándas*. Leaves small. Teeth of calyx subulate. Corolla white, with lanceolate-oblong segments. Berry black, size of a pea.

Spiny Carissa. Fl. Aug. Dec. Clt. 1809. Tree.

10 C. axilla'ris (Roxb. fl. ind. 2. p. 526.) shrub armed with simple, opposite, recurved spines; leaves oblong, on short petioles; corymbs pedunculate, axillary, many-flowered. ♄. S. Native of the Moluccas. Flowers white.

Axillary-flowered Carissa. Shrub.

11 C. ine'rmis (Vahl, symb. 3. p. 43.) shrub without spines; leaves ovate, cordate, mucronate, veinless; peduncles terminal, tern; calycine segments setaceous. ♄. S. Native of the East Indies. Like *C. spinàrum*, but differs in the leaves being 3 times the size, in the flowers being larger, and in the absence of spines.

Unarmed Carissa. Shrub.

* * * *Species natives of Africa and its islands.*

12 C. Arduìna (Lam. dict. 1. p. 555.) shrub spiny; leaves cordate-ovate, mucronate, nearly sessile; flowers terminal, corymbose; cells of berry 1-seeded. ♄. G. Native of the Cape of Good Hope. Arduìna bispinòsa, Lin. mant. p. 552. Lodd. bot. cab. t. 387. Lýcium cordàtum, Mill. dict. no. 10. fig. p. 200. t. 300. Spines twin, simple, but usually bifid; in this last case one of the clefts points downwards and the other upwards. Leaves dark green, larger than those of box. Flowers white, small, sweet-scented. Berry red.

Arduini's Carissa. Fl. March, Aug. Clt. 1760. Shrub 3 to 5 feet.

13 C. edu'lis (Vahl. symb. 1. p. 22.) shrub spiny; branches villous at top; leaves ovate, acute, veinless; almost sessile; peduncles terminal, twin, or sometimes by threes; calycine segments subulate, ciliated; segments of corolla lanceolate-linear; cells of berry 1-seeded. ♄. S. Native of Arabia Felix, and of Abyssinia. Antùra, Forsk. desc. p. 63. Antùra Hadiénsis, Gmel. syst. veg. 405. Spines strong, red at top. Berries edible.

Edible-berried Carissa. Shrub.

14 C.? XYLÓPICRON (Pet. Th. obs. pl. isl. austr. p. 24. and p. 80.) shrub, spiny; leaves ovate, acuminated, glabrous, 3-5-nerved; peduncles lateral, spiny, 1-2-flowered; branches forming a pyramidal cyme. ♄. S. Native of the Island of Bourbon, about St. Denis. Branches bifurcate. Segments of corolla acute. Berry middle-sized, ovate-oblong, succulent, an inch long, attenuated at the apex, with a bipartite placenta, containing 12-15 seeds.

Xylopicron or *Bitter-wooded* Carissa. Fl. July, Nov. Clt. 1820. Tree 20 feet.

15 C. CORIA'CEA (Wall. cat. no. 1681.) spiny; leaves elliptic, coriaceous, with revolute edges, obtuse, mucronate, glabrous, shining above. ♄. S. Native of the Mauritius. C. xylópicron, Telfair, but hardly of Pet. Th. Leaves 2 or $2\frac{1}{2}$ inches long.

Coriaceous-leaved Carissa. Shrub.

16 C. MADAGASCARIE'NSIS (Pet. Th. l. c. p. 80.) shrub spiny; leaves ovate-roundish; flowers small; fruit round. ♄. S. Native of Madagascar. Very like *C. xylópicron*, but smaller in all its parts; and the fruit round, not oblong.

Madagascar Carissa. Tree small.

17 C. ABYSSÍNICA (R. Br. in Salt. trav. append.) this species has not yet been described. ♄. S. Native of Abyssinia.

Abyssinian Carissa. Shrub or tree.

Cult. See *Strophánthus*, p. 85. for culture and propagation.

LXI. HUNTE'RIA (named by Roxburgh after William Hunter, M. D., of the Bengal medical establishment; an eminent botanist, and author of various papers in the Asiatic Researches, of the History of Pegu, &c.). Roxb. fl. ind. 2. p. 531.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-parted, permanent. Corolla funnel-shaped: having the tube gibbous at the base, and swelled a little at the mouth; segments oblique. Stamens 5, with very short filaments, and ovate, inclosed anthers. Ovarium girded by an annular fleshy ring, ovate, 2-lobed, 2-celled; with 2 ovula in each, attached by their base to the bottom of the partition. Stigma ovate, 2-lobed, inclosed. Berries twin, distinct, roundish-ovate, pulpy, 2-seeded.—Trees with opposite, entire leaves; and terminal, corymbose, small, white flowers.—This genus differs from *Carissa* in the species being unarmed, not thorny; and in the berries being twin, not solitary.

1 H. CORYMBÒSA (Roxb. fl. ind. 2. p. 532.) leaves oblong-lanceolate, obtuse, pointed, glabrous; corymbs terminal, decussate; lobes of calyx ovate. ♄. S. Native of the Prince of Wales's Island. Leaves 3-4 inches long, and 1-2 broad. Flowers numerous, small, white.

Corymbose-flowered Hunteria. Tree.

2 H. EUGENIÆFÒLIA (Wall. cat. no. 1615.) downy in every part; leaves elliptic or obovate-oblong, acuminated; panicles terminal, trichotomous; lobes of calyx rounded. ♄. S. Native of Penang. Nèrium coràca, Herb. Ham. Leaves purplish beneath. Flowers rather large.

Eugenia-leaved Hunteria. Tree.?

3 H. CORIA'CEA (Wall. cat. no. 1610.) leaves coriaceous, glabrous, shining above and pale beneath, obtuse; racemes short, axillary, and lateral. ♄. S. Native of Singapore. Flowers small.

Coriaceous-leaved Hunteria. Tree or shrub.

4 H.? FASCICULA'RIS (Wall. cat. no. 1612.) leaves opposite or 3 in a whorl, elliptic-lanceolate, acuminated at both ends, pale beneath; peduncles short, many-flowered, panicled, axillary. ♄. S. Native of the Pundua mountains.

Fascicled-flowered Hunteria. Shrub or tree.

5 H.? ATROVÍRENS (Wall. cat. no. 1614.) leaves elliptic, acuminated, deep green above and pale beneath; peduncles axillary, trichotomous. ♄. S. Native of Tavoy.

Dark-green-leaved Hunteria. Shrub or tree.

Cult. For culture and propagation see *Strophánthus*, p. 85.

† *Genera hardly known.*

LXII. MONE'TIA (so named by L'Heritier in honour of his friend Jean Baptiste Pierre Antoine de Monet, Knight of Lamarck, of the Academy of Sciences of Paris, author of Flora Gallica, and of the Encyclopédie Méthodique Botanique, &c.). L'Her. stirp. nov. t. 1. Azìma, Lam. ex Juss. gen. 425. Lam. dict. 1. p. 343.

LIN. SYST. *Tetrándria, Monogy'nia.* Calyx ventricose, campanulate, 3-4-cleft. Petals 4, linear, alternating with the segments of the calyx, somewhat reflexed at the apex. Stamens 4, inserted in the receptacle, alternating with the petals; filaments thickened; anthers sagittate, incumbent. Style short; stigma acute. Fruit rather fleshy, pea-formed, 2-celled; cells 1-seeded. Seeds orbicular, compressed, or peltate.—Evergreen spiny shrubs. Leaves opposite, entire, coriaceous. Flowers axillary, solitary, sessile, small. According to Lamarck, *Azìma* is nearly allied to *Carissa*, but differs in the corolla being polypetalous, and in the stamens being hypogynous.

1 M. TETRACA'NTHA; leaves ovate-lanceolate, glabrous, pungent at apex; spines stipular, 4 in a whorl. ♄. S. Native of the East Indies. M. barlerioìdes, Lher. stirp. t. 1. Azìma tetracántha, Lam. dict. 1. p. 339.—Seb. thes. 1. t. 13. f. 1. Branches slightly 4-cornered. Flowers axillary, few, in clusters, of threes at the top, green.

Four-thorned Monetia. Fl. July. Clt. 1758. Sh. 3 to 6 ft.

2 M. DIACA'NTHA (Willd. spec. 1. p. 670.) spines opposite; leaves downy beneath, ovate, petiolate. ♄. S. Native of the East Indies. Azìma diacántha, Lam. dict. 1. p. 340.—Pluk. alm. 27. t. 133. f. 3.—Rheed. mal. 5. p. 73. t. 37.

Two-thorned Monetia. Shrub.

Cult. For culture and propagation see *Strophánthus*, p. 85.

LXIII. ALA'FIA (meaning unknown to us). Pet. Th. gen. mad. no. 34.

LIN. SYST. *Pentándria, Monogýnia.* Calyx small, 5-lobed. Corolla tubular, ventricose; with a 5-parted twisted limb; segments plicately sinuated on one side. Anthers acute, distinct, connivent; filaments bound by the pistil. Style filiform, with 5 appendages. Stigma capitate, acuminated, enclosed by the anthers.—A weak, climbing, lactescent shrub, clothed with numerous, terminal, purplish flowers. Leaves opposite.

1 A. THOUA'RSII (Rœm. coll. 1. p. 203. Rœm. et Schultes, syst. 4. p. 436.). ♄. ◡. S. Native of Madagascar.

Petit Thouars's Alafia. Shrub cl.

Cult. For culture and propagation see *Echìtes*, p. 76.

LXIV. LEUCONO'TIS (from λευκος, *leucos*, white, and *ους ωτος*, *ous otos*, an ear). Jack, in Lin. trans. 14. p. 121.

LIN. SYST. *Tetrándria, Monogýnia.* Calyx 4-parted. Corolla tubular; limb 4-lobed. Stamens 4, inclosed. Ovarium simple, 2-celled; cells 2-seeded. Style short. Stigma annular below and conical above. Berry 1-3-seeded. Seeds exalbuminous. Embryo inverted.—A lactescent shrub, with opposite leaves and axillary dichotomous corymbs of yellow flowers.

1 L. A'NCEPS (Jack, l. c.). ♄. S. Native of Sumatra, where it is called *Akar-Morai* by the Malays. Branches 4-sided. Leaves oblong-acuminated, smooth, having the nerves connected by marginal arches.

Two-edged Leuconotis. Shrub large.

Cult. For culture and propagation see *Strophánthus*, p. 85.

Order CLIII. ASCLEPIA'DEÆ (this order contains plants agreeing with *Asclèpias* in important characters). R. Br. in wern. soc. mem. 1. p. 19. prod. 458.—Apocýneæ, part. Juss. gen. p. 143. Adans. fam. p. 160. Contórtæ, part. Lin.

Calyx 5-cleft or 5-parted (f. 16. *a*. f. 17. *a*.), permanent. Corolla monopetalous (f. 16. *b*. f. 17. *c*. f. 20. *b*.), hypogynous, 5-lobed (f. 16. *b*. f. 17. *b*. f. 20. *b*.), regular, imbricate in æstivation (f. 20. *b*.), rarely valvate, deciduous. Stamens 5, inserted in the bottom of the corolla, alternating with the segments of the limb; filaments usually connected; anthers 2-celled (f. 17. *h*. f. 15. *d*.), but sometimes almost 4-celled from a semi-complete dissepiment in each of the true cells; pollen at the bursting of the anthers coalescing in an equal number of masses to the cells of the anthers, rarely twin or confluent by pairs, or by fours, or solitary, fixed to the 5 processes of the stigma. Ovaria 2. Styles 2, close together, often very short; stigma common to both, dilated, pentagonal: having the angles bearing corpuscles. Follicles 2, one of which is often abortive: having the placenta applied to the suture, but is at length free. Seeds numerous, imbricate, pendulous, usually furnished with a tuft of hairs at the umbilicus. Albumen twin. Embryo straight, with foliaceous cotyledons, a superior radicle, and inconspicuous plumule.—Shrubs, rarely herbs, for the most part lactescent and climbing. Leaves entire, usually opposite, but sometimes also alternate and verticillate, usually furnished with intrapetiolar cilia in place of stipulas. Flowers subumbellate, fascicled or racemose, interpetiolar.

This differs from all other dicotyledonous orders in the pollen of all the anthers in each flower being combined in a definite number of masses of a waxy substance, which, at the bursting of the anthers, are fixed to the 5 glandular processes of the stigma; in this structure it has some analogy with *Orchídeæ*, a monocotyledonous order. It differs from *Apocýneæ*, to which it is nearly allied, in having the stamens united into a fleshy crown, and in the substance of the anthers.

Períploca glàbra is the only instance of an Asclepiadeous plant being a hardy shrub; every other woody species of the order being natives of hot countries. The genus *Hòya* comprehends fleshy-leaved, climbing, or creeping plants, with umbels of waxen odoriferous flowers, distilling honey. *Pergulària* is valued for its fragrance; *Ceropègia* and other genera for their singularity; and *Asclèpias* for beauty and hardiness. But the most remarkable genera of the order are *Stapèlia, Duvàlia, Pectinària, O'rbea, Tridéntia, Huérnia, Piaránthus*, &c. in which the stems are fleshy and of various forms, and the leaves supplied by small thick points or scales, and whose flowers are not less singular for their curious organization, than they are for their colouring and spotting, and offensive for their odour. The root of *Diplólepis vomitòrium, Asclèpias curassávica, Colótropis prócera*, and some others is employed in different countries for ipecacuanha. An infusion of the root of *Asclèpias decúmbens* has the singular property of exciting perspiration, whence it is successfully used in Virginia for pleurisy.

Notwithstanding the poisonous nature of the greater number of the species of this order, yet the young shoots of some are used as an article of food; of this nature are *Pergulària edùlis, Oxystélma esculéntum, Hemidésmus I'ndicus*, and some others.

Synopsis of the genera.

Tribe I.

Orthophura'miæ. *Asclepiàdeæ veræ, part. R. Br. in mem. wern. soc.* 1. *p.* 21. *Pollen masses* 10, *erect* (f. 15. *d*.) *or connivent, smooth, fixed by pairs to the corpuscles of the stigma: that is 5 2-celled anthers, separable into 2 parts by a longitudinal furrow.*

Subtribe I. Stapelie'æ. *Pollen masses erect* (f. 16. *d*.) *or connivent, lying on the stigma, fixed by the base or beneath the middle of the side. Anthers simple at top, that is, not terminated by a membrane.*

§ 1. *Column of fructification or gynostegium inclosed. Stamineous corona appendiculate outside.*

1 Cerope'gia. Tube of corolla ventricose from the base; limb 5-parted, with ligular, conniving segments. Stamineous corona double; leaflets of the inner corona opposite the lobes of the outer one.

2 Hue'rnia. Corolla campanulate, with a 10-cleft limb: having the 5 accessary segments short. Corona double: outer one 5-cleft, with bifid segments: inner one of 5 leaflets, alternating with the segments of the outer one.

3 Piara'nthus. Corolla campanulate, 5-cleft; corona simple, 5-leaved; leaflets dentately crested on the back.

§ 2. *Column of fructification, or gynostegium, exserted or semi-exserted, appendiculate outside. Pollen masses having one of the edges or margins pellucid.*

4 Stape'lia. Corona double: outer one of 5 undivided leaflets, which are usually toothed on the back; leaflets of the inner one opposite the anthers, sometimes obsolete.

5 Gonoste'mon. Corona double: outer one of 5 distinct, canaliculate, obtuse, mucronate leaflets: of the inner one unciform, obtuse, opposite the anthers, sometimes obsolete.

6 Poda'nthes. Corona double: outer one 5-parted to the middle; the segments channel-formed, rhomboid, deeply emarginate or bifid: those of the inner form of a reversed foot.

7 Tride'ntea. Corona double: outer one of 5 tridentiform, distinct leaflets: those of the inner corona unequally bipartite.

8 Tromótriche. Corona double: outer one 5-parted to the base; with cuneate, rhomboid, or serrated, horizontal segments; leaflets of the inner unequally bipartite; inner branch longer, recurved, clavate. Corolla smooth, not wrinkled or corrugated as in the other genera separated from *Stapèlia*, ciliated with clavate trembling glands.

9 O'rbea. Corona double: outer one of 5 long, spreading, bi-tridentate leaflets; of the inner unequally bifid, having the inner branch longer, incurved, and clavate at apex. Corolla

stellate, corrugated, furnished with a large, elevated orb in front of the segments.

10 Obe'sia. Corona double; outer one undivided or 5-lobed, short; segments of the inner corona short, spreading. Corolla without any orb.

11 Duva'lia. Corona double: segments of the outer one bifid: of the inner one unequally bifid, galiately hooked. Corolla having the segments bent more or less to one side.

12 Caruncula'ria. Corona double: outer one 5-parted; segments short, spreading, emarginate; those of the inner corona unequally bifid, globose and granulately carunculate at top, and attenuated at the base; the granules of various forms.

13 Pectina'ria. Corona double; both ciliately multifid, not divided into leaflets.

14 Carallu'ma. Corona simple, 10-parted; the 5 segments opposite the stamens are obtuse and undivided: the outer 5 are bipartite and acute (f. 15. *c.*).

15 Boucerò'sia. Corona simple, 15-lobed; lobes disposed in a double series, all simple: the 5 inner ones laying upon the anthers. Corolla subcampanulate.

16 Hutchí'nia. Corona simple, 20-lobed: the 5 inner lobes lying upon the anthers. Corolla subcampanulate.

17 Eriope'talum. Corona simple, 15-lobed: the 5 inner lobes lying upon the anthers. Corolla subcampanulate. Segments linear.

18 Microste'mma. Corona simple, 5-lobed; lobes alternating with the anthers, sometimes there is a short tooth between each lobe. Pollen masses fixed by the middle.

19 Leptade'nia. Corona wanting. Corolla subrotate: having the throat crowned by 5 scales. Pollen masses fixed by the base, pellucid at top.

20 Othanthe'ra. Corona wanting. Corolla urceolate, with a naked throat. Pollen masses as in *Leptadènia*.

21 Brachyste'lma. Corona simple, 5-cleft, naked on the back. Pollen masses erect, fixed by the base. Corolla campanulate (f. 16. *b.*).

22 Fische'ria. Corona simple, truncate, girded by a ring at the base. Pollen masses fixed by the middle of the side. Corolla rotate, with curled segments.

Subtribe II. Hoya'ceæ. *Pollen masses erect or connivent, lying upon the stigma, fixed by the base or by the middle of the side. Anthers terminated by a membrane.*

§ 1. *Stamineous tube appendiculate outside.*

23 Hò'ya. Corona simple, 5-leaved; leaflets depressed, fleshy, drawn out into a tooth inside, which lies upon the anthers. Corolla rotate.

24 Pteroste'lma. Corona simple, 5-leaved; leaflets membranous, with reflexed sides, each drawn out into a subulate tooth inside. Corolla rotate.

25 Physoste'lma. Corona simple, 5-leaved; leaflets inflated; filaments 10, or 5 bipartite to the base, each alternate filament or leg bearing an anther. Corolla rotate.

26 Tylóphora. Corona simple, 5-leaved; leaflets depressed, fleshy, toothless inside, pressed to the gynostegium. Pollen masses transverse or ascending. Corolla rotate.

27 Beloste'mma. Corona simple, 5-leaved; leaflets linear-oblong, fleshy, fixed vertically to the middle of the gynostegium, spreading. Pollen masses sub-ascending. Corolla rotate.

28 Marsde'nia. Corona simple, 5-leaved; leaflets compressed, undivided at the apex, toothless inside. Corolla rotate.

29 Cosmostígma. Corona simple, 5-leaved; leaflets compressed, bifid, toothless inside. Anthers ventricose. Stigma crowned by a narrow, flexuous, repand margin. Corolla rotate.

30 Heteroste'mma. Corona simple, 5-leaved; leaflets dilated, each furnished with a process inside. Pollen masses tetragonal, pellucid on one margin. Corolla rotate.

31 Pergula'ria. Corona simple, 5-leaved; leaflets compressed, undivided at apex, furnished each with a little segment inside. Corolla rotate.

32 Dischídia. Corona simple, 5-leaved; leaflets compressed, bifid at apex, having the lobes recurved. Corolla rotate.

33 Leptoste'mma. Corona simple, 5-leaved; leaflets cordate or sagittate. Corolla tubular, with a constricted throat, closed with scales or fascicles of hairs.

34 Triplospe'rma. Corona simple, 5-lobed; lobes spreading, stellate, acute, large. Corolla funnel-shaped, with connivent segments. Seeds 3 rows in each follicle.

35 Harrisò'nia. Corona simple, 5-leaved; leaflets undivided at the apex, each furnished with a fleshy tooth or process inside. Corolla urceolate, 5-toothed, with a naked throat.

§ 2. *Stamineous tube inappendiculate outside.*

36 Conchophy'llum. Seeds with a tuft of hairs at end. Follicles smooth. Corolla urceolate, with a bearded throat.

37 Gymne'ma. Seeds with a tuft of hairs at end. Follicles slender, smooth. Corolla urceolate; throat crowned by scales, but sometimes toothless.

38 Sarcólobus. Seeds naked, marginate. Follicles ventricose, fleshy. Corolla subrotate, with a toothless throat.

Tribe II.

Gonolò'beæ. *Asclepiàdeæ veræ, part. R. Br. in mem. wern. soc. 1. p. 21. Pollen masses 10, transverse, attached by pairs to the corpuscles of the stigma, fixed by the outer extremity* (f. 17. *h.*), *and hiding the stigma, dehiscing transversely in respect to the cells, that is 5 2-celled anthers, separable into 2 parts by a transverse furrow. Stamineous corona simple, of 1 leaf* (f. 17. *d.*), *lobed. Anthers naked at the apex, terminated by a membrane.*

39 Gonólobus. Seeds with a tuft of hairs at end. Follicles usually ribbed or muricated. Stems twining.

40 Mate'lea. Seeds naked, crenated. Stem erect.

Tribe III.

Asclepie'æ. *Asclepiàdeæ veræ, part. R. Br. in mem. wern. soc. 1. p. 21. Pollen masses 10, smooth, 2 appertaining to each*

anther, fixed to the corpuscles of the stigma, by the apex or above the middle of the side, pendulous, that is 5 anthers, separable into 2 parts by a longitudinal furrow. Anthers terminated by a membrane.

§ 1. *Stamineous tube appendiculate. Corona simple, 5-leaved; leaflets opposite the anthers; and sometimes with as many small segments between the others in the same series.*

41 Ascle'pias. Corolla 5-parted, reflexed (f. 18. *e.*). Leaflets of corona cucullate, seated on the top of the tube of the filaments: having a little horn-formed segment running from the bottom of each, lying in the hollow. Follicles slender, smooth.

42 Polyòtus. Corolla rotate, 5-parted, reflexed. Leaflets of corona ovate-concave, without any appendage inside, but auriculate at the base. Follicles slender, smooth, or villous.

43 Ensle'nia. Corolla 5-parted, erect. Corona simple, 5-parted, petaloid, flat, truncate; the segments ending in a bifid thread. Stigma conical, subilamellate. Follicles slender, smooth.

44 Gomphoca'rpus. Corolla 5-parted, reflexed. Leaflets of corona subcucullate, furnished with a tooth on each side, but without any appendage inside. Follicles inflated, ramentaceous.

45 Ota'ria. Corolla 5-parted, reflexed. Corona 5-leaved, seated on the upper part with the tube of the filaments; leaflets cucullate: having a horn-formed process running from the bottom, and biauriculate on the inside at the base. Follicles. ?

46 Oxyste'lma. Corolla rotate, not reflexed. Leaflets of corona acute, or acuminated, toothless inside. Follicles smooth.

47 Iphísia. Corolla rotate. Leaflets of corona narrow at top, toothless inside. Follicles smooth.

48 Penta'tropis. Corolla rotate. Leaflets of corona vertically adnate to the gynostegium, averse and free at top. Pollen masses fixed beneath the apex.

49 Raphiste'mma. Corolla campanulate. Leaflets of corona elongated, compressed. Follicles ventricose. Gynostegium appendiculate outside. ?

50 Uroste'lma. Corolla campanulate. Corona 5-lobed; lobes obtuse. Gynostegium furnished with 5 long membranous processes, each process furnished with a filiform appendage. Follicles muricated.

51 Ana'ntherix. Corolla subcampanulate, 5-cleft. Corona 5-lobed; lobes compressed, empty inside, incurved; furnished with a little segment at the apex inside. Follicles muricated.

52 Xysmalòbium. Corolla somewhat campanulate; with a ventricose tube. Gynostegium exserted. Pollen masses compressed. Leaflets of corona obtuse, fleshy, alternating with 5 small denticulations. Follicles ventricose, ramentaceous.

53 Calótropis. Corolla, gynostegium, and pollen masses as in *Xysmalòbium*. Leaflets of corona adnate, longitudinally averse, recurved at the base. Follicles ventricose, smooth.

54 Oxype'talum. Corolla, gynostegium, and pollen masses as in *Xysmalòbium*. Leaflets of corona fleshy, obtuse. Pollen masses fixed to the curvatures of the processes, which at length are ascending.

55 Schube'rtia. Corolla funnel-shaped, ventricose at the base. Gynostegium exserted. ? Leaflets of corona adnate to the tube of the filaments, lanceolate, connivent. Follicles unknown.

56 Lachnóstoma. Corolla somewhat salver-shaped; with a bearded throat. Gynostegium and pollen masses as in *Xysmalòbium*. Leaflets of corona lunately 2-lobed, fleshy; lobes linear.

57 Macrosce'pis. Calyx exceeding the corolla. Corolla and pollen masses as in *Xysmalòbium*. Gynostegium saucer-shaped, hardly exceeding the tube of the corolla. Corona of 5, fleshy, roundish, rather concave scales.

58 Arau'jia. Corolla campanulately urceolate (f. 20. *c.*); with 5 swellings at the base. Gynostegium inclosed. Leaflets of corona saccate, naked inside. Stigma bicornute at apex. Pollen masses fixed by the apex. ?

59 Kana'hia. Corolla campanulate. Gynostegium inclosed. Leaflets of corona dilated from the base, subulate, simple inside. Pollen masses ventricose, fixed by their apexes. Stigma mutic.

60 Diplo'lepis. Corolla urceolate. Gynostegium inclosed. Leaflets of corona furnished each with a small, parallel segment inside. Pollen masses ventricose, fixed beneath their apices.

§ 2. *Gynostegium appendiculate. Corona simple, of one piece: having its tube sometimes furnished with segments or keels inside. Corolla subrotate.*

61 Holoste'mma. Corona annular, quite entire. Pollen masses compressed.

62 Cyna'nchum. Mouth of corona 5-20-cleft, when only 5-cleft the lobes are opposite the anthers.

63 Metaple'xis. Corona 5-parted; lobes alternating with the anthers.

§ 3. *Gynostegium appendiculate. Corona compound, in 2-3 series, each series with a distinct insertion. Throat of corolla without scales.*

64 Dita'ssa. Corona double; outer one 5-parted, with acuminated segments; segments of interior one shorter and opposite those of the outer one.

65 Dæ'mia. Corona double; outer ones 5-parted, sometimes alternating with smaller segments; inner one longer, and alternating with the outer one: having the segments loose or free to the base. Follicles ramentaceous.

66 Sarcoste'mma. Corona double; outer one cup-shaped or annular, crenated; inner one longer and 5-parted; both fleshy. Follicles slender, smooth.

67 Philibe'rtia. Corona double; exterior one annular, entire, fleshy, undulated; inner one inserted on the top of the gynostegium, of 5 entire, fleshy segments. Corolla urceolate, sinuately 5-lobed, furnished with small teeth between the segments.

68 Euste'gia. Corona triple, each composed of 5 segments; outer one inserted in the throat of the corolla, and opposite its segments; segments of the middle one tripartite; inner one undivided.

§ 4. *Stamineous tube or gynostegium naked. Corona wanting.*

69 METASTE'LMA. Throat of corolla campanulate, crowned by 5 teeth, which run down the tube.

70 MICROLÒMA. Throat of corolla urceolate, naked. Scales in the tube 5, inclosed, alternating with as many fascicles of hairs.

71 ASTE'PHANUS. Throat of corolla suburceolate, naked; tube rather hairy.

72 PENTASA'CHME. Corolla rotate; throat crowned by 5 scales. Anthers free. Pollen masses fixed above the middle.

73 HYBANTHE`RA. Corolla rotate. Anthers gibbous on the back. Stigma mutic.

TRIBE IV.

SECAMÒNEÆ. *Pollen masses 20, erect, smooth, that is 4 to each anther, which are fixed to the tops of the 5 exsulcate corpuscles of the stigma. Filaments connate, appendiculate outside. Corolla rotate.*

74 SECAMÒNE. Corona 5-leaved; leaflets compressed laterally, fixed longitudinally by the margins, simple, averse.

75 TOXOCA'RPUS. Corona 5-leaved; leaflets flattish on the back, and furnished with a little segment.

76 GONIOSTE'MMA. Corona tubular, 5-angled, 5-lobed, adhering to the base of the gynostegium.

TRIBE V.

PERIPLÒCEÆ. *Pollen masses 5-20, granular (each granule composed of 4 sperules), applied singly or by fours to the dilated free top of each corpuscle of the stigma. Filaments partly or altogether distinct. Anthers connivent.*

77 HEMIDE'SMUS. Filaments combined at the base, but distinct at top, inserted in the tube. Anthers cohering, beardless. Pollen masses applied by fours to each corpuscle of the stigma. Corolla rotate: having 5 mutic scales inserted in the throat, under the sinuses.

78 BRACHY'LEPIS. Filaments broad, short, distinct, inserted in the upper part of the tube. Anthers cohering, beardless. Pollen masses applied by fours to each corpuscle of the stigma. Corolla rotate: having 5 short, mutic segments in the throat, under the recesses; tube clothed with a broad, fleshy scale inside.

79 STREPTOCAU'LON. Filaments distinct, inserted in the tube. Anthers cohering by the base, but free and beardless at top. Pollen masses fixed singly to each corpuscle of the stigma. Corolla subrotate; throat crowned by 5 short aristate scales under the sinuses; anthers flexuous, erect, filiform, straight at the apex.

80 DECA'LEPIS. Filaments distinct, inserted in the upper part of the throat, along with the 5 upper scales, and combined with them to the middle. Anthers cohering at the base, but distinct at top and beardless, ending each in a subdilated appendage. Pollen masses as in *Streptocaúlon*. Corolla subrotate, crowned by 5 oblong-oval, flat, mutic scales, in the throat under the sinuses; and furnished with 5 linear, obtuse scales in the tube.

81 FINLAYSÒNIA. Filaments distinct, inserted in the throat inside tubercles. Anthers cohering at the base, each terminated by a broad ovate point. Pollen masses as in *Hemidésmus*. Corolla rotate; having the throat crowned by 5 awned tubercles, under the sinuses; awns capillary, erect, hooked at apex.

82 PERÍPLOCA. Filaments distinct. Anthers combined, bearded. Pollen masses applied singly to each corpuscle of the stigma. Corolla rotate: having 5 aristate scales in the throat.

83 PHYLLANTHE`RA. Filaments distinct. Anthers cohering, beardless, ending each in a dilated, foliaceous membrane. Pollen masses applied by fours to each corpuscle of the stigma. Corolla deeply 5-parted; throat naked?

84 LEPÓSMA. Anthers inserted above the base of the tube of the corolla. Pollen masses fixed by pairs to each corpuscle of the stigma. Corolla rotate, furnished with 5 fleshy scales in the throat, which cover the genitals.

85 GYMNANTHE`RA. Filaments distinct. Anthers cohering, beardless. Pollen masses fixed by fours to each corpuscle of the stigma. Corolla salver-shaped.

86 CRYPTOSTE`GIA. Filaments distinct, short, inserted in the bottom of the tube of the corolla. Anthers cohering, inclosed. Pollen masses fixed singly to each corpuscle of the stigma. Segments of calyx long, lanceolate. Corolla campanulately funnel-shaped; tube furnished with 5 bipartite scales inside, which cover the anthers, being opposite them.

Tribe I.

ORTHOPHURA`MIÆ (from *ορθος, orthos*, straight, and *φυραμα, phurama*, a mass; in reference to the pollen masses being erect). Asclepiàdeæ veræ, part. R. Br. in mem. wern. soc. 1. p. 21. Pollen masses 10, erect (f. 15. *d.*) or connivent, smooth, waxy, fixed by pairs (f. 15. *c.*) to the 5 corpuscles of the stigma; that is 5 anthers, separable into 2 parts by a longitudinal furrow. (f. 15. *c.*)

SUBTRIBE I. STAPELIE`Æ. Pollen masses fixed by the base or beneath the middle of the side, lying on the stigma. Anthers simple at top, that is, not terminated by a membrane. (f. 15. *d.*)

§ 1. *Column of fructification, or gynostegium inclosed. Stamineous corona appendiculate outside.*

I. CEROPE`GIA (from *κηρος*, wax, and *πηγη, pege*, a fountain; in reference to the waxy pollen masses). R. Br. in mem. wern. soc. 1. p. 21. Wight and Arnott, contrib. ind. bot. p. 29.—Isaùra, Comm. in Poir. encycl. 3. p. 185.—Stephanòtis, Pet. Th. nov. gen. mad. no. 35. in Rœm. coll. p. 203. Juss. ann. mus. 15. p. 347.—Ceropègia species, Lin. and others.

LIN. SYST. *Pentándria, Digýnia.* Calyx 5-parted. Corolla funnel-shaped, more or less ventricose from the base; segments of the limb narrow, cohering at the apex. Column of fructification inclosed. Stamineous corona 5-10-15-lobed: the lobes disposed in a single or double series, ligulate, placed in front of the stamens. Anthers simple at the top: pollen masses erect, fixed by the base, with simple edges. Stigma mutic. Follicles cylindrical, smooth. Seeds comose.—Usually twining herbs or subshrubs, only sometimes lactescent. Leaves opposite. Roots fibrous or tuberous. The corona in this as in most of the genera in the present order consists of a single whorl of 5 leaves opposite the stamina, and alternating with the segments of the corolla. In *Ceropègia* the leaflets of the corona are mostly 3-lobed; the lobes are sometimes distinct to near the base, form-

ing a 15-parted corona, more rarely or nearly altogether united, in this case forming a 10-15-lobed corona, and sometimes the lateral lobes become united to the middle one, and in this case present a 5-lobed corona. When the leaflets are distinct to near the base, the lateral segments approach and partially adhere to the back of the middle or primary one; when we have them apparently in a double series, but when they are united to near the apex, the lateral segments remain distinct, and a single series only is formed. Wight and Arnott, contrib. ind. bot. p. 30.

§ 1. *Corona* 10-*lobed; lobes disposed in a simple series; alternate ones the shortest, ovate, obtuse, entire, or semibifid.*

1 C. LU'CIDA (Wall. pl. asiat. rar. 2. p. 33. t. 139.) glabrous, twining; root fibrous; leaves from broad-ovate to oblong-lanceolate, acuminated; peduncles many-flowered; calycine segments subulate, recurved at apex; corolla clavate, hardly ventricose at the base: segments of the limb attenuated, equal in length to the tube; lateral lobes of the leaflets of the corona united above the middle, with pilose edges: the primary ones recurved at top. ♃. ⌒. S Native of Silhet and Prome. Corolla green, spotted with purple: the segments tipped with blackish purple, and ciliated at top.

Shining Ceropegia. Pl. tw.

2 C. HIRSU'TA (Wight, and Arnott. contrib. ind. bot. p. 30.) suffruticose, hairy, twining; leaves from cordate-ovate, bluntly acuminated, to narrow-lanceolate, acute; peduncles few-flowered; calycine segments filiform; corolla clavate, ventricose at the base: segments of the limb widening upwards, shorter than the tube; lateral lobes of the leaflets of corona united to the middle: the primary ones elongated and hooked at the apex; follicles straight, glabrous. ♄. ⌒. S. Native of the Neelgherry mountains.—Wight. cat. 1510.

Hairy Ceropegia. Shrub tw.

3 C. LONGIFLÒRA (Poir. encycl. 2. p. 177.) twining, glabrous; leaves petiolate, ovate, subacuminated; umbels erect, peduncculate, length of leaves; corolla long, cylindrical; with nearly filiform, hairy segments; corona unknown. ♃. ⌒. S. Native probably of the East Indies. Leaves an inch long. Corolla an inch long, pale green or purplish. This species agrees with *C. tuberòsa* in the leaves, and with *C. júncea* in the flowers.

Long-flowered Ceropegia. Pl. twining.

4 C. JU'NCEA (Roxb. cor. 1. p. 12. t. 10.) glabrous, rather fleshy, twining; leaves small, sessile, lanceolate, acute; peduncles few-flowered; calycine segments subulate; corolla clavate, curved, ventricose at the base: segments of limb broadest upwards, about equal in length to the tube, pilose; lateral lobes of the leaflets of corona united to the middle: the primary ones hooked at apex. ♃. ⌒. S. Native of the Circars, in hedges near Samulcottah, &c. Flowers large, greenish yellow, and elegantly variegated with purple. Root tuberous, with many-branched fibres. The plant is called *Bella-gada* by the Telingas, who eat every part of the plant.

Rushy Ceropegia. Clt. 1822. Pl. tw.

5 C. AFRICA'NA (R. Br. in bot. reg. t. 626.) glabrous, twining; root tuberous; leaves ovate-lanceolate, fleshy; corolla ventricose at the base; tube slender; segments of the limb bearded; corona as in *C. Wightii*. ♃. ⌒. S. Native of the Cape of Good Hope, but more probably of the East Indies. Lodd. bot. cab. 906. Flowers erect, with a pentagonal throat, a green tube, and dark purple segments.

African Ceropegia. Fl. June, July. Clt. 1823. Pl. tw.

6 C. WÍGHTII (Graham, mss. Wight, in bot. mag. 3267.) glabrous, twining; root tuberous; leaves ovate, acute, fleshy; corolla spherically ventricose at the base: tube slender: segments of the limb downy; lateral lobes of leaflets of corona united to the apex, glabrous: the primary ones fleshy, compressed laterally, curved outwardly in the middle, hardly twice the length of the others. ♃. ⌒. S. Native of the East Indies. Nearly allied to *C. Africàna* in the form of the corolla and crown.

Wight's Ceropegia. Clt.? Pl. tw.

7 C. LU'SHII (Graham, in edinb. new. phil. journ. ex Hook, in bot. mag. 3300.) glabrous; leaves linear, acuminated, fleshy channelled; tube of corolla globosely inflated at the base; segments linear, hairy, approximate; exterior lobes of staminеous corona lunately emarginated, alternating with the interior ones, which are elongated, and cylindrically filiform, erect, flexuous, much longer than the exterior ones. ♃. ⌒. S. Native of the East Indies. Root bulbous. Peduncles umbellate, axillary. Corolla yellowish green, tinged with purple; segments deep purple and hairy within.

Dr. Lush's Ceropegia. Clt.? Pl. tw.

§ 2. *Corona apparently a double series of lobes; the leaflets are nearly free to the base; the lateral lobes of the leaflets distinct, approximating the primary ones, and partly adhering to their backs.*

* *Lateral lobes of the leaflets of the corona ligulate, longer than the gynostegium.*

8 C. E'LEGANS (Wall. ascl. no. 4. in bot. mag. t. 3015. Wight. cat. no. 1512.) suffruticose, glabrous, twining; root fibrous; leaves oblong, or oblong-lanceolate, acuminated; peduncles 1-6-flowered, shorter than the leaves; calycine segments subulate, much shorter than the ventricose base of the corolla; corolla with a clavate tube, a hemispherical limb, and broad ligulate segments, which are much shorter than the tube, and ciliated with long hairs; lateral lobes of the leaflets of the corona ligulate, one half shorter than the primary ones; follicles slender, torulose, curved, 6-8 inches long. ♄. ⌒. S. Native of the mountains of Dindygul and Neelgherry. Corollas purple.

Elegant Ceropegia. Fl. Aug. Oct. Clt. 1828. Shrub tw.

9 C. MACRA'NTHA (Wight, contrib. ind. bot. p. 31.) suffruticose, twining; leaves ovate, acuminated, ciliated; umbels few-flowered, on short peduncles; calycine segments subulate; corolla ventricose at the base; limb rather dilated; segments rounded-linear, villous inside; lateral lobes of the leaflets of the corona ligulate, hardly twice shorter than the middle ones. ♄. ⌒. S. Native of the Himalaya, at a place called Khuriepass, Royle. The corolla of this species is from 2-3 inches long, and except the ventricose base is nearly cylindrical, which readily distinguishes it from *C. élegans*, a nearly allied species.

Long-flowered Ceropegia. Shrub tw.

10 C. LONGIFÒLIA (Wall. pl. rar. asiat. 1. p. 56. t. 73.) downy, twining; root fibrous; leaves narrow-lanceolate, much attenuated; peduncles many-flowered, shorter than the leaves; corolla ventricose at the base: with a clavate tube; segments of the limb almost one half shorter than the tube, broadest upwards and ciliated; lobes of the leaflets of the corona hairy: lateral ones narrow-ligulate, almost one half shorter than the middle or primary ones. ♃. ⌒. S. Native of Nipaul, in hedges. Flowers brownish green; with a yellow limb. Leaves 5-6 inches long, and 1 broad.

Long-leaved Ceropegia. Pl. tw.

11 C. ANGUSTIFÒLIA (Wight, contrib. ind. bot. p. 31.) downy, twining; leaves narrow-lanceolate, much attenuated; peduncles many-flowered; corolla hardly ventricose at the base: tube almost cylindrical; segments of the limb broadest upwards, much shorter than the tube; lobes of the leaflets of corona narrow, ligulate: lateral ones hairy, about one half shorter than the middle ones. ♃. ⌒. S. Native of Silhet. Ceropègia, Wall. ascl. nos. 8. 13. 19. Nearly allied to *C. longifòlia*.

Narrow-leaved Ceropegia. Pl. tw.

** *Lateral lobes of the leaflets of the corona ligulate, shorter than the gynostegium.*

12 C. SPHENA'NTHA (Wight and Arnott, contrib. ind. bot. p. 31.) twining, glabrous; leaves distant, lanceolate, attenuated; peduncles many-flowered; calyx minute, with filiform segments; corolla ventricose at the base; tube clavate; limb hemispherical: segments broadest upwards, long-ciliated; lobes of leaflets of corona ligulate: lateral ones shorter than the gynostegium, hairy. ♃. ◠. S. Native among the Neelgherry mountains.—Wall. ascl. no. 6. Wight, cat. no. 1513.

Bound-flowered Ceropegia. Pl. tw.

13 C. LANCEOLA'TA (Wight, contrib. ind. bot. p. 31.) twining, glabrous; leaves narrow-lanceolate, finely acuminated; peduncles many-flowered; calycine segments filiform, exceeding the ventricose base of the corolla; tube clavate; limb dilated: segments much shorter than the tube; middle lobes of the leaflets of the corona a little longer than the gynostegium, but the lateral ones are shorter, acute, and ciliated; follicles slender, glabrous. ♃. ◠. G. Native of Nipaul. Ceropègia, Wall. cycl. no. 12.

Lanceolate-leaved Ceropegia. Pl. tw.

14 C. PUSÍLLA (Wight and Arnott, l. c.) herbaceous, glabrous, erect; root tuberous; leaves linear; flowers solitary, ascending; corolla ventricose at the base: tube cylindrical: segments of the limb much shorter than the tube; middle lobes of the leaflets of the corona a little longer than the gynostegium, but the lateral ones are a little shorter. ♃. G. Native of the Neelgherry mountains. Ceropègia, Wall. ascl. no. 7.

Least Ceropegia. Pl. ¼ foot.

*** *Lateral lobes of the leaflets of the corona acuminated, approximating the primary ones: leaflets as well as their lateral lobes interjected by broad sinuses at their apices.*

15 C. BULBÒSA (Roxb. cor. 1. p. 11. t. 7.) twining, glabrous, rather fleshy; root tuberous; leaves from almost orbicular to lanceolate, acuminated; peduncles many-flowered, shorter than the leaves; calycine segments much shorter than the ventricose base of the corolla; tube of corolla sub-clavate; segments of the limb broadest upwards, much shorter than the tube, ciliated; middle lobes of the leaflets of the corona subulate, incurved at top: lateral ones minute, acuminated, lying on the primary ones. ♃. ◠. S. Native of Coromandel, at Samulcottah, Negapatam, Allahabad, &c. Wight, in Hook. bot. misc. 2. p. 99. suppl. t. 2. The plant is called *Manchy Mandu* by the Telingas. Root flattish, solid, edible. Flowers large, erect, with a greenish tube and a purple limb; having the segments united at the apex.

Bulbous-rooted Ceropegia. Fl. April, Sept. Clt. 1821. Pl. tw.

16 C. ACUMINA'TA (Roxb. cor. 1. p. 12. t. 8.) herbaceous, twining, glabrous, rather fleshy; root tuberous; leaves linear-lanceolate, attenuated at the apex; peduncles many-flowered; corolla ventricose at the base: tube subclavate: segments of the limb much shorter than the tube; primary or middle lobes of the leaflets of the corona subulate: lateral ones minute. ♃. ◠. S. Native of Coromandel, at Samulcottah, where it is called *Commoa-manda* by the Telingas. Root solid, flat. Leaves 2-4 inches long, and 4-6 lines broad. Flowers exactly as in *C. bulbòsa*.

Acuminated-leaved Ceropegia. Fl. June, July. Clt. 1820. Pl. tw.

17 C. STEPHANÒTIS (Rœm. et Schultes, syst. 6. p. 4.) twining, glabrous, frutescent; leaves ovate, coriaceous, marginated, acuminated; peduncles axillary, generally 3-flowered; calycine segments lanceolate, acute; corolla glabrous, with ovate, acute lobes; corona unknown. ♄. ◠. S. Native of Madagascar. Isaùra allícia, Comm. in Poir. encycl. 3. p. 185. Stephanòtis, Pet. Th. nov. gen. mad. no. 35. in Rœm. coll. p. 203. Leaves 3 inches long and 1½ broad, yellowish green. Corolla pale yellow.

Crown-eared Ceropegia. Shrub tw.

**** *Lateral lobes of the leaflets of the corona very short, obtuse, or altogether cohering with the middle ones.*

18 C. ARNOTTIA'NA (Wight, contrib. ind. bot. p. 32.) twining, glabrous; stems slender; leaves narrow-lanceolate, mucronulate; peduncles short, many-flowered; calycine segments narrow-subulate, longer than the ventricose base of the corolla; tube short, widened a little upwards; segments of the limb filiform, connivent, longer than the tube; middle lobes of the leaflets of the corona ligulate: lateral ones short, obtuse, approximate, adnate to the back of the primary ones, even to the apex, with a small distinct recess or sinus, ciliated a little. ♃; ◠. S. Native of hills about Prome. Ceropègia, Wall. ascl. no. 3.

Arnott's Ceropegia. Pl. tw.

19 C. WALLÍCHII (Wight, in bot. mag. 3267.) erect; root tuberous; leaves ovate, sessile, approximate towards the top of the stem, ciliated; peduncles lateral, short, 1-flowered; calycine segments subulate; corolla ventricose at the base: tube widened upwards: segments of the limb broadest at top, connivent, densely ciliated; primary lobes of the leaflets of the corona filiform: sublateral ones short, obtuse, ciliated; follicles very long, glabrous. ♃. ◠. S. Native of the Himalaya, Royle; near Lahooghat, in Kamaon, Lindsay. Ceropègia erécta ?, Wall. ascl. no. 1.

Wallich's Ceropegia. Clt.? Pl. erect.

20 C. PUBE'SCENS (Wall. pl. rar. asiat. 2. p. 81. t. 187.) herbaceous, twining; stems glabrous; leaves ovate, finely acuminated, downy on both surfaces; peduncles many-flowered, shorter than the leaves; corolla cylindrical, hardly ventricose at the base: segments of the limb broadest at the base, somewhat cordate, tapering upwards, and connivent; primary lobes of the leaflets of the corona subulate, recurved at top: lateral ones marginating the primary ones, or altogether adnate. ♃. ◠. S. Native of Nipaul, on mount Chandaghiry. Corolla glabrous outside, villous inside at the base, with a purple tube, and yellowish pentagonal limb. Leaves 3 inches long, ciliated.

Downy Ceropegia. Pl. tw.

21 C. TUBERÒSA (Roxb. cor. 1. p. 12. t. 6.) herbaceous, glabrous, twining; leaves from nearly orbicular to oval or ovate, cuspidate, as also lanceolate, finely acuminated; peduncles usually twin, few or many-flowered, longer or shorter than the leaves; calyx small: with subulate segments; corolla ventricose at the base: having the tube widened upwards; segments of the limb narrow, nearly linear, villous, one half shorter than the tube, with approximate edges; gynostegium stipitate; middle lobes of the leaflets of the corona ligulate: lateral ones marginating the primary ones, or altogether adnate; follicles slender. ♃. ◠. S. Native on the Coromandel coast, frequent; and in sandy places near Negapatam, in Tanjore. Wight and Arnott, contrib. ind. bot. p. 33. Wight, cat. no. 1516. C. mucronàta, Roth, nov. spec. p. 179. C. biflòra, Lin. spec. 309.? C. candelàbrum, Rottl. herb. Roxb. fl. ind. 2. p. 27. but not of Lin.? Flowers said to be the colour of those of *C. bulbòsa*. This is a very variable species as regards the foliage, but is constant in the shape of its flowers, the slender segments of the limb with their margins approximating their whole length, and forming a straight beak to the corolla, and in the stalked gynostegium or column of fructification.

Tuberous-rooted Ceropegia. Fl. April, Sept. Clt. 1821. Pl. tw.

22 C. Loureìrii; herbaceous, glabrous, procumbent; leaves ovate-lanceolate, with revolute edges; umbels pendulous; corolla with a large, globose base, and a small, 5-cleft limb. ↄ. ⌒. G. Native of Cochinchina, among bushes. Ceropègia candelàbrum, Lour. coch. 114. Flowers white. Stigma sessile, bifid. Follicles slender.

Loureiro's Ceropegia. Pl. twining.

23 C. obtu'sa (Lour. coch. 114.) twining, glabrous; leaves oblong, obtuse; peduncles shorter than the leaves. ↄ. ⌒. S. Native of Cochinchina, in the suburbs of Huaca. Flowers paler than those of *C. tuberòsum*, from which it differs more in the shape of the leaves than in the flowers; the follicles are also slenderer.

Blunt-leaved Ceropegia. Pl. tw.

† *Species hardly known.*

24 C. candela'brum (Lin. spec. p. 309.). ↄ. ⌒. S. Native of Malabar.—Rheed. mal. 9. t. 16. Leaves ovate, mucronate. Flowers erect, reddish or brownish purple; with villous segments. This species has been taken up by Linnæus from Rheede's figure. It seems to be nearly allied to *C. tuberòsa*, but has a very different habit. The *C. candelàbrum* of most modern authors is undoubtedly *C. tuberòsa*.

Chandelier Ceropegia. Pl. tw.

25 C. dichótoma (Haw. syn. p. 13.) fleshy; stem erect, dichotomous, articulated, terete; leaves linear, acute, horizontal; having the veins and midrib white above. ♄. S. Native of the East Indies? Flowers? Leaves 1½ inch long.

Dichotomous-stemmed Ceropegia. Shrub 1 foot.

26 C.? campanula'ta; root round, depressed: leaves linear; corolla tubularly campanulate, 4-cleft; calyx small, 4-5-toothed. ↄ. S. Native of the Gold Coast, at Accra, among grass. Corolla dark purplish brown. Perhaps a new genus. There is also another species growing along with this, which differs from the first in the root being fusiform. The roots of both are eatable. Stem 1-2-flowered in both. Flowers terminal.

Campanulate-flowered Ceropegia. Pl. ½ foot.

27 C.? aphy'lla (Haw. syn. p. 13. no. 2.) plant fleshy; branches dichotomous, articulated, weak, terete; leaves stipula-formed, adpressed. ♄. ⌒. S. Native country unknown.

Leafless Ceropegia. Shrub tw.

28 C.? nítida (Poir. dict. suppl. 2. p. 178.) leaves lanceolate, bluntish, shining above; umbels on short peduncles. ♄. S. Native of St. Domingo. Stem woody. Branches slender, elongated. Leaves subovate, sometimes elliptic, attenuated at the base, and sometimes acute at the apex, 1-2 inches long, and ½ broad.

Shining-leaved Ceropegia. Shrub tw.

29 C.? sinua'ta (Poir. dict. suppl. 2. p. 179.) leaves narrow-lanceolate, sinuated, acute at both ends; umbels 4-6-flowered, much shorter than the leaves. ↄ. ⌒. G. Native of the Cape of Good Hope. Burm. afr. p. 36. t. 15. Root a fascicle of fusiform simple tubers. Corolla tubular, pale red. There is only one follicle comes to perfection from each flower; it is pendulous and long-acuminated. Seeds numerous, oblong, brown. Said to differ from *Microlòma sagittàta* in the leaves being longer and not sagittate at the base.

Sinuated-leaved Ceropegia. Fl. July, Aug. Clt. 1818. Pl. tw.

30 C. corda'ta (Lour. coch. 114.) leaves cordate; umbels on long pendulous peduncles; segments of corolla ovate, connivent. ↄ. ⌒. S. Native of Cochinchina, in hedges. Flowers greenish yellow, in large, hemispherical, axillary umbels. Calycine segments small, ovate, acute. Perhaps the same as *Cynánchum cordifòlium*, Retz. fasc. 2. p. 15. no. 37.

Cordate-leaved Ceropegia. Pl. tw.

31 C. stapeliæfórmis (Haw. in phil. mag. feb. 1827. p. 121.) branches, prostrate, fleshy, thong-formed, lurid, terete, nearly leafless, simple, clouded with brown. ♄. S. Native of the Cape of Good Hope. This species has the habit of *O'rbea*. Branches rough from tubercles. Leaves very minute, ternate, almost invisible, and as if they were adnate to the stem, cordate, cuspidate. Flowers sessile, rising from the axils of the leaves.

Stapelia-formed Ceropegia. Fl. July. Clt. 1824. Pl. proc.

Cult. A mixture of peat, sand, and vegetable mould is the best soil for these plants; cuttings of them root readily in sand, if placed in heat, without any hand-glass over them. They should have little or no water, when in a dormant state, particularly the bulbous-rooted kinds.

II. HUE'RNIA (named after Justus Huernius, one of the earliest collectors of Cape Plants, and from whose drawing the first account of *Stapèlia* was taken.) R. Br. in. mem. wern. soc. 1. p. 22.—Stapèlia species, Lin. Juss. Mass.

Lin. syst. *Pentándria, Digýnia.* Corolla campanulate; limb 10-cleft, the accessory segments small and tooth-formed. Column of fructification inclosed. Stamineous corona double; outer one 5-cleft, with bifid segments; inner one of 5 leaves, which are subulate from the gibbous base, alternating with the segments of the outer corona. Anthers simple at top. Pollen masses erect, fixed by the base, having one of the margins cartilaginous and pellucid. Stigma mutic. Follicles sub-cylindrical, smooth. Seeds comose.—Succulent plants with the habit of *Stapèlia*, natives of South Africa.

1 H. reticula'ta (R. Br. l. c.) branches pentagonal, denticulated; teeth spreading; corolla 10-angled; tube bearded inside, widened into an elevated orb. ♄. S. Native of the Cape of Good Hope, in the fissures of rocks, toward Olifant's river. Stapèlia reticulàta, Mass. stap. p. 9. t. 2. Sims, bot. mag. 1662. Jacq. stap. t. 20. H. reticulàta diffórmis, Jacq. stap. 19. Corolla with a purplish bottom; yellow limb dotted with purple. Flowers twin or tern. Branches deep green, with purple spots.

Reticulated-flowered Huernia. Fl. July, Aug. Clt. 1793. Shrub ½ foot.

2 H. campanula'ta (R. Br. l. c.) branches 4-5-angled; corolla sub-campanulate, having the bottom closed by clavate, horizontal pili; ligulæ repandly truncate, dark. ♄. S. Native of the Cape of Good Hope. Stapèlia campanulàta, Mass. stap. p. 11. t. 6. Jacq. stap. t. 32. Sims, bot. mag. t. 1227. Branches glaucous, clouded with purplish marks. Limb of corolla sulphur-coloured, with numerous rose-coloured dots outside, and with numerous dark brown elevated dots inside, and striated with dark veins towards the base. Hairs in the throat blackish. Bottom of corolla black. This differs from the last species, in the bottom of the corolla being campanulate, and in the peduncles being 2-3-flowered.

Campanulate-flowered Huernia. Fl. July, Oct. Clt. 1795. Shrub ½ foot.

3 H. venu'sta (R. Br. l. c.) branches 4-5 angled; branchlets spreading, divaricate; teeth of branches spreading, acute; corolla with a glabrous tube, widened into an elevated orb. ♄. S. Native of the Cape of Good Hope. Stapèlia venústa, Mass. stap. p. 10. t. 3. Jacq. stap. t. 23. Corolla large, with a sulphur-coloured limb, dotted with red; having the bottom and elevated orbicle also dotted with red. Flowers solitary or twin. Peduncles deflexed.

Graceful Huernia. Fl. June, July. Clt. 1795. Shrub ½ foot.

4 H. LENTIGINÒSA (R. Br. l. c.) branches pentagonal, spreading, furnished with hooked teeth or tubercles; bottom of corolla girded by a concave, elevated orbicle; alternate segments of the corolla obsolete. ♄. S. Native of the Cape of Good Hope. Stapèlia lentiginòsa, Curt. bot. mag. t. 505. Ait. hort. kew. ed. 2d. vol. 2. p. 97. Stems branched at top. This species agrees with *H. guttàta*, in the colour and form of the flowers; but in *H. guttàta* the peduncles are longer, rising from the base of a simple stem, and having the tubercles or teeth of the branches not hooked; and the spots on the limb of the corolla are larger.

Freckled-flowered Huernia. Fl. July, Nov. Clt. 1795. Shrub $\frac{1}{2}$ foot.

5 H. GUTTA'TA (R. Br. l. c.) branches tetragonal and pentagonal; teeth or tubercles horizontal; bottom of corolla girded by a concave, elevated orbicle; stems simple at top, glaucous. ♄. S. Native of the Cape of Good Hope. Stapèlia guttàta, Mass. stap. p. 10. t. 4. Ait. hort. kew. ed. 2. vol. 2. p. 96. Allg. teutsch. gart. mag. 7. t. 41. Corolla sulphur-coloured, dotted with red, with a scabrous bottom, purplish outside. Peduncles length of flowers, by threes. Inner corona spotted with purple; base wholly purple.

Spotted-flowered Huernia. Fl. Aug. Nov. Clt. 1795. Shrub $\frac{1}{2}$ foot.

6 H. HU'MILIS (R. Br. l. c.) branches 4-5-angled, spreading; teeth of branches acute, horizontal; corolla orbicular; flowers solitary. ♄. S. Native of the Cape of Good Hope. Stapèlia hùmilis, Mass. stap. p. 10. t. 5. Corolla with a campanulate tube, and a prominent ring. Orbicle dark purple, undulated, spotted with white; limb sulphur-coloured, dotted with purple. This differs from the rest of the species, in the shortness of the stems, smallness of the flowers, and solitary peduncles.

Dwarf Huernia. Fl. Aug. Nov. Clt. 1795. Shrub $\frac{1}{4}$ foot.

7 H. TUBA'TA (R. Br. l. c.) branches simple, very thick, tetragonal: with large teeth; flowers solitary; corolla glabrous, dotted inside; corona 10-lobed; lobes roundish, ex Haw. suppl. pl. succ. p. 10. Orbicle short. ♄. S. Native of the Cape of Good Hope. Stapèlia tubàta, Jacq. stap. t. 23. Lodd. bot. cab. 225. Corolla glabrous, pale yellow inside, spotted with small red dots; the throat also dotted. In Willd. enum. p. 287. the throat of the corolla is described as being pilose, and the limb flat.

Var. β; corolla 12-cleft. ♄. S. Native of the Cape of Good Hope. Stap. duodécimfida, Jacq. t. 33 and 34.

Tube-flowered Huernia. Fl. Aug. Nov. Clt. 1805. Shrub $\frac{1}{2}$ foot.

8 H. CRÍSPA (Haw. syn. p. 31.) branches 4-5-angled, simple, or usually confluent, curled: with small teeth. ♄. S. Native of the Cape of Good Hope. Stapèlia crísp a, Hort. This is very distinct from both *H. barbàta* and *H. tubàta*, but is perhaps only a monstrous variety of one of them. The teeth of the branches are smaller than in any other species.

Curled-branched Huernia. Cl.? Shrub $\frac{1}{2}$ foot.

9 H. BARBA'TA (R. Br. l. c.) branches 4-5-angled, with spreading, acute teeth; peduncles 2-3-flowered; corolla almost closed with clavate, rufous bristles; ligulæ oblong-rhomboid, retuse. ♄. S. Native of the Cape of Good Hope. Stapèlia barbàta, Mass. stap. p. 11. t. 7. Jacq. stap. t. 46. Corolla cream-coloured, variegated, with elevated purple spots. Corona dark. Style white. Flowers in fascicles, at the base of the branches, ex Haw. syn. p. 31.

Bearded-flowered Huernia. Fl. Aug. Nov. Clt. 1795. Shrub $\frac{1}{2}$ foot.

10 H. CLAVÍGERA (Haw. syn. p. 26. suppl. pl. succ. p. 10.) branches tetragonal, with spreading, stiff teeth; flowers solitary; corolla campanulate, dotted inside; ligulæ 2-lobed. ♄. S. Native of the Cape of Good Hope. Stapèlia clavígera, Jacq. stap. t. 4. diar. lips. p. 269. Stapèlia campanulàta, Sims. bot. mag. t. 1661, but not t. 1293, which is the true *S. campanulàta*. Corolla pale green, livid outside, obscure yellow inside, and furnished with blood-coloured dots, and clavate hairs; exterior corona brown.

Club-bearing Huernia. Fl. July, Nov. Clt. 1795. Shrub $\frac{1}{2}$ foot.

11 H. OCELLA'TA (Rœm. et Schultes, syst. 6. p. 9.) branches 4-5 angled; corolla sub-campanulate; the rest as in the other species. ♄. S. Native of the Cape of Good Hope. Stapèlia ocellàta, Jacq. diar. lips. 1814. p. 270. stap. t. 40. Corolla greenish yellow, with purple marks.

Ocellated-flowered Huernia. Fl. Aug. Nov. Clt.? Sh. $\frac{1}{2}$ ft.

Cult. For culture and propagation see *Stapèlia*, p. 117.

III. PIARA'NTHUS (πιαρ, *piar*, fatness; and ανθος, *anthos*, a flower; in reference to the fleshy flowers.) R. Br. in mem. wern. soc. 1. p. 23. Haw. syn. p. 34.—Stapèlia species, Masson.

LIN. SYST. *Pentándria*, *Monogýnia*. Corolla campanulate, 5-cleft, fleshy. Column of fructification inclosed. Stamineous corona simple, 5-leaved; leaflets toothed on the back. Anthers simple at top, Pollen masses erect, fixed by the base, with one of the margins cartilaginous and pellucid. Stigma mutic. Follicles unknown.—Succulent plants, natives of south Africa, with the habit of *Stapèlia*. Flowers rising from the sides of the branches, beyond the angles and teeth.

1 P. PUNCTA'TUS (R. Br. l. c.) joints of branches oblong, somewhat tetragonal, toothed; flowers in fascicles; segments of corolla lanceolate, acute, papillose above. ♄. S. Native of the Cape of Good Hope. Stapèlia punctàta, Mass. stap. p. 18. t. 24. Obèsia? punctàta, Haw. syn. p. 43. Branches decumbent, creeping. Flowers usually 3 together, on dark purple peduncles. Calyx dark purple. Corolla with a deep red bottom, and very pale red segments, spotted with blood-coloured dots. Probably a true species of *Obèsia*.

Dotted-flowered Piaranthus. Fl. July, Nov. Clt. 1795. Shrub proc.

2 P. PU'LLUS (R. Br. l. c.) branches usually hexagonal, erect; tubercles or teeth spreading; flowers aggregate; segments of corolla lanceolate, silky above, replicate. ♄. S. Native of the Cape of Good Hope. Stapèlia púlla, Mass. stap. 21. t. 31. Sims, bot. mag. 1648. Willd. spec. 1. p. 1288, exclusive of the syn. Stapèlia fasciculàta, Thunb. Allg. teutsch. gart. Angles of branches a little sinuated, having strong teeth. Corolla dark purple. Flowers 3-4-together.

Dark-flowered Piaranthus. Fl. Aug. Sept. Clt. 1774. Shrub $\frac{1}{2}$ foot.

3 P.? FASCICULA'TUS (Rœm. et Schultes, 6. p. 10.) branches usually hexagonal, with acute, spreading teeth; flowers pedunculate, fascicled. ♄. S. Native of the Cape of Good Hope, near Roggeveldsberg, on the Hanton hills. Branches decumbent. Peduncles length of the joints of the branches.

Fascicled-branched Piaranthus. Shrub decumbent.

4 P. PARVIFLÒRUS (Spreng. syst. 1. p. 841.) branches tetragonal; teeth thick, recurved; corolla small, with narrow, flat, spreading segments, which are ciliated on the edges; peduncles 2-3 together, longer than the flowers. ♄. S. Native of the Cape of Good Hope, in Namaqua Land. Stapèlia parviflòra, Mass. stap. p. 22. t. 35. Corollas yellow, size of those of *Cynánchum eréctum*.

Small-flowered Piaranthus. Fl. Aug. Clt. 1795. Shrub $\frac{1}{2}$ foot.

5 P. GUSSONEA'NUS; branches glaucous, tetragonal; angles toothed; flowers in fascicles beyond the angles, small; corollas glabrous. ♄. S. Native of Sicily, on rocks. Stapèlia

Gussoneàna, Jacq. ex bot. reg. t. 1731. Corollas yellow, striped with brown, and tipped with purple.

Gussone's Piaranthus. Fl. Ju. Jul. Clt. 1832. Shrub ½ foot.

6 P. A'RIDUS; branches numerous, erect, tetragonal, floriferous at top: with spreading, acute teeth; pedicels solitary; segments of corolla flat, ovate-lanceolate, setaceously ciliated at top; bottom of corolla circular. ♄. S. Native of the Cape of Good Hope, in the dry desert called Karro. Stapèlia árida, Mass. stap. p. 21. t. 33. Corollas size of those of *Cynánchum vincetóxicum*, pale yellow, with a yellow, circular bottom, white corona: having the segments dotted at the base, and pilose at the apex, ex Willd. Teeth of branches curved, similar to spines.

Arid Piaranthus. Fl. Aug. Clt. 1795. Shrub ¼ foot.

7 P. INCARNA'TUS; branches erect, tetragonal: with spreading, acute teeth; flowers aggregate, almost sessile; segments of corolla narrow, flat, acute, ex Mass., obtuse, ex Thunb. ♄. S. Native of the Cape of Good Hope, in Saldanha Bay. Stapèlia incarnàta, Lin. suppl. p. 171. Thunb. prod. 1. p. 46. fl. cap. 2. p. 167. Mass. stap. p. 22. t. 44.—Burm. afr. p. 15. t. 7. f. 1. Pedicels rising, as in other species, from the angles beyond the teeth. The herb is eaten by the Hottentots, ex Lin. Flowers small, flesh-coloured, size of those of Stapèlia pilífera. Corona covering the gynostegium, with a greenish margin, of 5 yellow, erect, bifid segments, and other 5 linear, inflexed ones, in the centre, ex Thunb.

Var. β, albus (Mass. stap. l. c.) flowers white.

Flesh-coloured-flowered Piaranthus. Fl. April, Aug. Clt. 1793. Shrub 1 foot.

8 P. MAMMILA'RIS; branches hexagonal, bearing the flowers in the middle: furnished with spine-like, recurved tubercles; pedicels shorter than the flowers; corolla glabrous; segments lanceolate, with revolute edges. ♄. S. Native of the Cape of Good Hope, on rocks, about Olifant's river; and towards the north, near Hex river, in the Karro. Stapèlia mammilàris, Lin. mant. p. 216. Thunb. prod. 1. p. 46. fl. cap. 2. p. 166.—Burm. afr. p. 27. t. 11. Pedicels usually by fours.

Mammilary Piaranthus. Fl. June, July. Clt. 1774. Shrub.

Cult. See *Stapèlia*, p. 117, for culture and propagation.

§ 2. *Column of fructification, or gynostegium, exserted, or semi-exserted, appendiculate outside. Pollen masses pellucid on one of the margins.*

IV. STAPE'LIA (named by Linnæus, after Boderus a Stapel, a physician of Amsterdam, Commentator on Theophrastus, in 1644.) R. Br. in mem. wern. soc. 1. p. 23.—Stapèlia species, Lin. and others.

Lin. syst. *Pentándria, Digy'nia.* Corolla rotate, 5-cleft, fleshy. Column of fructification exserted. Stamineous corona double; exterior one of 5 undivided leaflets; interior one of 5 subulate leaflets. Anthers simple at top. Pollen masses fixed by the base, having one of the edges cartilaginous and pellucid. Stigma mutic. Follicles somewhat cylindrical, smooth. Seeds comose.—Fleshy, leafless, angular, usually tubercular plants, natives of south Africa, in the desert plains called Karro. Flowers for the most part showy, but with a nauseous, fetid odour.

§ 1. *Branches or stems alately tetragonal, downy.*

1 S. GRANDIFLÒRA (Mass. stap. p. 3. t. 11.) branches quadrangular, clavate, downy; tubercles or teeth remote; corolla large, flattish: with ovate-lanceolate, acute segments, which are ciliated on the edges. ♄. S. Native of the Cape of Good Hope. Haw. syn. p. 16. no. 1. Plant grey, from down. Peduncles 3-flowered. Corolla large, dark purple in the bottom; but the segments are lighter purple, ciliated with grey hairs, and striped with white.

Great-flowered Stapelia. Fl. Sept. Dec. Clt. 1795. Shrub 1 foot.

2 S. SPECTA'BILIS (Haworth, syn. p. 16. no. 2.) branches tetragonal, downy; tubercles or teeth remote; segments of corolla ovate-lanceolate, furnished from the base behind the middle with dense red hairs, and having pale stripes on the upper surface, with black tips. ♄. S. Native of the Cape of Good Hope. Stapèlia grandiflòra, Curt. bot. mag. 585, exclusive of the synonyms.

Shewy Stapelia. Fl. Nov. Jan. Clt. 1802. Shrub 1 foot.

3 S. AMBÍGUA (Mass. stap. p. 13. t. 12. Haw. syn. p. 17.) branches erect, quadrangular, clavate; teeth remote, incurved; corolla flat: with oblong-lanceolate, acute, hispid segments, which are ciliated on the edges; leaflets of the inner corona cultriform, serrated on the back, and toothed at top; peduncles 3-4-flowered. ♄. S. Native of the Cape of Good Hope. Jacq. stap. 35. Corolla size of those of *S. hirsùta*, of a rufous, purple colour, variegated with transverse, dark, violaceous stripes, having the edges of the segments of an obscure violet colour.

Ambiguous Stapelia. Fl. June, Nov. Clt. 1795. Shrub 1 to 2 feet.

4 S. SORÒRIA (Mass. stap. p. 23. t. 39. Jacq. stap. t. 22. 36, 37.) branches divaricate, quadrangular; teeth remote, acute, incurved; segments of corolla lanceolate, villous in the centre, and ciliated on the edges. ♄. S. Native of the Cape of Good Hope. Lodd. bot. cab. 94. Corolla dark purple, with yellow, transverse rugæ. According to Masson, this species differs from *S. hirsùta*, in habit; in the divaricate, 5-angled branches, which are said to be tetragonal at the top; in the drooping flowers; and in the self-coloured corolla. Stem purplish. Peduncles simple, solitary, purple.

Sister Stapelia. Fl. July, Aug. Clt. 1797. Shrub 1 foot.

5 S. PA'TULA (Willd. enum. p. 281.) corolla flat, with villously ciliated margins, and hairy disk, the rest wrinkled and glabrous; appendages of inner crown, oblong, lanceolate, one-toothed inside. ♄. S. Native of the Cape of Good Hope. Perhaps a variety of *S. soròria.*

Spreading-flowered Stapelia. Fl. July, Aug. Clt. 1797. Shrub 1 foot.

6 S. REFLE'XA (Haw. syn. p. 18.) leaflets of inner corona sub-deltoid, having the interior process incurvedly claw-formed; seat of style impressed with a cross. ♄. G. Native of the Cape of Good Hope. S. defléxa, Hort. Jacq. stap. t. 5. bot. mag. 1810. Very like the preceding, but one half smaller. Corolla of a greenish-wine colour, with revolutely reflexed segments; having transverse, waved, contiguous, whitish stripes at the middle; and furnished with long purple hairs inside, towards the base. Ligulæ dusky, rufous, recurved, cuneated at apex.

Reflexed Stapelia. Fl. June, Aug. Clt.? Shrub ½ foot.

7 S. LU'CIDA (D. C. cat. hort. monsp. 1816. p. 149.) branches erect, floriferous in the middle; teeth erect; segments of corolla with pilose edges, ovate-acuminated, revolutely inflexed, having the disks shining, and rather pilose; leaflets of outer corona oblong. ♄. S. Native of the Cape of Good Hope. This species is nearly allied to *S. soròria, ambígua,* and *defléxa:* from the first it differs, in the branches not being divaricate, but erect; in the peduncles being shorter than the corolla; in the wrinkles of the corolla not being yellowish; and in the bottom not being villous: and from the second, to which it is more nearly allied, in the branches not bearing the flowers at their base, but in the middle; in the segments of the corolla not being flat; in the flowers being smaller, and of a deeper colour: and from the third, in the leaflets of outer corona, and in many other points.

Shining-flowered Stapelia. Fl. June, Aug. Clt. 1812. Shrub ½ foot.

8 S. juve'ncula (Jacq. stap. Poir. suppl. 5. p. 231.) bottom of corolla campanulate; segments of corolla wrinkled transversely; segments of exterior corona lanceolate, acuminated; those of the inner corona diverging; appendages short, obtuse; branches floriferous in the middle. ♄. S. Native of the Cape of Good Hope. This is very nearly allied to *S. vétula;* but differs, in the branches being more numerous, and not being floriferous at the base; in the segments of the corolla being more acute. Peduncles aggregate. Corollas brownish purple, 3-nerved.

Girl Stapelia. Fl. July, Aug. Clt. ? Shrub 1 foot.

§. 2. *Æquilateràles. Angles of stems 4, flat, equal, downy.*

9 S. Massòni (Hort. Haw. syn. p. 18.) branches large, of 4 equal angles. ♄. S. Native of the Cape of Good Hope. This plant has never been rightly examined.

Masson's Stapelia. Fl. ? Clt. ? Shrub 1 foot.

10 S. aste'rias (Mass. stap. 14. t. 14.) teeth of branches short, erect; corolla large: with ovate-lanceolate, long-acuminated segments, which are revolute, and ciliated on the edges; stamens unequally bifid. ♄. S. Native of the Cape of Good Hope. Curt. bot. mag. 536. Jacq. stap. t. 58. Branches floriferous at the base, erect; outer branch of the leaflets of the inner corona bi-tridentate. Corolla of an obscure violet colour; the segments variegated with transverse, yellowish stripes; the bottom dark purple.

Star-fish Stapelia. Fl. May, Nov. Clt. 1795. Sh. ½ foot.

11 S. stella'ris (Jacq. stap. t. 62. Haw. syn. p. 19.) corolla wrinkled at the base; segments shining above, glabrous, of a port wine colour, but with pale, transverse, anastomosing veins, ciliated with rufous hairs; leaflets of the outer corona linear, obtuse, a little recurved, and rather erose at top; inner corona as in *S. astèrias*, but the lower branch is paler. ♄. S. Native of the Cape of Good Hope.

Starry Stapelia. Fl. ? Clt. ?. Shrub ¼ to ½ foot.

12 S. hirsu'ta (Lin. spec. p. 316. Thunb. prod. 1. p. 46. fl. cap. 2. p. 168.) corolla having the segments villously ciliated with white hairs, and the bottom villous from rufous hairs; the rest wrinkled transversely, and glabrous; segments of outer corona acute, lanceolate; leaflets of inner corona spreading; appendages adnate, ovate-oblong, about equal in length to the horns. ♄. S. Native of the Cape of Good Hope. Mill. icon. t. 250. Jacq. misc. 1. p. 28. t. 3. stap. t. 13 and 38. Lam. ill. t. 178. f. 2.—Bradl. succ. pl. 3. p. 5. t. 23.—Roes, insect. t. 9. Branches floriferous at the base, hairy; with subulate, erect teeth. Corolla yellowish, with deep violet, transverse stripes, a pale red bottom, and red nectaries, size of a French rose.

Var. β, àtra (Jacq. diarr. lips. 1814. p. 296.) flowers deep purple. Ker. bot. reg. t. 156.

Hairy Stapelia. Fl. July, Aug. Clt. 1710. Shrub ½ foot.

13 S. hama'ta (Jacq. stap. t. 12. diarr. lips. 1814. p. 269.) corollas flat, ciliated, wrinkled above, with a hairy centre; segments of exterior corona emarginate; inner leaflets of inner corona lanceolate-subulate, hooked: outer ones parallel, with the beaks erect, a little toothed at the apex. ♄. S. Native of the Cape of Good Hope. Lodd. bot. cab. 242. Branches tufted, with mucronate straight teeth, floriferous at the base. Corolla 3 inches broad, blood-coloured; segments acuminated, with transverse white stripes, ciliated with red hairs. Segments of corona subulate, bifid, or hooked, rufescent.

Hooked-crowned Stapelia. Fl. July, Aug. Clt. 1820. Shrub ¼ foot.

14 S. coma'ta (Jacq. stap. t. 4. diarr. lips. 1814. p. 269.) corollas ciliated, with a flat, hairy disk; the rest glabrous, and wrinkled transversely; leaflets of inner corona acute, recurved; segments of corolla lanceolate, rather concave, at first deflexed, then spreading; appendages oblong, truncate, crenated. ♄. S. Native of the Cape of Good Hope. Branches sulcate; with erect teeth; floriferous at the base. Peduncles usually solitary. Corolla pale yellow; having the segments ciliated with red hairs, and striped with yellow or blood-colour.

Shaggy Stapelia. Fl. Sept. Clt. 1819. Shrub ½ to 1 foot.

15 S. multiflòra (D. C. cat. hort. monsp. 1813. p. 149.) corolla rotate, with a hairy bottom; segments flat, reflexed, ciliated; horns subulate; wings joined to the middle, nearly entire; branches floriferous in the middle, with erect teeth; pedicels aggregate. ♄. S. Native of the Cape of Good Hope. Nearly allied to *S. comàta*, of which it is probably only a variety; from which it is distinguished, in the pedicels being aggregate, not solitary; in the flowers being wholly of a violaceous red colour, not yellowish in the middle of the segments. Wings few-toothed, not tridentate; and the ligulæ are sometimes tridentate, not acute; marginal hairs purple or white; central ones silky and purple.

Many-flowered Stapelia. Fl. Sept. Clt. 1817. Shrub ½ to 1 foot.

16 S. ru'fa (Mass. stap. p. 16. t. 20.) segments of corolla triangular, acute (ex Mass.), lanceolate, acuminated, ex Haw., ciliated, and transversely wrinkled; ligulæ linear-lanceolate, waved; stamens dilated unequally, and emarginately bifid; branches floriferous at the base: with erect teeth; pedicels twin or tern. ♄. S. Native of the Cape of Good Hope, beyond Platte Kloof. Lodd. bot. cab. 239. Corollas size of those of *Periploca Græ'ca*, or a little larger, of an obscure violet colour, variegated with deep purple, ex Willd., pale red, ex Haw., transverse stripes; having the bottom stellate, rufous, and variegated. Corona or nectarium variegated, ex Willd. Ligulæ deep brown, ex Haw. Hairs on the edges of the corolline segments, and those in the bottom of the corolla port-wine-coloured, ex Haw.

Rufous Stapelia. Fl. Ju. Nov. Clt. 1795. Shrub ¼ to ½ foot.

17 S. pulvina'ta (Mass. stap. p. 13. t. 13.) segments of corolla roundish, wrinkled transversely, abruptly acuminated, ciliated; bottom of corolla elevated, villous; branches floriferous at the base; pedicels solitary. ♄. S. Native of the Cape of Good Hope, near Cannes. Sims, bot. mag. 1240. Allg. teutsch. gart. mag. 1815. p. 110. t. 11. Branches reclinate or procumbent, floriferous ones ascending. Corolla large, with deep violaceous segments, variegated with whitish, transverse wrinkles, fuscous and concave at the apex, and with a rufous bottom. Of all the species this is the most elegant.

Cushion-flowered Stapelia. Fl. Ju. Nov. Clt. 1795. Shrub proc.

18 S. lanígera (Haw. suppl. pl. succ. p. 8.) stems quadrangular; angles equal, nearly flat, downy; corolla very woolly, dark brown, striped with yellow. ♄. S. Native of the Cape of Good Hope. Stapèlia pulvinàta, Donn. hort. cant. but not others. Nearly allied to *S. pulvinàta* and *S. hirsùta.*

Wool-bearing Stapelia. Fl. July, Sept. Clt. 1800. Shrub ½ foot.

19 S. fissiróstris (Jacq. stap. t. 7. diar. lips. 1814. p. 268.) segments of corolla lanceolate, cuspidate, or acuminated, with revolute, ciliated edges, wrinkled transversely; segments of inner corona subulate, bifid; of the outer, ovate, bluntish; branches ascending; pedicels aggregate. ♄. S. Native of the Cape of Good Hope. Corolla 2 inches; segments green outside, and yellowish green inside, variegated with fuscous, scabrous, transverse stripes.

Cleft-beaked Stapelia. Fl. July, Nov. Clt. 1823. Shrub 2½ feet.

§ 3. *Ligulæ, or segments of the outer corona, rhomb-oblong or cuneated. Leaflets of inner corona simple, subulate, undulated. Stems glabrous, with 4 equal sides, but much more slender than those of the former section. This is probably the best marked section of the genus; nevertheless the species agree in habit, and teeth of branches, with the last.*

20 S. CONCÍNNA (Mass. stap. p. 15. t. 18.) branches glabrous, floriferous at the base, with erect teeth; segments of corolla ovate-lanceolate, acute, ciliated; bottom of corolla villous, ex Haw. ♄. S. Native of the Cape of Good Hope, in Karro. Heyne, term. bot. t. 16. f. 8. Flowers about the size of those of *Anemòne nemoròsa*, flat, grey, with transverse, undulated, fuscous stripes, and white bristles; and a brown bottom. Pedicels purplish, usually twin. Segments of outer corona emarginate.

Neat Stapelia. Fl. Ju. Aug. Clt. 1798. Shrub ¼ foot.

21 S. GLANDULÍFERA (Jacq. stap. t. 46.) branches glabrous, floriferous in the middle; corolla very villous; segments ovate, acuminated; villi sub-spatulate, white; ligulæ rhomb-oblong, quite entire, horny, obtuse. ♄. S. Native of the Cape of Good Hope. Pedicels twin or tern, hairy, filiform. Corolla small, yellowish, having the bottom and numerous concentric, transverse, broken stripes, rufous. Ligulæ yellowish brown. Stamens bay-coloured.

Gland-bearing Stapelia. Fl. Aug. Nov. Clt. ? Shrub ¼ to ½ foot.

22 S. FLAVICOMA`TA (Haw. suppl. pl. succ. p. 8.) stems numerous, quadrangular, slender; angles equal, downy, teeth leaf-formed, tumid, and contiguous. ♄. S. Native of the Cape of Good Hope. Very nearly allied to *S. glandulífera;* but the branches are thicker, more numerous, shorter, with the teeth larger, more leaf-formed, and more close together.

Yellow-haired Stapelia. Fl. July. Clt. 1810. Shrub ½ foot.

23 S. HISPÍDULA (Hornem. hort. hafn. p. 251.) segments of corolla acuminated, wrinkled transversely, hispid from clavate hairs, replicate and naked at apex; segments of outer corona or ligulæ entire, acute: of the inner subulate, connivent; pedicels aggregate, almost radical, much longer than the corollas. ♄. S. Native of the Cape of Good Hope. This species differs from *H. concínna*, Mass. in the pedicels being very long, and almost radical, in the segments of the corolla not being ciliated, and in the segments of the exterior corona being undivided.

Hispid Stapelia. Fl. July, Aug. Clt. 1824. Shrub ¼ foot.

24 S. GLANDULIFLÒRA (Mass. stap. p. 16. t. 19.) branches glabrous, with erect, acute teeth, floriferous at the base; peduncles twin or tern; corolla clothed with white, clavate, setaceous glands: segments ovate-lanceolate, acute, spreading. ♄. S. Native of the Cape of Good Hope, among bushes, about North Olifant's river. Smith, exot. bot. t. 19. Jacq. stap. t. 40. Branches spreading. Corolla size of those *S. concínna*, sulphur-coloured. Corona orange and black, ex Willd. Pedicels purplish. Corolla about the size of those of *Anemòne nemoròsa*, shorter than the calyx, spotted with deep red dots; and the bottom deep brown, ex Mass.

Gland-flowered Stapelia. Fl. May, Nov. Clt. ? Shrub ½ foot.

25 S. ACUMINA`TA (Mass. stap. p. 15. t. 17.) branches glabrous, floriferous in the middle; pedicels glabrous, twin or tern, shorter than the corolla; segments of corolla ovate, cuspidately acuminated, ciliated on the edges; the rest of the corolla glabrous. ♄. S. Native of the Cape of Good Hope, in Namaqua Land. Corollas a little larger than those of *H. rùfa;* segments green, variegated with dark purple stripes, transversely undulated, tipped with dark purple. Segments of calyx oval, acute.

Acuminated-flowered Stapelia. Fl. July, Sept. Clt. 1795. Shrub ½ foot.

§ 4. *Anómalæ. Anomalous species, without the characters of the preceding sections, and which will probably constitute new genera, but the characters are not sufficiently known as to establish these genera.*

* *Obtuse-dentatæ. Angles of branches obtuse, having the teeth almost obliterated, or very blunt.*

26 S. APE´RTA (Mass. stap. p. 23. t. 37.) branches numerous, tetragonal, sub-tridentate at the apex, glaucescent; corolla flat, segments ovate, obtuse, 5-nerved, wrinkled, with glabrous edges. ♄. S. Native of the Cape of Good Hope, in Namaqua Land, near Kok Fountain. Pedicels twice longer than the branches, usually solitary. Corolla obscure, purple, with dashes of a more obscure colour; bottom circular, greyish, dotted with black. Perhaps a species of *Carunculària*.

Open-flowered Stapelia. Fl. July, Aug. Clt. 1795. Shrub 1 foot.

27 S. RAMÒSA (Mass. stap. p. 21. t. 32.) branches numerous, erect, tetragonal, glaucescent; flowers aggregate, almost sessile; segments of corolla lanceolate, acute, with revolute edges. ♄. S. Native of the Cape of Good Hope, in Karro, beyond Platte Kloof. Pedicels very short, rising from the upper part of the branches, without the teeth. Angles of branches sinuated. Corollas size of those of *H. pruinòsa*, dark purple, with a circular white bottom. Perhaps a species of *Piaránthus*.

Branched Stapelia. Fl. Ju. July. Clt. 1795. Shrub 1 foot.

* * *Branches terete, tubercular; having a hair or spine rising from each tubercle.*

28 S. PILÍFERA (Lin. suppl. 171. Thunb. prod. 1. p. 46. fl. cap. 2. p. 165.) branches numerous, terete, furrowed; tubercles furnished each with a bristle; flowers sessile, solitary; corolla campanulate, with ovate, acuminated segments; segments of corona bifid. ♄. S. Native of the Cape of Good Hope, on very arid hills, under bushes, in Karro, beneath Roggeweld, Masson; beyond Hartequas Kloof, Thunb. Flowers small, purple, at the tops of the branches, Lin. Corolla size of that of *S. árida*, dark purple, with a red circle in the middle, ex Mass. Corolla smooth outside, but muricated by elevated callosities inside, ex Thunb. Perhaps this will form a new genus.

Piliferous Stapelia. Fl. Ju. Aug. Clt. 1790. Shrub.

29 S. GORDÒNI (Mass. stap. p. 24. t. 40.) branches terete; tubercles terminating each in a spine; pedicels solitary, at the tops of the branches; corolla large, 5-toothed; teeth or segments broad, roundish, short-acuminated; exterior corona 5-toothed. ♄. S. Native of the Cape of Good Hope, in Groot-Namaqua Land, towards the orange river. Corollas among the largest of the genus, almost 3 inches in diameter, repandly 5-toothed, of a brownish yellow colour, with a whitish centre; segments of the corona short, black in the middle, and white on the margins. Follicles solitary, erect, long, acute. This differs from all other species, in the singular form of the corolla, and in the solitary follicles; it therefore will hereafter constitute a new genus, which we would propose calling *Monothylàceum*, from its solitary follicles.

Gordon's Stapelia. Fl. July, Aug. Clt. 1796. Shrub ½ foot.

† *The following species being hardly known, they have not been arranged in any of the sections above.*

30 S. CORDA`TA (Hort. ex Haw. syn. p. 26. no. 27.) ♄. S. Native of the Cape of Good Hope. There is nothing known of this plant but the name.

Cordate Stapelia. Fl. Ju. Aug. Clt. 1805. Shrub $\frac{1}{4}$ to $\frac{1}{2}$ foot.

31 S. CANE'SCENS (Hort. ex Haw. syn. p. 26. no. 29.) ♄. S. Native of the Cape of Good Hope. Nothing is known further of the species.

Canescent Stapelia. Fl. Ju. Aug. Clt. 1795. Shrub.

32 S. OPHIU'NCULA (Hort. ex Haw. syn. p. 27. no. 31.) ♄. S. Native of the Cape of Good Hope. Nothing but the name is known of this species.

Small-serpent Stapelia. Fl. Ju. Aug. Clt. 1805. Shrub proc.

33 S. CAUDA'TA (Thunb. prod. 1. p. 46. fl. cap. 2. p. 171.) stem hairy, leafy; leaves oblong-linear, falcate; flowers axillary, pedicellate, solitary, drooping: segments of the limb linear. ♄. S. Native of the Cape of Good Hope. Leaves sessile. Pedicels much shorter than the corolla. Corolla flat, purple, scaly inside. Perhaps a species of *Ceropègia* or *Brachystélma*.

Tailed Stapelia. Shrub $\frac{1}{2}$ foot.

34 S. QUADRA'NGULA (Forsk. descr. p. 52. t. 6.) stem tetragonal; branches divaricate, floriferous at the apex: furnished with truncate teeth; flowers small, crowded, sessile; corolla 5-cleft. ♄. S. Native of Arabia Felix. Flowers greenish yellow. Calyx 5-toothed, permanent. Juice not milky, but aqueous. Forsk. cat. p. 108. no. 194. has also *S. quadrángula ramòsa*, no. 194, besides *S. quadrángula*, no. 190. Sides of stem half an inch wide.

Quadrangular-stemmed Stapelia. Shrub $1\frac{1}{2}$ foot.

35 S. MULTA'NGULA (Forsk. cat. no. 192.) stem branched, creeping, with 6-9 angles, and as many furrows; angles toothed; follicles subulate. ♄. S. Native of Arabia Felix. Sak el Ghorob. Forsk. descr. p. 52. Anónymos, Poir. ency. 7. p. 391. The Arabians affirm, that this plant, after being apparently quite dead, by drying for a long time, if it is allowed to come in contact with moist earth, it will again revive. Forsk. desc. p. 52.

Many-angled Stapelia. Shrub.

36 S. CLAVA'TA (Willd. spec. 1. p. 1295.) stem simple, thick, clavate, reticulately and obsoletely warted, bearing the fruit at the apex. ♄. S. Native of the Cape of Good Hope, in sandy fields, beyond Kopperberg. Stapèlia, Patters. trav. p. 57. t. 8. only the fruit.

Clavate-stemmed Stapelia. Shrub.

N.B.—There is a species of *Stapèlia*, which was collected at the Cape of Good Hope, on the banks of the Kaigaviel, near Roode Gebroken Klip, by Lichtenstein, which Willd. has called, in his enum. suppl. p. 14, *breviróstris*, but without giving any character of the plant. In the Neweste best. des Gart zu Belvidere, the following names occur, but without any diagnosis of either—1. *S. Buffoniàna*, 2. *S. bifòlia*, 3. *S. cymòsa*, 4. *S. tridentàta*, 5. *S. virgàta*, and 6. *S. verticillàta*; but these names are very likely synonymous with some of those described above. There are several undescribed species preserved in spirits of wine in the Banksian museum. What is *S. dentàta*, Forsk. cat. 192? and what is *S. papillòsa* of Tabl. de l'ecole, ann. 1815. p. 92?

Cult. Singular succulent, grotesque plants; bearing remarkable and singularly beautiful, star-like flowers, usually with a very disagreeable smell. The soil best suited for them is a mixture of loam, sand, and lime or brick rubbish; for, if grown in a richer soil, they become more luxuriant, and bear larger flowers; but in such a soil they are more apt to rot, if they chance to get a little too much water supplied them. They require very little water, except when in blossom; and in the winter, the less given to them the better. They are readily increased by cuttings, which should be allowed to dry for at least a week or fortnight after they are taken off from the mother plant, before they are set; after which they may be planted in separate pots, when they will almost immediately strike root; for if planted when first taken off, and full of juice, they have every chance to rot.

V. GONOSTE'MON (from *γωνια, gonia*, an angle; and *στημων, stemon*, a stamen.) Haw. syn. p. 27. Stapèlia species of authors.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate, 5-cleft. Ligulæ or segments of the exterior corona distinct, rufous, oblong, cuneated and recurved at the apex, channel-formed: those of the inner corona rectangularly incurved, unciform or pediform, short, rufous, length of the ligulæ, and adnate to them; bearing at the base large, didymous, yellow anthers. Between the corona and the angles of the style, there are 3 stigmas, 2 of which are anther-formed, the other black and dot-formed; and from this dot there runs down an oblong, very minute, bifid, yellow ligulæ.—Succulent shrubs, with the habit of Stapelia; but the branches are more slender and divaricate. Flowers fascicled. Pedicels length of the corolline segments.

1 G. DIVARICA'TA (Haw. syn. p. 27.) branches numerous, tetragonal, glabrous, gradually attenuated: with small, erect teeth; corolla quite glabrous; segments lanceolate, spreading, with revolute ciliated edges. ♄. S. Native of the Cape of Good Hope. Stapèlia divaricàta, Mass. stap. p. 17. t. 22. Sims, bot. mag. 1007. Branches floriferous in the middle, or at the base. Pedicels twin or tern. Segments of exterior corona roundish, obtuse, mucronate. Corolla shining, greenish brown outside, and flesh-coloured inside, tipped with green. Corona orange-coloured.

Divaricate-branched Gonostemon. Fl. Ju. Nov. Clt. 1793. Shrub $\frac{1}{2}$ foot.

2 G. PA'LLIDA; branches erect, short, tetragonal, glabrous: with short, deciduous teeth; corolla glabrous; segments acute, ciliated; pedicels aggregate, rising above the base of the branches; segments of outer corona spreading, in the figure sub-tridentate; of the interior one erect and bluntish. ♄. S. Native of the Cape of Good Hope. Stapèlia pállida, Wendl. coll. 2. p. 39. t. 51. Corolla pale yellow, verging to flesh-coloured; the segments tipped with greenish yellow. Corona yellow.

Pale-yellow Gonostemon. Fl. July, Sept. Clt. 1818. Shrub $\frac{1}{2}$ foot.

3 G. STRÍCTA (Haw. suppl. pl. succ. p. 12.) corollas naked, flat; branches erect. Native of the Cape of Good Hope. Stapèlia strícta, Sims, bot. mag. 2037. Branches slenderer than in the preceding.

Straight Gonostemon. Fl. Ju. Nov. Clt. 1814. Shrub $\frac{1}{4}$ foot.

Cult. For culture and propagation see *Stapèlia*, above.

VI. PODA'NTHES (from *πους ποδος, pous podos*, a foot; and *ανθος, anthos*, a flower; in allusion to the flowers being on long pedicels.) Haw. syn. p. 32.—Stapèlia species of authors.

Lin. syst. *Pentándria, Monogy'nia.* Corolla 5-cleft, wrinkled; with a broad, campanulate bottom, girded by a tumid orbicle. Ligulæ, or segments of the exterior corona, combined to the middle, channel-formed, rhomboid, deeply emarginated, or cuneately 2-lobed; those of the inner corona simple, short, form of a reversed foot, alternating with the ligulæ, incurvedly and closely adpressed to the style; the rest as in *Stapèlia*.—Habit of *Stapèlia*; but the branches are much more slender, effusely decumbent and weak, rooting at the base, obsoletely 4-5-angled; with much larger, deltoid-acuminated, ascending, thick teeth, but terminated by a less manifest leaf.

1 P. PU'LCHRA (Haw. syn. p. 32.) weak and much branched; flowers twin, semi-quinquefid, corrugated, with a minutely pilose bottom. ♄. S. Native of the Cape of Good Hope. Stapèlia verrucòsa, Hort. but not of Mass. Flowers on long, bent pedicels. Segments of corolla deltoid acuminated, green outside, and sulphur-coloured inside, warted; warts numerous,

dark brown. Bottom of corolla dark brown, girded by a few glandular hairs.

Var. β, verrucòsa; branches longer and thicker. ♄. S. Stapèlia verrucòsa, Sims, bot. mag. 1786, but not of Mass. Stapèlia pulchélla, Hort. but not of Mass. Corolla pale yellow, with dark purple marks. Segments of the outer corona emarginate; the inner one of ovate yellow corpuscles.

Fair Podanthes. Fl. Aug. Sept. Clt. 1800. Shrub cr.

2 P. irrora'ta (Haw. syn. p. 33.) branches numerous, erectish, decumbent; pedicels usually solitary: corolla more semi-quinquefid than the last, wrinkled and bedewed: with lanceolate, acuminated segments. ♄. S. Native of the Cape of Good Hope. Stapèlia irroràta, Mass. stap. p. 12. t. 9. Lodd. bot. cab. 127. Corolla sulphur-coloured, and spotted with blood colour; having the bottom blood-coloured, and the segments tipped with purple. This species differs from *P. verrucòsa*, in the flowers not being warted, and in the want of the pentagonal circle, and colour, ex Willd. spec. 1. p. 1452.

Bedewed Podanthes. Fl. July. Sept. Clt. 1795. Shrub dec.

3 P. verrucòsa (Haw. syn. p. 33.) branches numerous, ascending, tetragonal; pedicels solitary or twin; corolla quinquefid, warted; segments ovate, acuminated; orbicle in the bottom of the corolla scabrous, pentagonal. ♄. S. Native of the Cape of Good Hope. Stapèlia verrucòsa, Mass. stap. 2. no. 8. t. 8. but not of Sims, Jacq. stap. t. 26. Corolla yellowish, spotted with blood-colour; but with the tops of the segments, and about the bottom brownish. Segments of the outer corona lunutely 2-lobed; leaflets of the inner uncinate, obtuse, and retuse.

Warted-flowered Podanthes. Fl. Aug. Oct. Clt. 1795. Shrub ½ foot.

4 P. roríflua; corolla 5-cleft, dotted, with an equal bottom; segments of the outer corona emarginate; leaflets of the inner corona incurved, 2-lobed. ♄. S. Native of the Cape of Good Hope. Stapèlia roríflua, Jacq. stap. t. 30. Willd. enum. p. 285. Orbicle none. Beaks gibbous, lying upon the stigma, ex Jacq. Corolla yellow, dotted with red.

Dew-flowing-flowered Podanthes. Fl. July, Sept. Clt. 1802. Shrub proc.

5 P. pulche'lla (Haw. syn. 33.) branches numerous, tetragonal, reclinate; pedicels fasciculate; corolla 5-cleft, wrinkled: with ovate, acute segments; orbicle circular. ♄. S. Native of the Cape of Good Hope. Stapèlia pulchélla, Mass. stap. p. 22. t. 26. Corolla yellow, dotted with blood-colour. Tips of segments and bottom fuscescent.

Neat Podanthes. Fl. May, Nov. Clt. 1795. Shrub dec.

6 P. cilia'ta (Haw. syn. p. 34.) branches numerous, tetragonal, procumbent, radicant; pedicels solitary; corolla 5-cleft, papillose above, and ciliated on the margins: with ovate, acute, flat segments. ♄. S. Native of the Cape of Good Hope, in Karro. Stapèlia ciliàta, Thunb. prod. 1. p. 46. fl. cap. 2. p. 168. Mass. stap. p. 9. t. 1. Corolla yellowish, ex Willd., purplish green, greyish inside, with rufescent papilla, ex Thunb. Cilia clavate, white, ex Thunb. Orbicle beset with papillæ, which are tipped with purple.

Ciliated Podanthus. Fl. Oct. Dec. Clt. 1795. Shrub cr.

Cult. For culture and propagation see *Stapèlia*, p. 117.

VII. TRIDE'NTEA (from *tridens*, a trident; in reference to the segments of the outer corona being tridentate.) Haw. syn. p. 34.—Stapèlia species of authors.

Lin. syst. *Pentándria, Monogýnia.* All as in *Stapèlia*, except the ligulæ or segments of the outer corona, which are tridentiform; and those of the inner corona are unequally bipartite.—The species have almost the habit of those of *Podánthes;* but the branches are naked, and more erect; and the teeth are smaller, and terminated by a very manifest green leaf.

1 T. gemmiflòra (Haw. syn. p. 34.) branches numerous, erect, tetragonal; pedicels solitary or twin; corolla corrugated; segments ovate, acute, ciliated with white hairs, 5-nerved above. ♄. S. Native of the Cape of Good Hope, in arid places, among bushes, beyond Platte Kloof. Stapèlia gemmiflòra, Mass. stap. p. 14. t. 15. Jacq. stap. t. 9. Corolla almost black, ciliated with dark hairs. Orbicle none, ex Haw. Ligulæ deep purple, with paler tips. Outer branches of inner corona dark purple; inner ones tipped with white.

Var. β; corolla marked with golden yellow dots, Mass.

Var. γ; corolla wholly black, Haw.

Gem-flowered Tridentia. Fl. Oct. Nov. Clt. 1795. Shrub ½ foot.

2 T. Sty'gia (Haw. syn. p. 34.) corollas wrinkled, black, ciliated with red hairs; branches thick, short, yellowish green. ♄. S. Native of the Cape of Good Hope. Stapèlia Stýgia, Rœm. et Schultes, syst. 6. p. 561. The branches of this species are very different from the preceding, being shorter, thicker, and paler.

Stygian Tridentea. Fl. July, Sept. Clt. 1810. Shrub ¼ foot.

3 T. moscha'ta (Haw. syn. p. 25. suppl. pl. succ. p. 10.) corolla ciliated, wrinkled from tubercles above, and dotted beneath; leaflets of inner corona subulate, diverging; appendages lanceolate. ♄. S. Native of the Cape of Good Hope. Stapèlia hircòsa, Jacq. stap. t. 43. Willd. enum. p. 281. Corolla brownish purple, spotted with yellow. Leaflets of outer corona tripartite; the middle segments much the longest.

Musky Tridentea. Shrub.

4 T.? ve'tula (Haw. syn. p. 34.) branches numerous, erect, tetragonal: pedicels twin or tern; corolla glabrous, with lanceolate, bluntly acuminated segments, which are 3-nerved above, and wrinkled. ♄. S. Native of the Cape of Good Hope, on the mountains, at Hex river. Stapèlia vétula, Mass. stap. p. 15. t. 16. Jacq. stap. t. 27. Allg. gart. mag. 1818. p. 17. t. 2. Corolla dark, violaceous, with a dark purple bottom. Segments of corolla ovate, acuminated, 3-nerved above, ex Willd. Ligulæ oblong, acute: inner branches of inner corona subulate, diverging; outer ones ovate, somewhat tridentate, ex Willd. Perhaps a true species of *Stapèlia*.

Stale Tridentea. Fl. May, Nov. Clt. 1793. Shrub ¼ to ½ foot.

5 T. Símsii; branches tetragonal, erect: with thick teeth; segments of corolla 5-nerved, ovate, acuminated; ligulæ retusely tricuspidate; branches of inner corona subulate. ♄. S. Native of the Cape of Good Hope. Stapèlia vétula, Sims, bot. mag. t. 1234, exclusive of the synonyms. Stapèlia Símsii, Rœm. et Schultes, syst. 6. p. 33. Trid. vétula, Haw. syn. p. 36. Corolla dark. Ligulæ yellow.

Sims's Tridentea. Fl. May, Nov. Clt. 1800. Shrub ¼ to ½ foot.

6 T. depre'ssa; segments of corolla ciliated, wrinkled; ligulæ tridentate; branches of inner corona a little toothed, subulate, spreading. ♄. S. Native of the Cape of Good Hope. Stapèlia deprèssa, Jacq. diar. lips. 1814. p. 268.

Depressed Tridentea. Fl. July, Aug. Clt. ? Shrub ¼ to ½ foot.

7 T. rugòsa; branches tetragonal, procumbent, but afterwards erect; pedicels solitary; corolla wrinkled, glabrous; inner branch of inner corona clavate, outer one terete, obtuse. ♄. S. Native of the Cape of Good Hope. Stapèlia rugòsa, Jacq. stap. t. 21. Willd. enum. p. 284. Corolla 3 inches broad, pale green beneath, but marked above with dark purple and blood-coloured dots. Bottom of corolla orbicular, tumid, ex Willd. Orbicle spurious, depressed, surrounded by 5 crenatures, ex Jacq. l. c.

Wrinkled-flowered Tridentea. Shrub dec.

8 T. paniculata (Haw.) corollas flat, transversely papillose,

hairy; segments of exterior corona, or ligulæ, obtuse, obsoletely tridentate; horns subulate, connivent: outer branches of inner corona ovate, obtuse. ♄. S. Native of the Cape of Good Hope. Stapèlia paniculàta, Jacq. stap. t. 61. Corolla of a livid green colour outside, glabrous, brownish purple, and beset with violaceous papillæ inside; hairs white.

Panicled Tridentea. Fl. June, Sept. Clt. 1805. Shrub.

Cult. For culture and propagation see *Stapèlia*, p. 117.

VIII. TROMO'TRICHE (τρομος, *tromos*, tremor; θριξ τριχος, *thrix, trichos*, a hair; in reference to the cilia of the corolla being tremulous.) Haw. syn. p. 36.—Stapèlia species of authors.

Lin. syst. *Pentándria, Digýnia.* Corolla smooth, revolute, ciliated with tremulous spatulate hairs. Segments of exterior corona, or ligulæ, connate at the base, horizontal, cuneate-rhomboid and serrated; those of the inner corona unequally bifid; inner branch recurved, longer and slenderer than the other, gradually thickened to the apex, whence it appears like a stigma.—Habit almost of the first section of *Stapèlia;* but the branches are naked, and very glaucous, or rather pruinose, erectly decumbent; the teeth distant, thick, horizontal, or a little recurved.

1 T. revolu'ta (Haw. syn. p. 36.) branches tetragonal, glaucous, erect; corolla glabrous; but the segments are ciliated with spatulate glands, acute, and revolute; ligulæ quadrate, obcuneated and retuse at top; outer branch of inner corona tooth-formed, acute. ♄. S. Native of the Cape of Good Hope, in Karro, under bushes. Stapèlia revolùta, Mass. stap. p. 12. t. 10. Sims, bot. mag. 724. Branches floriferous at top. Pedicels solitary. Corolla pale, violaceous, ex Willd., greenish yellow outside, and purplish inside, ex Mass; dirty dark red, with a pale circle at the base of the lobes, ex Haw. suppl. pl. succ. p. 11.

Revolute-flowered Tromotriche. Fl. Ju. Sept. Clt. 1790. Shrub 1 foot.

2 T. glau'ca (Haw. syn. p. 37.) branches tetragonal, very glaucous; corolla glabrous; segments ovate, acute, revolute, fringed with clavate glands; ligulæ bi-tridentate at apex. ♄. S. Native of the Cape of Good Hope. Stapèlia glaûca, Jacq. stap. t. 10. Willd. enum. p. 279. Very like *T. revolùta*, in the mode of growth, colour, form, and corolla; but differs from it in the segments of the exterior corona being tridentate, ex Willd. Branches sometimes hexagonal, ex Jacq. Pedicels aggregate at the tops of the branches. Corolla livid green outside, and striated: blood-coloured inside; with a white bottom; ex Jacq. Lobes of outer corona obtuse, and a little emarginate at the apex: therefore the plants of Jacquin and Haworth are probably distinct.

Glaucous Tromotriche. Fl. Ju. Nov. Clt. 1799. Sh. 1 to 2 feet.

3 T. pruinòsa (Haw. syn. p. 37.) branches bluntly tetragonal, erect, with recurved teeth; corolla with flat, ovate, pilose, or downy segments, the down appearing like powder; ligulæ serrated at top.? ♄. S. Native of the Cape of Good Hope, in the dry regions of Namaqua Land, among bushes. Stapèlia pruinòsa, Mass. stap. p. 24. t. 41. Corolla blackish, beset with white adpressed hairs, ex Willd. Stems purplish. Flowers small, solitary, twin, or tern, towards the tops of the branches, purplish, ex Mass. Perhaps a species of *Piaránthus*.

Pruinose-flowered Tromotriche. Fl. Ju. July. Clt. 1795. Shrub 1½ foot.

4 T. obliqua; branches tetragonal, glaucous? corolla glabrous; segments ovate-acuminated, bent, obliquely ciliated with clavate white or purple glands; ligulæ bidentate, acute. ♄. S. Native of the Cape of Good Hope. Stapèlia oblìqua, Willd. enum. suppl. p. 13. Corolla dirty yellow, marked with confluent, violaceous spots. Exterior corona greenish yellow, dotted at top, and furnished with a mark at the base.

Oblique-flowered Tromotriche. Fl. Ju. Sept. Clt. 1805. Shrub 1½ foot.

5 T. fusca'ta (Haw. suppl. pl. succ. p. 10.) branches tetragonal, erectish, glaucous-green; corolla glabrous; leaflets of outer corona 2-3-toothed; shorter branches of inner corona obtuse. ♄. S. Native of the Cape of Good Hope. T. glaúca, β, Haw. syn. p. 37. Stapèlia fuscàta, Jacq. stap. t. 55. Flowers brownish purple. Corolla pale at bottom, striated transversely with red; ciliated at top, with clavate, wine-coloured glands. Ligulæ dark brown.

Brownish-flowered Tromotriche. Fl. Ju. Nov. Clt. 1814. Shrub ½ to 1 foot.

Cult. For culture and propagation see *Stapèlia*, p. 117.

IX. O'RBEA (from *orbis*, an orb; the orb in the centre of the flower is very large and elevated.) Haw. syn. p. 38.—Stapèlia species of authors.

Lin. syst. *Pentándria, Digýnia.* Corolla 5-cleft, starry, the whole of the inside corrugated, furnished with a large, elevated orb in the centre. Segments of outer corona, or ligulæ, long, spreading, bi or tridendate at the apex; those of the inner corona unequally bifid; the inner branch recurved, longer than the outer one, style-formed, clavate, and stigma-formed at the apex.—Habit of the species of *Podánthes;* but the branches are more robust, and less effuse; and, when old, become decumbent and creeping: the teeth are smaller, and horizontal, not ascending.

1 O. maculòsa (Haw. syn. 37.) corolla smooth, ciliated; ligulæ tridentate; orb convex, downy, ex Haw. ♄. S. Native of the Cape of Good Hope. Stapèlia maculòsa, Jacq. stap. t. 31. Willd. enum. p. 283. Sims, bot. mag. 1833. Stap. míxta, Donn. hort. cant. Segments of corolla ovate, acute, dirty yellow, red at the apex and edges, almost covered by confluent, rufous, large spots. Orb waved, elevated, but small for the size of the flower. Ligulæ 2-3-toothed at top, brownish grey, pale at top, and marked by a large, distinct, brown spot, ex Haw.

Spotted-flowered Orbea. Fl. Ju. Sept. Clt. 1804. Shrub 1 foot.

2 O. míxta (Haw. syn. p. 38.) corolla glabrous, with ovate, acuminated, wrinkled segments, an elevated, papillose orb, and bifid ligulæ. ♄. S. Native of the Cape of Good Hope. Stapèlia míxta, Mass. stap. p. 23. t. 38. Flowers drooping, of an obscure violaceous colour, wrinkled with transverse yellow stripes, and a yellow orb, beset with brown papilla. Very nearly allied to *O. variegàta;* but differs in the form of the teeth of the branches, and in the flowers being twice the size, in the acuminated segments, in the elevated, papillose orb, &c.

Mixed Orbea. Fl. Ju. Sept. Clt. 1800. Shrub 1 foot.

3 O. quinquene'rvis (Haw. syn. p. 38.) corolla glabrous, ? 5-nerved on both sides; segments roundish elliptic; ligulæ tridentate, middle tooth small; branches spotted with brown. ♄. S. Native of the Cape of Good Hope. Stapèlia quinquenérvis, Rœm. et Schultes, syst. 6. p. 37. Larger than *O. variegata*. Corolline segments sulphur-coloured, less spotted than in *O. bisúlca;* but having brown spots on both surfaces in certain places; and the corolla, and exterior corona, are more deeply cleft than in *O. bisúlca*. Ligulæ yellow, having a blood-coloured spot at the base, but with distinct brownish dots at the apex.

Five-nerved-flowered Orbea. Fl. Ju. Sept. Clt. 1800. Shrub 1 foot.

4 O. bisu'lca (Haw. syn. p. 39.) corolla glabrous; orb large; ligulæ emarginate; branches thick, green. ♄. S. Native of

the Cape of Good Hope. Stapèlia trisúlca, Jacq. stap. t. 64. Corolla dirty yellow, covered with dark rufous dots; orb sulphur-coloured; ligulæ yellow; with a large deep brown mark at the base, and dotted at the apex.

Two-furrowed Orbea. Fl. June, Sept. Clt. 1805. Shrub 1 foot.

5 O. variega'ta (Haw. syn. 40.) corolla glabrous, convex outside of the tube; segments ovate, acute; ligulæ bifid, acute; orb tumid, large. ♄. S. Native of the Cape of Good Hope, on the sides of mountains, at Leuweberg, and elsewhere. Stapèlia variegàta, Thunb. prod. 1. p. 46. fl. cap. 2. p. 170. Jacq. stap. t. 24. misc. 1. p. 27. t. 4. D. C. pl. gr. t. 149. Tratt. thes. t. 18. but not of Forsk. desc. p. 51. which does not belong to the genus, but is probably an Apocyneous plant. Herm. lugd. t. 53.—Burm. afr. dec. 2. p. 30. t. 12. f. 2. Flowers solitary, large, drooping. Corolla sulphur-coloured, variegated with transverse wrinkles, and irregular brownish-purple spots: having the orb in the bottom paler, Willd. Branches floriferous at the base.

Variegated-flowered Orbea. Fl. June, Sept. Clt. 1727. Shrub 1 foot.

6 O. Curtísii (Haw. syn. p. 40.) corolla sulphur-coloured; ligulæ entire. ♄. S. Stapèlia variegàta, Curt. bot. mag. t. 26. exclusive of the synonymes.

Curtis's Orbea. Fl. June, Sept. Clt. 1690. Shrub 1 ft.

7 O. planiflòra; corolla glabrous, flat; orb tumid; leaflets of outer corona obtuse, bidentate. ♄. S. Native of the Cape of Good Hope. Stapèlia planiflòra, Jacq. stap. Poir. suppl. 5. p. 232. Lodd. bot. cab. 191. Branches procumbent, glabrous. Pedicels solitary or twin at the insertion of the branches. Corolla pale sulphur-coloured, spotted with blackish purple. This species is very like *O. variegàta*, but differs in the corolla being very flat.

Var. β, marginàta (Poir. l. c.) edges of corolla dark purple. ♄. S.

Flat-flowered Orbea. Fl. July, Nov. Clt. 1805. Sh. proc.

8 O. Wendlandia'na; corolla glabrous: with acuminated, reflexed segments; orb elevated, tumid; ligulæ emarginate; branches decumbent, floriferous at the base; pedicels solitary. ♄. S. Native of the Cape of Good Hope. Stapèlia rugòsa, Wendl. coll. 2. p. 41. t. 52. Stap. Wendlandiàna, Rœm. et Schultes, syst. 6. p. 39. Teeth of branches long, subspinose. Pedicels pale red. Corolla pale yellow outside, and yellow and spotted with brown inside; and the orb brownish, as well as the ligulæ; inner corona pale yellow.

Wendland's Orbea. Fl. June, Sept. Clt. 1818. Sh. dec.

9 O. margina'ta; corolla flat, glabrous; ligulæ bidentate, obtuse; orb tumid, bluntly 5-angled. ♄. S. Native of the Cape of Good Hope. Stapèlia marginàta, Willd. enum. suppl. p. 13. Corolla pale yellow, margined with red, and painted with the same colour; orb pale yellow; ligulæ yellow, dotted at top, and furnished with 3 red spots at the base, the middle yellow.

Marginate-flowered Orbea. Fl. June, Sept. Clt. 1805. Shrub dec.

10 O. conspurca'ta; corolla glabrous, but ciliated with minute clavate hairs; orb tumid; ligulæ bifid. ♄. S. Native of the Cape of Good Hope. Stapèlia conspurcàta, Jacq. stap. t. 47. Corolla dirty yellow, ornamented with violaceous spots, as well as the orb; ligulæ yellow, painted with a broad, dotted, violaceous line. Nearly allied to *O. normàlis*, but differs in the edges of the corolla being ciliated with minute, clavate, white hairs.

Defiled Orbea. Fl. June, Oct. Clt. 1795. Shrub dec.

11 O. norma'lis; corolla flat, glabrous; ligulæ bifid, furnished with a blunt tooth between each; orb rather tumid. ♄. S. Native of the Cape of Good Hope. Stapèlia normàlis, Jacq. stap. t. 42. diar. lips. 1814. p. 268. Ker. bot. reg. 755. Very like *O. variegàta*, but differs in the dots on the corolla, and ligulæ disposed in regular parallel rows.

Regular-spotted Orbea. Fl. July, Aug. Clt. 1821. Sh.

12 O. clypea'ta (Haw. suppl. pl. succ. p. 13.) corolla flat, glabrous; ligulæ semibifid, acute, with a tooth between each; orb tumid. ♄. S. Native of the Cape of Good Hope. Stapèlia clypeàta, Jacq. diar. lips. 814. p. 269. stap. t. 48. Both branches of the leaflets of inner corona capitate. Corolla yellow, spotted with purple.

Shielded-flowered Orbea. Clt. 1812. Shrub $\frac{1}{2}$ foot.

13 O. orbicula'ris (Haw. syn. p. 40.) corolla glabrous; with roundish, acuminated segments; orb tumid; ligulæ short, obcordately emarginate. ♄. S. Native of the Cape of Good Hope. Stapèlia orbiculàris, Andr. bot. rep. t. 439. Branches tufted, erect, curved at the base. Pedicels solitary. Corolla pale yellow: having approximate, brownish lines on the segments; orb yellow, dotted with brown; bottom deep brown.

Orbicular-ringed Orbea. Fl. July, Nov. Clt. 1799. Shrub $\frac{1}{2}$ foot.

14 O. bufònia (Haw. syn. p. 40.) corolla flat, glabrous; ligulæ bifid, obtuse; orb tumid. ♄. S. Native of the Cape of Good Hope. Stapèlia bufònia, Jacq. t. 1. and 49. diar. lips. p. 269. Willd. enum. p. 283. Sims, bot. mag. 1076. Branches glaucescent. Pedicels solitary. Corolla pale and livid green outside, with red nerves, and dirty brown inside, spotted with purple, and striped with yellow.

Toad Orbea. Fl. June, Sept. Clt. 1806. Shrub $\frac{1}{2}$ foot.

15 O. marmora'ta; corolla flat, glabrous; ligulæ bifid, obtuse; orb subtumid. ♄. S. Native of the Cape of Good Hope. Stapèlia marmoràta, Jacq. diar. lips. 1814. p. 269. stap. t. 28. Very nearly allied to *O. bufònia*. Corolla purple, striped with yellow and white.

Marbled-flowered Orbea. Fl. June, Sept. Clt. 1820. Sh. $\frac{1}{2}$ foot.

16 O. retu'sa (Haw. syn. p. 41,) corolla glabrous; with deltoid segments, which are 5-nerved outside as in all the rest; ligulæ long, lorate, retuse; orb large. ♄. S. Native of the Cape of Good Hope. Stapèlia retùsa, Rœm. et Schultes, syst. 6. p. 41. Branches similar to those of *O. anguìna*, but thicker. Pedicels long, from the base of the branches. Corolla yellowish inside, spotted, and striped with dark brown, but more particularly towards the base; but the orb is paler and less spotted. Ligula green, with very minute rufous spots. Inner corona beset with small, scattered, black tubercles, as in *O. anguìnea*.

Retuse Orbea. Fl. July, Aug. Clt. 1800. Shrub $\frac{1}{2}$ ft.

17 O. anguìnea (Haw. syn. p. 41.) corolla glabrous; ligulæ semibipartite; orb large. ♄. S. Native of the Cape of Good Hope. Stapèlia anguìna, Jacq. stap. t. 54. Lodd. bot. cab. 828. Pedicels long, rising from the base of the branches. Corolla yellow, marked with numerous rufous spots; the orb is marked with large spots of two forms, dark brown yellow on the sides near the base. Gynostegium dotted with dark brown.

Snake-speckled Orbea. Fl. June, July. Clt. 1812. Sh. $\frac{1}{2}$ ft.

18 O. pícta (Haw. syn. p. 42.) corolla semiquinquefid, glabrous, with ovate, acuminated segments; ligulæ bifid; orb elevated, depressed in the centre. ♄. S. Native of the Cape of Good Hope. Stapèlia pícta, Donn. hort. cant. p. 53. Sims, bot. mag. 1169. Allg. teutsch. gart. mag. 7. p. 413. t. 42. S. variegàta, Jacq. misc. 1. p. 27. t. 4.? Branches simple, 4-furrowed, torulose. Corolla yellow, variegated with dark purple. It differs from *O. variegàta* in the corolla being rather smaller, in the ring or orb being narrower, not dotted, but varie-

gated with black and white, and from all the rest in the bottom part of the corolla being very dark brown.

Painted-flowered Orbea. Fl. Ju. Sept. Clt. 1799. Sh. ½ ft.

19 O. Woodfordia'na (Haw. syn. p. 42.). ♄. S. Native of the Cape of Good Hope. Stapèlia Woodfordiàna, Hort. Haworth has not seen the flowers of this species; but the plant is very like *O. anguìnea* and *O. pícta*.

Woodford's Orbea. Clt. 1810. Shrub ½ foot.

20 O. le'pida (Haw. suppl. pl. succ. p. 13.) corolla glabrous; orb tumid; ligulæ obtuse, emarginate or retuse. ♄. S. Native of the Cape of Good Hope. Stapèlia lépida, Jacq. stap. t. 15. Willd. enum. p. 280. Podánthes? lépida, Haw. syn. p. 34. no. 5. Very like *O. variegàta*, but the branches are green, not glaucescent. Pedicels usually twin. Corolla greenish yellow, with purple spots; ligulæ green, spotted with red. Outer branch of inner corona subulate, acute; inner one obtuse.

Pretty Orbea. Fl. July, Aug. Clt.? Shrub ½ foot.

21 O. muta'bilis; corolla fringed, spotted; teeth of branches spreading; ligulæ tridentate; inner branch of inner corona clavate. ♄. S. Native of the Cape of Good Hope. Stapèlia mutábilis, Jacq. t. 59-60. Spreng. syst. 1. p. 838. Stap. rùfa, Mass.? Corolla greenish yellow, with numerous transverse purple stripes, ciliated with red, clavate, tremulous hairs. This species seems to be intermediate between *Orbea* and *Tromótriche*.

Changeable-flowered Orbea. Fl. June, July. Clt. 1823. Shrub ½ foot.

22 O. inodòra (Haw. suppl. pl. succ. p. 12.) corolla sulphur-coloured, spotted with dark brown, scentless; leaflets of outer corona emarginate, shorter than the large orb, depressed, rather flexuous. ♄. S. Native of the Cape of Good Hope. Inner branches of inner corona incurved, a little attenuated at the top: outer one longer and incurved.

Scentless Orbea. Fl. July, Sept. Clt. 1788. Shrub ½ ft.

Cult. For culture and propagation see *Stapèlia*, p. 117.

X. OBE'SIA (*obesus*, fat; flowers). Haw. syn. p. 42.—Stapèlia species of authors.

Lin. syst. *Pentándria*, *Digýnia*. All as in *Stapèlia;* but the exterior corona is 5-lobed, therefore there are no ligulæ; the orb or ring is also wanting. Leaflets of inner corona bipartite, yellow, small, thick, and truncate, thickest at the apex; outer branch spreading; inner branch semicylindrical, closely incurved above the table of the style.—Glaucescent plants with the habit of *Stapèlia*. Joints of branches short, almost oblong, very thick, obsoletely tetragonal, radicant: with small, horizontal teeth. Flowers small, usually twin.

1 O. gemina'ta (Haw. syn. p. 42.) joints of branches proliferous, creeping, suboval, obscurely tetragonal, floriferous at top; flowers usually twin; outer corona 5-lobed; margins of segments of corolla revolute. ♄. S. Native of the Cape of Good Hope. Stapèlia geminàta, Mass. stap. p. 18. t. 25. Sims, bot. mag. 1326. Lodd. bot. cab. p. 300. Jacq. stap. t. 8. Corolla orange yellow, dotted with blood colour; segments lanceolate, acuminated, rather hairy inside, when examined by a lens, ex Mass. Lobes of outer corona tridentate.

Twin-flowered Obesia. Fl. May, Nov. Clt. 1795. Sh. cr.

2 O. decòra (Haw. syn. p. 43.) joints of branches oblong, obsoletely tetragonal, floriferous at base; flowers twin; outer corona 5-lobed; segments of corolla scabrous from dots above, lanceolate, acuminated, with revolute edges. ♄. S. Native of the Cape of Good Hope. Stapèlia decòra, Mass. stap. p. 19. t. 26. Corolla yellow, beset with dark purple, elevated dots. It differs from *O. geminàta* in the joints of the branches being smaller, in the teeth being stronger, and in the flowers being rather larger, and scabrous from dots.

Graceful Obesia. Fl. May, Nov. Clt. 1795. Pl. tufted.

Cult. For culture and propagation see *Stapèlia*, p. 117.

XI. DUVA'LIA (named after H. A. Duval, of Paris; author of Enumeratio Plantarum Succulentarum in Horto Alenconio). Haw. syn. p. 44.—Stapèlia species of authors.

Lin. syst. *Pentándria*, *Digýnia*. All as in *Stapèlia;* but the segments of the corolla are more or less bent to one side; the orb is elevated; the lobes of the outer corona are entire, bifid, or emarginate at apex; the segments of the inner corona are minute, hollow, resembling a bird's head, and incurvedly addressed to the angles of the style; the table of the style is round, a little repand, with 5 angular depressions.—Habit of *Stapèlia*. Branches short, proliferous, almost as in *Piaránthus*, often shorter and more glomerate, and throwing out numerous roots, usually glaucescent.

* *Corollas ciliated.*

1 D. reclina'ta (Haw. syn. p. 44.) corolla with lanceolate, ciliated, replicate segments; an elevated, convex orb; branches tetragonal, floriferous in the middle; segments of exterior corona bifid; leaflets of the inner one galeately hooked. ♄. S. Native of the Cape of Good Hope. Stapèlia reclinàta, Mass. stap. p. 19. t. 28. Jacq. stap. p. 4. Sims, bot. mag. 139. Cilia of corolla clavate. Pedicels solitary or aggregate. Corolla small, dark purple.

Reclinate-flowered Duvalia. Fl. July, Sept. Clt. 1795. Shrub cr.

2 D. e'legans (Haw. syn. p. 44.) corolla with deltoid, acuminated, ciliated segments, which are clothed with long purple hairs inside, and a small, elevated orb; segments of the outer corona purplish; branches tetragonal, floriferous in the middle. ♄. S. Native of the Cape of Good Hope. Stapèlia élegans, Mass. 19. t. 27. Sims, bot. mag. 1184. Pedicels twin or tern. Corolla hispid, fringed, smaller than those of *O. reclinàta*, dark purple, with a rufescent, pentagonal bottom.

Elegant Duvalia. Fl. July, Sept. Clt. 1795. Shrub cr.

3 D. cæspitòsa (Haw. syn. p. 45.) corolla with lanceolate, acute, replicate, ciliated segments, an elevated orb; segments of outer corona bifid; leaflets of the inner depressedly hooked; joints of branches crowded, tetragonal, floriferous above the base. ♄. S. Native of the Cape of Good Hope, in Karro, under bushes. Stapèlia cæspitòsa, Mass. stap. p. 20. t. 29. Redout. liliac. t. 148. Jacq. stap. t. 2. Corollas size of those of *D. élegans*, dark purple; having the orb and corona green. Segments of the corolla ciliated from the base to above the middle; the apex naked.

Tufted Duvalia. Fl. May, Aug. Clt. 1790. Shrub proc.

4 D. Jacquinia'na; corolla with lanceolate segments, having their edges reflexed and ciliated, and an elevated orb; segments of outer corona bifid; leaflets of the inner falcately hooked; joints of branches oblong. ♄. S. Native of the Cape of Good Hope. Stapèlia radiàta, Jacq. stap. t. 37. Stap. Jacquiniàna, Rœm. et Schultes, syst. 6. p. 45. Flowers deep purple.

Jacquin's Duvalia. Fl. July, Sept. Clt. 1802. Sh. proc.

5 D.? defle'xa; corolla wrinkled, ciliated, downy in the centre; segments with revolute edges, the whole straight and deflexed; segments of the outer corona beaked, acute, gibbose at the base, erect; leaflets of the inner corona subrotate. ♄. S. Native of the Cape of Good Hope. Stapèlia defléxa, Jacq. stap. diar. lips. 1814. p. 268. Branches ascending a foot high and more. Pedicels aggregate at the base and in the middle of the branches. Corolla yellow inside, livid green outside, with rufescent stripes.

Deflexed Duvalia. Shrub.

6 D. tubercula'ta (Haw. syn. p. 46. suppl. pl. succ. p. 13.) branches oblong, tetragonal; teeth large, recurved; orb hairy; segments of corolla ciliately pubescent, dark brown. ♄. S. Native of the Cape of Good Hope. Stapèlia tuberculàta,

Hort. Plant smaller than *D. radiàta*. Ligulæ angular, entire, pale rufous. Segments of inner corona pale red.

Tubercled Duvalia. Fl. July, Sept. Clt. 1808. Sh. proc.

7 D. HIRTE'LLA ; segments of corolla replicate, lanceolate, ciliated on the edges ; orb elevated, hairy ; segments of outer corona obtuse ; segments of inner corona falcately hooked ; branches columnar, not oblong, as in *D. cæspitòsa* ; pedicels usually solitary. ♄. S. Native of the Cape of Good Hope. Stapèlia hirtélla, Jacq. stap. t. 14. Willd. enum. p. 285. Haw. syn. p. 26. suppl. pl. succ. p. 10. Corolla livid green outside, deep purple inside.

Hairy-flowered Duvalia. Fl. Jul. Sept. Clt. 1800. Sh. proc.

8 D. MASTÒDES ; segments of corolla replicate, ciliated at the base; orb elevated, glabrous ; branches hexagonal ; tubercles of branches flattish, mammillary. ♄. S. Native of the Cape of Good Hope. Stapèlia mastòdes, Jacq. stap. t. 56-57. Corolla brownish purple. Pedicels in fascicles, near the tops of the branches.

Teat-toothed Duvalia. Fl. July, Aug. Clt.? Shrub proc.

* * *Segments of corolla naked, not ciliated.*

9 D. RADIA'TA (Haw. syn. p. 45.) corolla with narrow, distant, replicate, naked segments, and an elevated orb ; segments of the outer corona obtuse, entire ; joints of branches short, tetragonal ; pedicels twin. ♄. S. Native of the Cape of Good Hope. Stapèlia radiàta, Sims, bot. mag. 619. Lodd. bot. cab. 831. Inner corona of 5 tongue-shaped, concave bodies, disposed in a stellate manner, bending back upon the centre of the corolla, at the apex. Corolla dark purple. In Jacq. stap. t. 29, the corolla is ciliated.

Radiate-nectaried Duvalia. Fl. June, Sept. Clt. 1795. Sh. proc.

10 D. REPLICA'TA (Haw. l. c.) corolla with lanceolate, replicate, naked segments, and an elevated orb ; segments of the exterior corona obtuse ; leaflets of the interior corona falcately uncinate. ♄. S. Native of the Cape of Good Hope. Stapèlia replicàta, Jacq. stap. Willd. enum. p. 286. Branches ascending. Pedicels usually solitary. Corolla livid green outside, blackish purple inside. Perhaps the same as *D. radiàta*.

Replicate-flowered Duvalia. Fl. July, Sept. Clt. 1812. Shrub proc.

11 D. LÆVIGA'TA (Haw. syn. p. 46. suppl. pl. succ. p. 14.) orb large ; segments of corolla horizontal. ♄. S. Native of the Cape of Good Hope. Stapèlia lævigàta, Hort. Very nearly allied to *D. radiàta*. Orb larger and petals more horizontal than in any other species.

Smooth Duvalia. Fl. July, Sept. Clt. 1800. Shrub proc.

12 D. GLOMERA'TA (Haw. syn. p. 46.) flowers usually 4 together ; segments of corolla connivent, except at the tops ; orb rather downy ; branches prostrate or dependent, glomerate, rooting at bottom. ♄. S. Native of the Cape of Good Hope. Stapèlia glomeràta, Hort. Segments of inner corona length of ligulæ. Corolla thick, dark brown. Orb very blunt, subrepand, with a pale base. Very like *D. compácta*, but larger.

Glomerate-branched Duvalia. Clt. 1804. Shrub proc.

13 D. COMPA'CTA (Haw. syn. p. 46.) flowers usually twin ; segments of corolla dark purple, retrofracted and connivent ; table of style and stamens brown ; joints of branches densely glomerate, an inch long. ♄. S. Native of the Cape of Good Hope. Stapèlia compácta, Rœm. et Schultes, syst. 6. p. 46. Segments of inner corona like a bird's head, a little paler than the table of the style ; the rest as in the other species. Branches prostrate, rooting at bottom. Smaller and more compact than *D. glomeràta*.

Compact Duvalia. Fl. July, Sept. Clt. 1800. Sh. tufted.

Cult. For culture and propagation see *Stapèlia*, p. 117.

XII. CARUNCULA'RIA (from *caruncula*, a fleshy protuberance ; tops of inner corona carunculate). Haw. syn. p. 334. —Stapèlia species of authors.

LIN. SYST. *Pentándria, Digýnia.* All as in *Stapèlia*, except the segments of the outer corona or ligulæ, which are short and emarginate ; segments of inner corona bipartite, recurved, compressed, attenuated downwards, globose at top, and granulately carunculate ; granules of very different forms.—Much-branched plants, with the habit of *Stapèlia*. Branches tetragonal.

1 C. PEDUNCULA'TA (Haw. syn. p. 334.) segments of corolla lanceolate, with revolute edges, and fringed angles ; branches numerous, divaricate, tetragonal ; peduncles very long. ♄. S. Native of the Cape of Good Hope. Stapèlia pedunculàta, Mass. stap. p. 17. t. 21. Haw. syn. p. 23. Allg. teutsch. gard. mag. 1811. p. 309. t. 30. Sims, bot. mag. t. 793. Jacq. stap. t. 50-51-52-53. Segments of corolla lanceolate, acuminated, ciliated with pedicellate glands on the margins at the base. Branches somewhat dentate, floriferous in the middle (ex Willd. spec. 1. p. 1284.). There are brownish-purple and yellowish-flowered varieties of this species. Branches glaucous. Pedicels very long, 4-5 together. Corolla green outside.

Pedunculate Caruncularia. Fl. June, Nov. Clt. 1790. Sh.

2 C.? SERRULA'TA ; corolla strigose ; segments revolute on the edges ; segments of outer corona oblong, truncate, serrated at apex ; leaflets of the interior corona hooked and 2-lobed ; outer lobe serrated ; pedicels twin. ♄. S. Native of the Cape of Good Hope. Stapèlia serrulàta, Jacq. stap. t. 41. diar. lips. 1814. p. 269. Willd. enum. p. 286. Corolla brownish-yellow, campanulate ; corona yellow.

Serrulated Caruncularia. Fl. June, Aug. Clt. 1805. Sh.

Cult. For culture and propagation see *Stapèlia*, p. 117.

XIII. PECTINA'RIA (from *pectin*, a comb ; in reference to the inner corona of the flowers being ciliately multifid). Haw. suppl. pl. succ. 14. Stapèlia articulàta, Mass.

LIN. SYST. *Pentándria, Digynia.* All as in *Stapèlia ;* but the corolla is tuberculate, and the branches of the plant warted ; and the outer corona of the corolla lacerately multifid.—A small tufted plant, with the habit of *Stapèlia* ; joints of branches oblong-terete, reticulately and obsoletely warted ; each wart furnished with a small spine. Corolla beset with mucronate papilla or warts above ; with triangular segments. Stapèlia mammillàris, Lin. probably belongs also to this genus, and is perhaps only the same as *P. articulàta*.

1 P. ARTICULA'TA (Haw. l. c.). ♄. S. Native of the Cape of Good Hope, in the regions of Roggeweld. Stapèlia articulàta, Mass. stap. p. 20. t. 30. Branches floriferous at the apex. Flowers solitary. Corolla small, blackish purple. Tubercles on the branches greenish purple. The plant is eaten with vinegar by the Dutch at the Cape, and raw by the Hottentots.

Jointed Pectinaria. Fl. July. Clt. 1800. Shrub.

Cult. For culture and propagation see *Stapèlia*, p. 117.

XIV. CARALLU'MA (the *C. adscéndens* is called *Carallum* by the Telingas). R. Br. in wern. soc. mem. 1. p. 25. —Stapèlia species, Roxb.

LIN. SYST. *Pentándria, Digýnia.* Corolla rotate (f. 15. *b.*), deeply 5-cleft (f. 15. *b.*). Column of fructification exserted. Stamineous corona in a simple series, 10-leaved, 5 of the leaflets are undivided, and opposite the anthers, the rest bipartite (f. 15. *c.*), and ligulate. Anthers simple at top : pollen masses erect, tetragonal (f. 15. *d.*), fixed by the base, pellucid on one side on the margin. Stigma mutic. Follicles slender, smooth. Seeds comose.—Habit almost of *Stapèlia*. Inhabitants of the East Indies. Stems tetragonal, toothed along the angles. Peduncles solitary, 1-flowered, rising from the axils of the teeth. The crown in this genus, as in *Ceropègia*, consists of 5 3-lobed

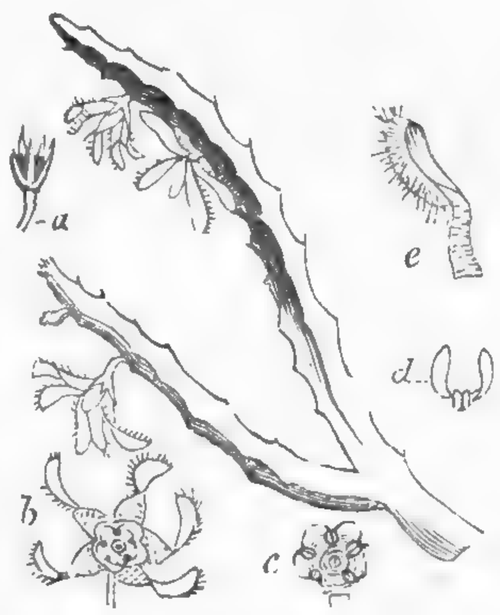
leaves: the lateral lobes united by pairs into 5 ligulate forked leaflets, alternating with the primary lobes and with the stamens.

1 C. adsce'ndens (R. Br. l. c.) branches slender, ascending, bearing each a solitary flower at top; segments of corolla reflexed at the edges, acuminated, glabrous. ♄. S. Native of Coromandel. Stapèlia adscéndens, Roxb. cor. 1. p. 82. t. 30. Corollas size of those of *Periploca Græ'ca*, yellowish; segments tipped with violet. Stems rooting at the base. Flowers variegated with purple and yellow, ex Roxb., usually drooping.

Ascending Caralluma. Fl. July. Clt. 1804. Sh. 1 to 2 ft.

2 C. fimbria'ta (Wall. pl. asiat. rar. 1. p. 7. t. 8.) branches elongated, attenuated; flowers axillary, solitary, subcampanulate, drooping; segments of corolla falcate at top (f. 15. *e*.), with replicate, fringed edges. ♄. S. Native of the Burmese empire, on sterile sandy hills at Yenangeum, on the banks of the Irrawaddy; and among the ruins of Pagamon. Stem branched at top. Segments of corolla naked in the lower part, marked with many transverse purple lines, pale yellow beneath; upper part purple; upper margin straight and downy, fringed behind with articulated vacillating hairs. Very closely allied to *C. adscéndens*, but that species differs from this in the absence of the long vacillating hairs to the corolla. Stapèlia subulàta, Forsk. cat. arab. p. 108. no. 193. t. 7. is the same, or a very nearly allied species. (f. 15.)

FIG. 15.



Fringed Caralluma. Clt. 1829. Shrub ½ foot.

Cult. For culture and propagation see *Stapèlia*, p. 117.

XV. BOUCERO'SIA (from *βουκερως*, *boukeros*, furnished with buffalos' horns; in reference to the curved lobes of the corona). Wight and Arnott, contrib. ind. bot. p. 34. Carallùma species, Haw. and Wall. Stapèlia species, Roxb.

Lin. syst. *Pentándria*, *Digýnia*. Corolla subcampanulate, 5-cleft; segments broadly triangular, with acute recesses. Column of fructification hardly exserted. Stamineous corona 15-lobed; lobes disposed in a double series; the 5 inner ones opposite the stamens, and lying upon the anthers; the rest exterior, erect, or a little incurved at apex, adhering to the back of the inner ones. Anthers simple at the apex; pollen masses erect, tetragonal, pellucid on the one side at the margin. Stigma mutic. Follicles smooth, terete, attenuated at the apex. Seeds comose.—Fleshy, leafless, erect plants, with the habit of *Stapèlia*. Branches and stems tetragonal; with toothed angles. Flowers numerous, terminal, umbellate.—In *Carallùma* the lateral lobes of each leaflet of the corona are separated by means of the middle or primary lobe, with the edge of which they cohere at the base: in this genus, on the contrary, the edges of the lateral lobes of each leaflet cohere, and their line of junction is also attached along the middle of the back of the primary lobe. In both genera the lateral lobes cohere by the margins with the lateral ones of the adjoining leaflet; so that in *Carallùma* we have a corona of 10 narrow and 5 broad segments, attached to each other by the edges only, and forming consequently a simple series, while, in *Boucerò'sia* the 5 broad segments are surrounded by the 10 narrow ones, and a double corona is formed. Wight. and Arnott, contrib. ind. bot. p. 34.

1 B. umbella'ta (Wight and Arnott, l. c.) segments of corolla glabrous. ♄. S. Native of the southern provinces of the Indian peninsula, in arid places. Carallùma umbellàta, Haw. syn. p. 47. Wall. ascl. no. 20-21. Stapèlia umbellàta, Roxb. cor. 3. t. 241. Stapèlia Callamùlia, Haw. Flowers purple.

Umbellate-flowered Boucerosia. Fl.? Clt. 1829. Sh. ½ ft.

2 B. crenula'ta (Wight and Arnott, l. c.) segments of corolla fringed on the edges. ♄. S. Native of the Burmese empire, on sandy mountains, near the town of Segaen, on the left bank of the Irrawaddy, opposite Ava. Carallùma crenulàta, Wall. pl. asiat. 1. p. 6. t. 7. Corollas pale greenish-white below, yellow above, and ornamented with broadish transverse stripes, which become narrower as they approach the base. This is a smaller, more compact, and more glossy plant than the preceding.

Crenulated Boucerosia. Clt. 1829. Shrub ½ foot.

Cult. For culture and propagation see *Stapèlia*, p. 117.

XVI. HUTCHI'NIA (named after Mr. Hutchin of Norwich, a most successful cultivator and liberal distributor of succulent plants). Wight and Arnott, contrib. ind. bot. p. 34.

Lin. syst. *Pentándria*, *Digýnia*. Corolla subcampanulate, 5-cleft. Column of fructification hardly exserted. Stamineous corona 20-lobed; the 5 inner lobes lying on the anthers, the next 5 outside of these alternating with them, each of these 5 furnished with 2 lateral lobes, which exceed the middle one. Anthers simple at top. Pollen masses erect, pellucid on the margin on one side.—A fleshy, leafless, erect plant; branches tetragonal: with toothed angles. Flowers numerous, terminal, subumbellate. Corolla pilose inside.

1 H. I'ndica (Wight and Arnott, contrib. ind. bot. p. 35.). ♄. S. Native of the peninsula of India, in arid places. Wight, cat. no. 1520. Teeth of branches reflexed. Flowers pale, greenish white outwardly, but tinged with purple, and covered with purplish hairs within. Follicles not seen.

Indian Hutchinia. Shrub ½ foot.

Cult. For culture and propagation see *Stapèlia*, p. 117.

XVII. ERIOPE'TALUM (from *εριον*, *erion*, wool, and *πεταλον*, *petalon*, a petal; segments of corolla usually densely villous inside). Wight, contrib. ind. bot. p. 35.

Lin. syst. *Pentándria*, *Digýnia*. Corolla subcampanulate, 5-cleft; segments narrow, linear: with broad recesses. Stamineous corona 15-lobed; the 5 inner lobes lying upon the anthers; the 10 exterior ones erect, approximate, adhering to the inner series. Anthers simple at apex; pollen masses fixed nigh the base, erect, lying upon the stigma, pellucid on the margin on one side. Follicles slender, glabrous.—Erect, rather branched herbs. Stems terete. Leaves minute, scale-formed, adpressed. Flowers small, umbellate; umbels lateral or terminal, sessile. Segments of corolla longer than the tube, usually clothed with dense villi or wool inside, hence the generic name. This genus agrees in habit with *Microstémma*, but differs in the form of the corona; on the other hand it resembles *Boucerò'sia* in the corona, but has a widely different habit.

1 E. parviflòrum (Wight, l. c.) segments of corolla hardly longer than the tube, woolly; corona exceeding the gynostegium or column of fructification. ♃. S. Native of Doongie, Royle.

Small-flowered Eriopetalum. Pl. erect.

2 E. attenua'tum (Wight, l. c.) segments of corolla slender, attenuated, villous, twice or thrice longer than the tube; corona shorter than the gynostegium. ♃. S. Native of Doongie, Royle.

Attenuated-petalled Eriopetalum. Pl. erect.

3 E. læviga'tum (Wight, l. c.) segments of corolla linear, with undulated margins, nearly glabrous, almost twice as long as the tube; corona equal in length to the gynostegium. ♃. S.

Native in the woods of Cossala and Gorukpur. Gomphocárpus lævigàta, Ham. Microstémma, Wall. ascl. no. 23.

Smooth Eriopetalum. Pl. erect.

Cult. For culture and propagation see *Stapèlia*, p. 117.

XVIII. MICROSTE'MMA (from *μικρος*, *micros*, small, and *στεμμα*, *stemma*, a crown; in reference to the smallness of the stamineous corona). R. Br. in wern. soc. mem. 1. p. 25.

Lin. syst. *Pentándria*, *Digynia*. Corolla rotate, 5-cleft. Column of fructification exserted. Stamineous corona undivided, fleshy, 5-lobed; lobes alternating with the anthers; anthers simple at the apex; pollen masses inserted by the middle, lying upon the stigma. Stigma mutic. Follicles slender, smooth. Seeds comose.—Glabrous erect herbs, natives of New Holland, with tuberous roots. Stems simple at bottom, with minute leaves; branched at top, with linear, opposite leaves. Umbels lateral and terminal, almost sessile. Corollas blackish purple, bearded inside.

1 M. tuberòsum (R. Br. prod. p. 459.). ♄. S. Native of New Holland, within the tropic.

Tuberous-rooted Microstemma. Pl. 1 foot. ?

Cult. For culture and propagation see *Ceropègia*, p. 112.

XIX. LEPTADE'NIA (from *λεπτος*, *leptos*, slender; and *αδην*, *aden*, a gland; in reference to the slender pollen masses. R. Br. in wern. soc. 1. p. 34.

Lin. syst. *Pentándria*, *Digýnia*. Corolla sub-rotate, with a short tube, furnished with 5 scales, one between each segment; limb bearded, valvate in æstivation. Column or gynostegium nearly globose. Stamineous corona none. Anthers free, simple at apex; pollen masses erect, fixed by the base, coarctate and pellucid at top. Stigma mutic, rarely apiculated. Follicles smooth. Seeds comose.—Twining shrubs, usually greyish from powdery tomentum. Leaves flat, opposite. Umbels interpetiolar, sometimes cymose. Corpuscles of stigma minute. Mr. R. Brown has examined three species of this genus, none of which are yet described, one of them collected by Forskal.

1 L. Forskœ'lii; flowers umbellate. ♃. ◠. S. Native of Arabia Felix.

Forskœl's Leptadenia. Pl. tw.

2 L. cymòsa; flowers cymose. ♃. ◠. S. Native of the East Indies.

Cymose-flowered Leptadenia. Pl. tw.

3 L. reticula'ta (Wight, and Arnott, contr. ind. bot. p. 47.) twining; bark of the older branches corky, glabrous; young branches clothed with cinereous down, and sometimes with tomentum; leaves ovate or lanceolate, acute, usually smoothish, and sometimes clothed with short white down; umbels lateral, many-flowered, about equal in length to the petioles; segments of corolla with revolute edges, bearded inside; scales of throat simple, short; stigma mutic; follicle sub-cylindrically oblong, obtuse, often solitary by abortion.

Var. α; leaves clothed with short, mealy down, but at length, almost glabrous; peduncles about equal in length to the petioles, and the pedicels about equal in length to the peduncles. ♄. ◠. S. Native of the East Indies, very abundant about Negapatam, on the sea coast, where it grows to a great size. Wight, cat. no. 1535. Cynánchum reticulàtum, Retz. obs. 2. p. 15. Willd. spec. 1. p. 1258. Rœm. et Schultes, syst. 6. p. 107. Cynánchum asthmáticum, Herb. Ham. no. 766. Asclèpias tuberòsa, Roxb. fl. ind. 2. p. 38. Mus. ind. or. t. 614. Asclèpias volùbilis, Herb. Madr. Ham. Wall. ascl. no. 7, exclusive of Secamòne canéscens, Smith, in Rees' cycl.

Var. β; branchlets tomentose; leaves oblong-lanceolate; peduncles very short. ♄. ◠. S. Native of the Peninsula of India, in the southern provinces. Leptadènia brévipes, Wight, cat. no. 1536.

Var. γ; leaves broad-obtuse, retuse at the base, rather velvety beneath. ♄. ◠. S. Native of Ava, near Pegu. Gymnèma aurantìaca, Wall. ascl. no. 147.

Reticulated Leptadenia. Shrub tw.

4 L. imbe'rbis (Wight, l. c. p. 48.) twining, glabrous; leaves broadly ovate or cordate, acuminated; umbels lateral, many-flowered, about equal in length to the petioles; segments of corolla revolute on the edges, beardless; scales of throat simple; stigma apiculated. ♄. ◠. S. Native of the East Indies, at Meerut and Suroy. Wall. ascl. no. 77. *e*, unnamed. The only certain character which distinguishes this from the varieties of the last, are the beardless segments of the corolla.

Beardless Leptadenia. Shrub tw.

5 L. spa'rtium (Wight. l. c.) suffruticose, glabrous; stems slender, much branched; leaves narrow-linear, tapering at the apex; umbels almost sessile; segments of corolla beardless inside, with revolute margins; scales of throat broad, exserted; stigma mutic. ♄. ◠. S. Native of the East Indies, on the banks of the river Yavanna, Hamilton: Himalaiah, Royle: Simla, Countess of Dalhousie. Gymnèma spártium, Wall. ascl. no. 76. Cannýchum angustifòlium, Ham. herb.

Broom-like Leptadenia. Shrub tw.

6 L.? elliptica (Blum. bijdr. p. 1066.) leaves oval, acutish, hardly emarginate at the base, coriaceous, glabrous, veinless above, paler beneath, and full of fine parallel veins; cymes panicled, interpetiolar, clothed with rust-coloured scurf. ♄. ◠. S. Native of Java and Nusæ Kambanga, in woods. Flowers small, sweet-scented. Stamineous crown small, 5-angled, girded at the base by a fleshy, 5-lobed urceolus. Follicles smooth or lepidoted. Seeds comose. This plant differs, in having a stamineous crown, from the other species of *Leptadènia*.

Elliptic-leaved Leptadenia. Fl. year. Shrub tw.

Cult. For culture and propagation see *Ceropègia*, p. 112.

XX. ORTHANTHE'RA (from *ορθος*, *orthos*, erect; and *ανθηρα*, *anthera*, an anther; anthers erect.) Wight. contrib. ind. bot. p. 48.

Lin. syst. *Pentándria*, *Digýnia*. Corolla urceolate, 5-cleft; throat naked; tube rather ventricose; æstivation valvate. Staminal corona none. Anthers simple at top, erect, acute; pollen masses erect, fixed by the base, coarctate and pellucid at apex. Stigma apiculate.—A leafless shrub. Umbels on short peduncles, few-flowered. Calyx 5-parted; segments subulate at top. Corolla villous outside, glabrous inside, twice as long as the gynostegium. Filaments furnished with a gland, or fleshy leaflet, at the base of each, as in *Gymnodènia*. Anthers free, lying upon the stigma, which is apiculated. Follicles unknown.—This genus is perhaps closely allied to *Leptadènia*, from which it only differs, by the urceolate corolla, the absence of scales to the orifice of the tube, and erect anthers. The habit is also different.

1 O. vimínea (Wight, l. c.) ♄. S. Native of Hindostan, at Doab. Apocíneæ vimínea, Wall. cat. no. 7478.

Twiggy Orthanthera. Shrub.

Cult. See *Ceropègia*, p. 112, for culture and propagation.

XXI. BRACHYSTE'LMA (from *βραχυς*, *brachys*, short; and *στελμα*, *stelma*, a crown; corona short.) R. Br. in bot. mag. 2343. bot. reg. 722.

Lin. syst. *Pentándria*, *Digýnia*. Corolla campanulate (f. 16. *b*.), having the sinuses angular. Column or gynostegium inclosed. Corona simple, 5-cleft; lobes opposite the anthers, simple on the back. Anthers naked at top. Pollen masses

erect, fixed by the base.—Suffruticose, twining plants. Leaves opposite, membranous. Root a roundish tuber.

1 B. tuberòsum (R. Br. l. c.) leaves membranous, linear-lanceolate, concave; flowers aggregate, 3-4 in each fascicle; lobes of corona connivent; segments of corolla fringed at the base. ♃. ⌒. G. Native of the Cape of Good Hope. Stapèlia tuberòsa, Meerb. icon. t. 54. f. 1. Calyx and pedicels beset with glandular down. Corolla greenish outside, dotted with red; but blackish purple inside, with a deep yellow centre, and broken cross lines; tube campanulate. Lobes of corona triangular. Flowers fetid (f. 16.). Root a roundish tuber (f. 16. *c*.)

FIG. 16.

Tuberose-rooted Brachystelma. Fl. June, July. Clt. 1821. Pl. tw.

2 B. spatulatum (Lindl. bot. reg. 1113.) pilose; leaves spatulate, obtuse; segments of corolla twice as long as the tube; flowers solitary, pedicellate, one half shorter than the leaves. ♃. ⌒. G. Native of the Cape of Good Hope. Corolla dirty purple, dotted; having the segments tailed, tomentose outside.

Spatulate-leaved Brachystelma. Fl. July. Clt. 1826. Pl. tw.

Cult. For culture and propagation see *Ceropègia*, p. 112.

XXII. FISCHE'RIA (named after F. E. L. Fischer, M.D. Director of the Botanic Garden at St. Petersburgh.) D. C. cat. hort. monsp. 1813. p. 112.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate; segments undulately curled. Stamineous corona fleshy, truncate, but not otherwise lobed, girded at the base by a nectariferous ring. Anthers simple at the apex, hooked, replicate inside; pollen masses inserted by the middle of the side, lying upon the stigma. Stigma pentagonal. Follicles two.—A climbing, evergreen shrub. Branches long, terete. Leaves opposite, cordate at the base, oval-oblong, acute, petiolate. Peduncles interpetiolar, bearing simple umbels of pedicellate flowers. This appears to be intermediate between *Microstémma* and *Hòya*; but it differs from them, and all the other allied genera, in the corona being entire.

1 F. sca'ndens (D. C. l. c. t. 67. ined.) ♄. ◡. S. Native, probably of South America. Branches downy. Flowers yellowish green. Very like Cynánchum crispiflòrum, Swartz; but differs from it, in the calycine segments being shorter, spreading, not reflexed; in the corolla being rotate, not with a pentagonal tube; and particularly in the corona and genitals.

Climbing Fischeria. Fl. ? Clt. ? Shrub tw.

Cult. See *Hòya*, p. 128., for culture and propagation.

Sub-tribe II.

HOYACEÆ. Pollen masses erect or connivent, lying upon the stigma, fixed by the base, or beneath the middle of the side. Anthers terminated by a membrane.

§ 1. *Tube of stamens appendiculate outside.*

XXIII. HO'YA (named in honour of Mr. Thomas Hoy, late gardener to the Duke of Northumberland, at Sion House; whose merits, as an intelligent and successful cultivator of plants, have been long known to the botanists of this country.) R. Br. in mem. wern. soc. 1. p. 26.—Asclèpias species of Lin.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate, 5-cleft. Stamineous corona 5-leaved; leaflets depressed, spreading, fleshy, drawn each out into a tooth on the inner side, which lies on the anthers. Anthers terminated by a membrane; pollen masses fixed by the base, connivent, compressed. Stigma depressed, mutic or sub-apiculated. Follicles smooth. Seeds comose.—Twining, scandent, or decumbent shrubs, natives of the East Indies, China, and New Holland. Leaves opposite, fleshy, or membranous. Umbels many-flowered, interpetiolar.

§ 1. *Twining, scandent, or decumbent shrubs, usually radicant. Leaves fleshy. Leaflets of corona furrowed beneath. Hòya vèræ.*

* *Leaflets of corona flattish, broadly obovate, or nearly orbicular.*

1 H. velutìna (Wight. contrib. ind. bot. p. 35.) twining; leaves oval, short-acuminated, with revolute margins, glabrous above, and velvety beneath; corolla downy outside, and glabrous inside; segments broad, with revolute edges; leaflets of corona nearly orbicular, depressed, shining above: with the obtuse inner angles lying upon the umbilicate stigma. ♄. ⌒. S. Native of the East Indies. Hòya, Wall. ascl. no. 39.—Rumph. amb. 5. t. 172.? but Roxb. refers his *Ascl. Sussvèla* to this.

Velvety Hoya. Shrub tw.

2 H. orbicula'ta (Wall. ascl. no. 32. Wight and Arnott, l. c.) twining; leaves fleshy, orbicular, glabrous; peduncles many-flowered, shorter than the leaves; corolla downy inside: with acuminated segments; leaflets of corona obovate, or nearly orbicular, depressed, with the inner angles obtuse; stigma apiculated. ♄. ⌒. S. Native of Ava, at Prome. Rumph. amb. 5. t. 175. f. 28. Leaves generally 4 at each joint of the stem.

Orbicular-leaved Hoya. Shrub tw.

3 H. pe'ndula (Wight, and Arnott, contrib. ind. bot. p. 36.) twining; leaves fleshy, glabrous, from oblong-oval acute to broad ovate, acuminated, with revolute edges; peduncles pendulous, a little longer than the petioles, many-flowered; corolla downy inside; leaflets of corona oboval, very blunt, depressed, having the inner angles short and truncate at the apex; stigma apiculated. ♄. ⌒. S. Native of the East Indies.

Var. α, Rheédii (Wight, and Arnott, l. c.) leaves oblong-oval, acute. ♄. ⌒. S. Native of Malabar and the Circars. Asclèpias péndula, Roxb. fl. ind. 2. p. 36.—Rheed. mal. 9. t. 13.

Var. β, Neelgherénse (Wight, and Arnott, l. c.) leaves ovate, acuminated. ♄. ⌒. S. Native of Neelgherries. Wight. cat. no. 1521. H. revolùta, Wight. Hòya, Wall. ascl. nos. 27. and no 41.

Pendulous-umbelled Hoya. Shrub tw.

4 H. longifòlia (Wall. ascl. no. 40. Wight, and Arnott, l. c.) twining, radicant: leaves fleshy, narrow-lanceolate, acuminated, attenuated at the base; corolla downy inside, with ciliated margins; leaflets of corona broad-obovate, obtuse, having the inner angles lying on the stigma. ♄. ⌒. S. Native of the Himalaiah, at Mussooree, Royle, Nepaul, and Singapore. Hòya, Wall. ascl. no. 44.? Leaves 3-6 inches long, and 6-12 lines broad.

Long-leaved Hoya. Shrub tw.

5 H. linea'ris (Wall. ex D. Don, prod. fl. nep. p. 130. Wall. ascl. no. 34. Wight, and Arnott, l. c.) twining, pilose; stems slender, radicant, leafy; leaves fleshy, narrow-linear, acutish; corolla rather downy inside, with ciliated edges; segments obtuse; leaflets of corona nearly orbicular, having the inner angles lying upon the stigma, ♄. ⌒. S. Native of Nipaul. Plant 3 times smaller than *H. lanceolàta*.

Linear-leaved Hoya. Shrub tw.

6 H. PARVIFLÒRA (Wight, contrib. ind. bot. p. 37.) twining, glabrous; branches slender; leaves fleshy, lanceolate, tapering at both ends; peduncles slender, about equal in length to the leaves, many-flowered; corolla glabrous; leaflets of corona broad obovate, emarginate, or obcordate, with the inner angles acuminated, and lying upon the stigma, which is apiculated. ♄. ⌒. S. Native of the Burman Empire, at Maulmeyne. Hòya, Wall. ascl. no. 33.

Small-flowered Hoya. Shrub tw.

* * *Leaflets of corona flattish above, ovate or lanceolate.*

7 H. FU'SCA (Wall. pl. rar. asiat. 2. p. 78. t. 175.) twining, glabrous; leaves coriaceous, hardly fleshy, linear-oblong, acuminated, transversely veined; peduncles short, many-flowered; corolla glabrous, with obtuse segments; leaflets of corona ovate, obtuse: with the inner angles erect and attenuated, lying upon the stigma, which is apiculated. ♄. ⌒. S. Native of Nipaul and Silhet. The flowers are rather small, brownish coloured, and very numerous. Leaves 5-6 inches long, and 1 or 1½ broad.

Brown-flowered Hoya. Shrub tw.

8 H. HOOKERIA'NA (Wight, contrib. ind. bot. p. 37.) twining, glabrous; leaves fleshy, oblong-lanceolate, 3-nerved; peduncles short, many-flowered; corollas small, glabrous, with obtuse segments; leaflets of corona ovate, acute, with the inner angles short; stigma obtuse. ♄. ⌒. S. Native of Chittagong and Silhet. *H. Nicobárica*, R. Br. mss. is this or a very similar species. Leaves 6-10 inches long, and 1 or 1½ broad.

Hooker's Hoya. Shrub tw.

9 H. NICOBA'RICA (R. Br. herb. ex Trail, in hort. trans. 7. p. 29.) umbels globose; flowers very numerous; leaves ovate-lanceolate. ♄. ⌒. S. Native of the Nicobar Islands.

Nicobar Hoya. Shrub tw.

10 H. PARASÍTICA (Wall. ascl. no. 29. Wight, and Arnott, l. c.) plant parasitical, climbing, radicant, glabrous; branches slender, terete; leaves fleshy, glabrous, shining, finely 3-nerved at the base, oblong-lanceolate, attenuated; peduncles almost twice as short as the leaves, many-flowered, sometimes twin; umbels sub-globose; corolla glabrous, deeply 5-cleft; leaflets of corona ovate, acute, with the inner angles lying upon the stigma. ♄. ⌒. S. Native in the woods of Sundabund, at the estuary of the Ganges. Asclèpias parasítica, Roxb. fl. ind. 2. p. 42. and mus. ind. orient. t. 1382. H. pállida, Lindl. bot. reg. t. 951. H. acùta, Haw. rev. p. 4. H. lanceolàta, Lindl. in Donn. hort. cantab. ed. 11. p. 92. H. álbens, Mill. brist. cat. 1826. Flowers fragrant, yellow; corona paler than the rest of the flower, purple in the centre. Leaves paler beneath, and darker above.

Parasitical Hoya. Shrub tw.

11 H. TRINE'RVIS (Trail, in hort. trans. 7. p. 26.) stems slender, filiform; leaves variable in size, oblong, sharply acuminated, pale green beneath, and mottled with small brown spots, light yellowish green above, with 3 prominent veins; umbels globose; segments of corolla sharp-pointed; the sides and ends of which are reflexed. ♄. ⌒. S. Native of China. Lodd. bot. cab. 936. Corollas pale greenish yellow, slightly scented, frequently mottled beneath with red. Corona of a pale greenish white, with a yellowish tinge in the centre.

Three-nerved-leaved Hoya. Fl. July, Aug. Clt. 1824. Shrub tw.

12 H. OVALIFÒLIA (Wight, and Arnott, contrib. ind. bot. p. 37.) twining, radicant, glabrous; leaves fleshy, oval, acuminated at both ends; peduncles shorter than the leaves, many-flowered; corolla downy inside; segments ovate, acute; leaflets of corona oval, obtuse, with the inner angles short; stigma mutic. ♄. ⌒. S. Native of the Neelghery mountains, and Singapore. Hòya, Wight, cat. no. 1522. Wall. ascl. no. 31, 43,? and 45. This is very nearly allied to *H. parasítica*.

Oval-leaved Hoya. Shrub tw.

13 H. ARNOTTIA'NA (Wight. contrib. ind. bot. p. 37.) twining, glabrous, radicant; leaves fleshy, broad-ovate, acuminated; corolla downy inside: with orbicular, cuspidate segments; leaflets of corona oval, somewhat acuminated, with the inner angles short; stigma mutic. ♄. ⌒. S. Native of Nipaul. Hòya, Wall. ascl. no. 35.

Arnott's Hoya. Shrub twining.

14 H. GYMNANTHE'RA (Wight, l. c.) leafless; epidermis of stem smooth and shining; umbels many-flowered, on short peduncles; flowers small; leaflets of corona ovate; tops of anthers membranous, pellucid, very narrow, hardly touching the pollen masses. ♄. ⌒. S. Native of the East Indies. Wall. ascl. no. 145, without a name.

Naked-anthered Hoya. Shrub tw.

* * * *Leaflets of corona convex above, oval, or ovate, with revolute edges.*

15 H. BRUNONIA'NA (Wight, l. c.) twining, glabrous; branches obsoletely tetragonal; leaves fleshy, oval-oblong, acuminated; corolla rather fleshy, glabrous outside, bearded inside; leaflets of corona oval, acute, convex above, with revolute edges. ♄. ⌒. S. Native of the East Indies. Hòya, Wall. ascl. no. 37.

Brown's Hoya. Shrub twining.

16 H. CARNÒSA (R. Br. in wern. soc. mem. 1. p. 27.) twining, glabrous; stems and branches terete; leaves fleshy, oval-oblong, acuminated; umbels pendulous, on short peduncles; pedicels pilosely pubescent; corolla fleshy, glabrous outside, but bearded inside; leaflets of corona ovate, acute, drawn out at top, convex above, with revolute edges; membranes of anthers rather large, hiding the stigma, which is bluntly apiculated; pollen masses pellucidly marginate on one side. ♄. ⌒. S. Native of China, about Canton, as well as the tropical part of Asia. Asclèpias carnòsa, Lin. suppl. 1. p. 170. Sims, bot. mag. 788. Smith, exot. bot. 2. p. 21. t. 70. Stapèlia Chinénsis, Lour. coch. p. 165. Schóllia, crassifòlia, Jacq. eclog. no. 2. Schóllia carnòsa, Schrank. ex Steudel, nom. Flowers white, or pinkish, waxy as in the other species of the genus, and are much admired.

Fleshy, or Common Hoya. Fl. Jul. Aug. Clt. 1802. Sh. tw.

17 H. PÓTSII (Trail, in hort. trans. 7. p. 25. t. 1.) stems slender, greenish brown, unequally covered with warts; leaves cordate, acuminated, with a rusty stain partly spread over them, pale whitish beneath, light yellowish green above, with 3 principal veins; umbels globose. ♄. ⌒. S. Native about Macao. Flowers pale yellow, slightly downy, smelling like *Heliotròpium*. Corona slightly purple in the centre.

Pots's Hoya. Fl. Ju. Aug. Clt. 1822. Shrub tw.

18 H. AUSTRA'LIS (R. Br. mss. ex hort. trans. 7. p. 27.) leaves from elliptic to obovate; corollas bearded; leaflets of corona furrowed beneath. ♄. ⌒. S. Native of New Holland, within the tropic. Hòya carnòsa, R. Br. prod. p. 460. Flowers white, or pinkish.

Southern Hoya. Clt. 1820. Shrub twining.

19 H. CRASSIFÒLIA (Haw. suppl. pl. succ. p. 8. exclusive of the synon.) leaves petiolate, obovate, obsoletely spotted, bluntly acuminated, very thick. ♄. ⌒. S. Native of the East Indies. Leaves 4 inches long, dark green above, and pale beneath. Very like *H. carnòsa*, but the leaves are thicker, more obsoletely spotted. Branches warted, producing roots from the warts. Flowers unknown.

Thick-leaved Hoya. Fl. ? Clt. 1817. Shrub tw.

20 H. LANCEOLA'TA (Wall. ex D. Don, prod. fl. nep. p. 130. Wall. ascl. no. 36.) twining, glabrous; stems slender, leafy; leaves fleshy, lanceolate, acuminated at both ends; peduncles

few-flowered, shorter than the leaves ; corolla downy inside : with obtuse segments ; leaflets of corona convex above, with recurved edges : having the inner angles elongated, obtuse, and erect, exceeding the apiculated stigma. ♄ . ◠. S. Native of Nipaul and Silhet. Nearly allied to *H. carnòsa*, but very much smaller.

Lanceolate-leaved Hoya. Shrub tw.

* * * * *Leaflets of corona elongated, triangular.*

21 H. LATIFÒLIA : twining ; leaves broad-ovate, acuminated, obtuse or sub-cordate at the base, 3-nerved, fleshy, glabrous ; peduncles many-flowered ; segments of corolla obtuse, cuspidate ; leaflets of corona nearly equal in length to the corolla, coriaceous : having the inner angles erect, terete, obtuse ; follicles subulate, slender. ♄ . ◠. S. Native of Penang. H. macrophýlla, Wight, contrib. ind. bot. p. 38.—Wall. ascl. no. 138. unnamed. This is a magnificent plant ; but the specimens from which the character is drawn up was so much mutilated, as to be impossible to say with certainty that it belongs to the genus. Leaves 7-10 inches long, and 4-10 broad.

Broad-leaved Hoya. Shrub twining.

* * * * * *Corolla 5-parted, flat or reflexed. Segments of corona quite entire on the inner angles. Perhaps species of Tylóphora.*

22 H. MACROPHY'LLA (Blum. bijdr. p. 1063.) leaves 3-nerved, ovate or oval-oblong, acuminated, fleshy ; corolla silky inside. ♄ . ◠. S. Native of Java, in calcareous soil, about Kuripan, and at the bottom of Mounts Gede and Salak, where it is called *Aroy Kilampahan*, and *Aroy Kikandel lalakkie*. It differs from *H. carnòsa*, in the leaves being nerved, larger, acuminated ; and in the flowers being smaller.

Large-leaved Hoya. Fl. year. Shrub tw.

23 H. CORIA'CEA (Blum. bijdr. 1063.) leaves almost veinless, oval, acute or acuminated, coriaceous, glabrous ; corolla silky inside. ♄ . ◠. S. Native of Java, among bushes, at the foot of Mount Salak.

Coriaceous-leaved Hoya. Fl. Oct. Shrub tw.

24 H. CORONA'RIA (Blum. bijdr. p. 1063.) leaves veinless, oval, acute, with recurved edges, coriaceous, villous beneath ; corollas glabrous. ♄ . ◠. S. Native of Java, on the mountains and banks about Rompien, where it is called *Aroy Kilampahan*. Corona Ariadna, Rumph. amb. 5. t. 172.

Garland Hoya. Fl. year. Shrub tw.

25 H. LACUNÒSA (Blum. bijdr. p. 1063.) leaves veinless, ovate, acuminated, glabrous, lacunose above, and convex beneath ; corolla revolute, velvety-villous inside ; leaflets of corona without furrows beneath. ♄ . ◠. S. Native of Java, about Buitenzorg, on trees.

Lacunose-leaved Hoya. Fl. year. Shrub tw.

26 H. DIVERSIFÒLIA (Blum. bijdr. p. 1064.) leaves veinless, oval, acutish, or orbicular, fleshy, glabrous ; corollas silky inside. ♄ . ◠. S. Native of Java, in calcareous soil, about Kuripan and Batavia.

Divers-leaved Hoya. Fl. year. Shrub tw.

* * * * * * *Corolla 5-cleft, reflexed. Stamineous corona tubular at the base ; leaflets of corona quite entire, having both the interior and exterior angles drawn out a considerable length.*

27 H. MULTIFLÒRA (Blum. bijdr. p. 1064.) stem shrubby, climbing ; leaves rather coriaceous, veiny, cuneate-oblong, or oblong-lanceolate, glabrous, paler beneath ; corolla bearded at the base. ♄ . ◠. S. Native of Java, on the west side, on the mountains, among bushes, where it is called *Tjunkankan*.

Many-flowered Hoya. Fl. year. Shrub tw.

* * * * * * * *Corolla campanulate, angular, with 5 plaits ; leaflets of corona quite entire, with the inner angles ascending.*

28 H. CAMPANULA'TA (Blum. bijdr. p. 1064.) stem shrubby, climbing ; leaves coriaceous, almost veinless, oblong, acuminated, glabrous ; corolla campanulate, glabrous. ♄ . ◠. S. Native of Java, with the preceding.

Campanulate-flowered Hoya. Fl. year. Shrub tw.

* * * * * * * * *Corolla 5-parted, flat, or reflexed. Leaflets of corona emarginate on the outer angles. Acanthostémma.* Blum. bijdr. p. 1065.

29 H. RU'MPHII (Blum. bijdr. p. 1065.) leaves veinless, oblong-lanceolate, acuminated, fleshy, glabrous, flat, and paler beneath ; corolla rather silky inside. ♄ . ◠. S. Native of Java, and the Moluccas, on the mountains.—Rumph. amb. 5. t. 175. f. 1.

Var. β, longifòlia (Blum. l. c.) leaves long-acuminated, with recurved edges ; corolla glabrous. ♄ . ◠. S. Native of Java, near Tuju, on the mountains of Megamendung.

Rumphius's Hoya. Fl. year. Shrub tw.

30 H. PU'BERA (Blum. bijdr. p. 1065.) leaves small, veinless, oval-oblong, acute, fleshy, downy ; corolla hairy inside. ♄ . ◠. S. Native of the Island of Nusæ-Kambanga, on trees by the sea-side.

Downy Hoya. Fl. Oct. Nov. Shrub tw.

† *The flowers of the following three species are unknown ; but, nevertheless, it is probable they belong to the section Hòyæ vèræ.*

31 H. FINLAYSONIA'NA (Wight, l. c.) twining, glabrous ; branches terete ; leaves oblong-lanceolate, bluntly acuminated, reticulated above in the dried state, veinless beneath, on short petioles. ♄ . ◠. S. Native, probably, of Penang. Hoya, Wall. ascl. no 42. Leaves 5-7 inches long, and 1-2 broad.

Finlayson's Hoya. Shrub twining.

32 H. OBTUSIFÒLIA (Wight. l. c.) twining, glabrous ; leaves fleshy, oval-oblong, obtuse at both ends, cuspidate, shining above, transversely and obscurely veined beneath, in the dried state ; peduncles almost one-half shorter than the leaves, many-flowered. ♄ . ◠. S. Native of the East Indies. Hòya, Wall. ascl. no. 38. From the variation of the leaves, this species would appear to rank near *H. fúsca*.

Obtuse-leaved Hoya. Shrub tw.

33 H. ANGUSTIFÒLIA (Trail, in hort. trans. 7. p. 29.) leaves narrow-lanceolate. ♄ . ◠. S. Native of China.

Narrow-leaved Hoya. Shrub twining.

§ 2. *Leaves membranous. Leaflets of corona without any furrow beneath.*

34 H. VIRIDIFLÒRA (R. Br. in mem. wern. soc. 1. p. 26.) twining ; leaves ovate, or cordate, acuminated, membranous, glabrous ; corolla glabrous : with ovate, acutish segments ; leaflets of corona flat above, oboval, very blunt, with the inner angles short and obtuse ; follicles thick, divaricate, obtuse, clothed with rusty mealiness. ♄ . ◠. S. Native on the coast of Coromandel, frequent ; and at Morang and Gongachora, and Silhet. Wall. ascl. no. 24, exclusive of f. 26. and 60 c. Wight, in Hook. bot. misc. 2. p. 98. suppl. t. 1. Asclèpias volùbilis, Lin. suppl. 170. Roxb. fl. ind. 2. p. 36. Asclèpias viridiflòra, Roxb. in. mus. or. t. 611. Apócynum tiliæfòlium, Lam. dict. 1. p. 214.—Rheed. mal. 9. t. 15. Flowers green.

Var. α, alpìna (Wight, and Arnott, contrib. ind. bot. p. 39.) flowers larger ; segments of corolla obtuse. ♄ . ◠. S. Wight, cat. no. 1523. b. Wall. ascl. no. 25. Native of the Neelgherries.

Green-flowered Hoya. Fl.? Clt. ? Shrub tw.

35 H. LACU'NA (Ham. herb. ex Wight, and Arnott, contrib. ind. bot. p. 39.) twining ; leaves between coriaceous and membranous, cordate or ovate, acuminated, downy above, and velvety beneath ; segments of corolla obtuse ; leaflets of corona with

short, subulate, erect, inner angles. ♄. ⌒. S. Native of the East Indies, at Korma, Hamilton, and at Segaen, Wall. Ham. herb. no. 770. Wall. ascl. no. 24, f. 146, and 156, without a name. *Lakun* of the Hindoos.

Lakun Hoya. Shrub tw.

† † *Species described by Vahl, under the generic name of Sperlíngia, which name ought to take precedence of Hòya, being the oldest, which we have still retained, on account of that name being generally received. Both species are probably identical with two of those described above.*

36 H. verticilla'ta; climbing, rooting; stems terete, glabrous; leaves 4 in a whorl, petiolate, oblong, acuminated, acute, fleshy, glabrous, veinless; umbels pedunculate, copious; pedicels compressed, filiform; segments of corolla triangular, acute at both ends, retusely sub-bicornute outside, on the outer margin: with inflexed, conduplicate edges; corona a simple star, covering the genitals, having the lobes equal in length to the segments of the corolla, complicate, lanceolate, with an elevated line in the middle, and a corresponding furrow on the opposite side, yellowish, shining; follicles 6-8 inches long, glabrous. ♄. ⌒. S. Native of the East Indies. Sperlíngia verticillàta, Vahl, in act. soc. hist. nat. hafn. 6. p. 113.

Whorled-leaved Hoya. Shrub twining.

37 H. opposìta; leaves opposite. ♄. ⌒. S. Native of the East Indies. Sperlíngia opposìta, Vahl, l. c. p. 114. Nummulària láctea màjor, Rumph. amb. 5. p. 470. t. 175. f. 1. Very like *H. verticillàta;* but differs, in the opposite leaves, the narrower petioles, which are convex beneath, and concave above; while, in that species, they are flattened and depressed, almost an inch long, succulent, and articulated at the base.

Opposite-leaved Hoya. Shrub twining.

Cult. The species of *Hòya* all bear handsome waxy blossoms, disposed in simple umbels. They grow freely in a mixture of loam, peat, and sand, and are otherwise easily managed. They are readily propagated by cuttings, in a moist heat.

XXIV. PTEROSTE'LMA (from *πτερον, pteron,* a wing; and *στελμα, stelma,* a crown; leaflets of corona membranous.) Wight, contrib. ind. bot. p. 39.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate, 5-cleft. Stamineous corona 5-leaved; leaflets membranous, with reflexed sides: having the inner angles drawn out into subulate, erect teeth. Anthers terminated by a membrane; pollen masses erect, fixed by the base to the back of the corpuscles. Stigma apiculated.—A twining? or decumbent shrub. Leaves opposite, oblong, acuminated, fleshy. Flowers rather large. Corolla deeply 5-cleft; with linear-lanceolate segments, and a pilose tube. Margins of the leaflets of the corona conniving, as the wings of butterflies are when sitting. This genus is nearly allied to *Hòya,* both in habit, and in the structure of the flowers, differing principally, in having foliaceous instead of fleshy leaflets of corona, and in the dorsal not lateral attachment of the pollen masses.

1 P. acumina'ta (Wight, l. c.) ♄. ⌒. S. Native of Silhet. —Wall. ascl. no. 129, without a name.

Acuminated-leaved Pterostelma. Shrub?

Cult. See *Hòya,* above, for culture and propagation.

XXV. PHYSOSTE'LMA (from *φυσα, physa,* a bladder; and *στελμα, stelma,* a crown; leaflets of corona inflated.) Wight, contrib. ind. bot. p. 39.

Lin. syst. *Pentándria, Dygýnia.* Corolla rotate, spreading, repandly, 5-toothed. Stamineous corona 5-leaved; leaflets inflated, opposite the anthers. Anthers terminated by a membrane. Filaments bipartite from the base to the apex, each alternate part bearing an anther, close together, alternating with the leaflets of the corona. Pollen masses fixed by the base, erect, nearly cylindrical. Stigma depressed.—A twining shrub. Leaves opposite, ovate-lanceolate, acuminated, glabrous, fleshy. Umbels lateral, on longish peduncles, few-flowered. Flowers large. This curious genus is allied to *Hòya* in habit; but is at once distinguished from it, and every other, by the remarkable division of the filaments; there being 10 filaments and 5 anthers.

1 P. Wallíchii (Wight, contrib. ind. bot. p. 40.) ♄. ⌒. S. Native of Singapore. Wall. ascl. no. 130, without a name.

Wallich's Physostelma. Shrub tw.

Cult. For culture and propagation see *Hòya,* above.

XXVI. TYLO'PHORA (*τυλος, tylos,* a swelling, and *φορεω, phoreo,* bear; in reference to the ventricose pollen masses). R. Br. in mem. wern. soc. 1. p. 28. prod. p. 460.—Hòya species, Spreng. syst. 1. p. 843.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate, 5-parted. Stamineous corona 5-leaved; leaflets simple, fleshy: having the inner angles simple and toothless. Anthers terminated by a membrane; pollen masses erect, fixed by the base, with simple margins, transverse or ascending, minute, ventricose. Stigma mutic. Follicles smooth, attenuated at the apex, compressed, rather angular on one side. Seeds comose.—Twining herbs or subshrubs. Leaves opposite, membranous, flat. Umbels interpetiolar, or disposed alternately along a common peduncle. Flowers usually small.

The extreme minuteness of the pollen masses renders it difficult to determine the situation this genus ought to occupy in the order. The form of the gynostegium and the leaves of the corona readily distinguish it from every other genus except *Iphísia,* but which differs in the pendulous pollen masses. As now defined, this genus is quite distinct from *Hòya,* to which Mr. R. Brown considered it so closely allied. Arnott. and Wight, contrib. ind. bot. p. 50.

§ 1. *Leaflets of stamineous corona depressed, fleshy, toothless inside, shorter than the gynostegium.—Species natives of New Holland.*

1 T. grandiflòra (R. Br. prod. p. 460.) umbels nearly sessile, simple, few-flowered; pedicels glabrous; leaves cordate-ovate, acute, and are, as well as the branches, downy. ♄. ⌒. S. Native of New South Wales, about Port Jackson. Hòya grandiflòra, Spreng. syst. 1. p. 843.

Great-flowered Tylophora. Fl. Ju. Jul. Clt. 1822. Sh. tw.

2 T. barba'ta (R. Br. l. c.) umbels usually twin; common peduncles shorter than the leaves; corolla bearded; leaves ovate, acute, quite glabrous. ♄. ⌒. S. Native of New South Wales, about Port Jackson. Hòya barbàta, Spreng. syst. 1. p. 843.

Bearded Tylophora. Fl. June, Jul. Clt. 1822. Shrub tw.

3 T. flexuòsa (R. Br. l. c.) umbels alternate, sessile; common peduncles flexuous; leaves cordate-oblong, veiny; corolla beardless. ♄. ⌒. F. Native of New Holland, within the tropic. Hòya flexuòsa, Spreng. syst. 1. p. 843.

Flexuous Tylophora. Shrub tw.

4 T. velutìna; stem twining; leaves cordate-ovate, acuminated, tomentose; flowers cymose; throat of corolla naked. ♄. ⌒. S. Native of New Holland. Pergulària velutìna, Spreng. syst. 1. p. 844.

Velvety Tylophora. Shrub tw.

5 T. panicula'ta (R. Br. l. c.) panicles dichotomous; segments of corolla ligulate above: leaves ovate, acuminated, smoothish: lower ones subcordate. ♄. ⌒. S. Native of New South Wales, about Port Jackson. Hòya paniculàta, Spreng. syst. 843.

Panicled-flowered Tylophora. Shrub tw.

§ 2. *Leaflets of stamineous corona very blunt, or bluntly*

acuminated, destitute of cusps or points inside, shorter than the gynostegium.

6 T. carnòsa (Wall. ascl. no. 49. Wight, cat. no. 1537. contrib. ind. bot. p. 49.) twining, glabrous; stems and branches slender; leaves fleshy, ovate, or subcordate, mucronate, shining, pale beneath; peduncles flexuous, bearing at the flexures many filiform pedicels; flowers small; leaflets of corona fleshy, nearly orbicular; pollen masses ascending; stigma convex; follicles glabrous, usually solitary by abortion. ♄. ⌒. S. Native of the Burmese empire, at Amherst; and of Ceylon, at Colombo; and of the province of Tanjore, in sandy places. Leaves 1-2 inches long, and 6-9 lines broad. Flowers purple inside.

Fleshy Tylophora. Shrub tw.

7 T. tenuíssima (Wight and Arnott, contrib. ind. bot. p. 49.) twining, glabrous; branches slender; leaves oblong-lanceolate, somewhat cordate at the base, cuspidate, veinless, with subrevolute edges; peduncles flexuous, bearing many filiform pedicels at the flexures; flowers small; leaflets of corona ovate-oblong; pollen masses ascending; stigma convex; follicles diverging, glabrous. ♄. ⌒. S. Native of the peninsula of India, Wight; Bengal, Roxb. Wight, cat. no. 1538. Asclèpias tenuíssima, Roxb. fl. ind. 2. p. 41. mus. ind. or. t. 1383. Leaves 2-3 inches long and 3-6 lines broad. There is a variety of this, having the leaves twice the length and much narrower in proportion.

Very slender Tylophora. Shrub tw.

8 T. pauciflòra (Wight and Arnott, l. c.) twining, glabrous; branches slender; leaves on longish petioles, broadly ovate, from the base, or somewhat cordate, gradually attenuated to the apex, rather waved on the edges; peduncles shorter than the leaves, flexuous, bearing filiform, twin, or tern pedicels at the flexures; flowers small; segments of calyx and corolla obtuse; leaflets of corona broad-elliptic, obtuse; pollen masses ascending; stigma convex; follicles glabrous. ♄. ⌒. S. Native of the East Indies, at Courtallum, Wight; northern provinces of Bengal, Royle; Wight, cat. no. 1539. This species is easily distinguished from the rest by the almost triangular form of the leaves.

Few-flowered Tylophora. Shrub tw.

9 T. hirsu'ta (Wight, contrib. ind. bot. p. 49.) twining, downy; leaves broad-ovate, acuminated; peduncles about equal in length to the leaves, flexuous, bearing sessile umbels at the flexures; pedicels filiform; flowers small; segments of corolla ovate, obtuse, undulated; leaflets of corona ovate, somewhat acuminated, obtuse; pollen masses transverse; stigma obtuse; follicles slender. ♄. ⌒. S. Native of Nipaul, at Chandaghiry, and Sanko. Gymnèma hirsùtum, Wall. tent. fl. nep. p. 50. ascl. no. 46. Leaves 3-5 inches long, and 2-3 broad.

Hairy Tylophora. Shrub tw.

10 T. mollíssima (Wall. ascl. no. 47. Wight, cat. no. 1540. contrib. ind. bot. p. 49.) twining, downy; leaves oval, or cordate-ovate, acuminated, mucronate; peduncles twice or thrice longer than the leaves, flexuous, bearing sessile umbels at the flexures; pedicels filiform; flowers small; segments of corolla ovate, obtuse, undulated; leaflets of corona truncate at apex or roundish; pollen masses transverse; stigma obtuse; follicles downy. ♄. ⌒. S. Native of the East Indies, on the Neelgherry mountains, and on those of Dindygul. Perhaps this is too nearly allied to the preceding, from which it seems to differ principally in the size of the leaves. Leaves 1-2 inches long, and about 1 broad.

Very soft Tylophora. Shrub tw.

11 T. rotundifòlia (Hamilt. herb. no. 759. Wall. ascl. no. 120. ex Wight and Arnott, contrib. ind. bot. p. 50.) twining, downy; leaves round or roundish-ovate; peduncles shorter than the leaves; pedicels long, filiform, usually disposed in 2 fascicles near the top of the peduncle; flowers rather large, glabrous; leaflets of corona fleshy, short, adnate to the middle of the gynostegium; pollen masses transverse; stigma obtuse. ♄. ⌒. S. Native of the East Indies, in elevated fields, east of Camrup and at Dongtala, and Hebora. Leaves about 2 inches broad.

Round-leaved Tylophora. Shrub tw.

12 T. fasciula'ta (Hamilt. herb. no. 758. Wall. ascl. no. 55. Wight and Arnott, l. c.) erect or twining a little; leaves approximate, ovate, bluntish, rather fleshy, decreasing towards the tops of the branches; peduncles erect, flexuous, bearing 2-3 few-flowered fascicles at the flexures; leaflets of corona oblong-ovate, bluntish; pollen masses transverse; stigma apiculated. ♄. ⌒. S. Native of the East Indies. The corpuscles of the stigma in this species alone are herbaceous, and slightly united, but loose and divaricate at both ends. Leaves 1-2 inches long and 1 broad.

Var. α, parviflòra (Wight and Arnott, l. c.) twining a little at top; flowers minute. ♄. ⌒. S. Native of the woods of Mithila, at Sukanagur. T. fasciculàta, Herb. Ham. no. 758. Wall. ascl. no. 55.

Var. β, macrántha (Wight and Arnott, l. c.) root fascicled; stems woody, erect; fascicles approximate; flowers rather large; segments of corolla ligulate. ♄. S. Native at Neelgherry.—Wight, cat. no. 1541. Wall. ascl. no. 31. without a name.

Fascicled-flowered Tylophora. Shrub tw. or erect.

13 T. longifòlia (Wight, contrib. ind. bot. p. 50.) twining, glabrous; leaves oblong-lanceolate, acute, rather cordate at the base; panicles shorter than the leaves, many-flowered, composed of flexuous branches, bearing a small umbel of flowers at each flexure; segments of corolla obtuse; leaflets of corona almost one half shorter than the gynostegium, broadly elliptic, obtuse; pollen masses transverse; stigma convex. ♄. ⌒. S. Native of Silhet.—Wall. ascl. no. 48. without a name. Leaves 6-8 inches long, and $1\frac{1}{2}$ broad.

Long-leaved Tylophora. Shrub tw.

14 T. exìlis (Colebr. in Lin. trans. 12. p. 358. t. 16. Wight and Arnott, contrib. ind. bot. p. 50.) twining, glabrous; leaves ovate-lanceolate, acuminated; panicles rather large, twice or thrice longer than the leaves: having the branches flexuous, bearing umbellate pedicels at the flexures; segments of corolla acutish; leaflets of corona broad-elliptic, very obtuse, shorter than the gynostegium; pollen masses transverse; stigma apiculated. ♄. ⌒. S. Native of Silhet. Pergulària exìlis, Spreng. syst. 1. p. 844.—Wall. ascl. no. 51. unnamed. Leaves 2-3 inches long and 1 broad. Very nearly allied to the preceding species.

Thin Tylophora. Fl. June, July. Clt. 1823. Shrub tw.

15 T. micra'ntha (Nouv. ann. mus. 3. p. 377.) glabrous; leaves narrow or ovate-lanceolate, acute, rounded at the base, petiolate; cymes shorter than the leaves; calycine segments rounded, with membranous edges, shorter than the corolla; segments of corolla longish, obtuse; follicles acuminated, glabrous. ♄. ⌒. S. Native of the island of Timor.

Small-flowered Tylophora. Shrub tw.

16 T. villòsa (Blum. bijdr. p. 1061.) corollas bearded; umbels usually twin; leaves elliptic-oblong, acute, a little cordate at the base, hairy on both surfaces; branches sarmentose, villous. ♄. ⌒. S. Native of the west side of Java, on the mountains, where it is called *Aroy Katuk*.

Villous Tylophora. Fl. year. Pl. tw.

17 T. cissioìdes (Blum. bijdr. p. 1061.) corollas glabrous; corymbs trichotomous; pedicels subumbellate; leaves ovate-oblong, acuminated, rather cordate at the base, smooth. ♄. ⌒. S. Native of Java, at the foot of Mount Salak.

Cissus-like Tylophora. Fl. year. Pl. tw.

18 T. TE'NUIS (Blum. bijdr. p. 1062.) corollas glabrous; panicles axillary; pedicels subumbellate; leaves lanceolate, acuminated, sometimes cordate at the base, 3-nerved, glabrous; follicles very acute. ♄. ◠. S. Native on the west coast of Java, at the bottom of mountains.

Slender Tylophora. Fl. year. Pl. tw.

19 T. RUPE'STRIS (Blum. bijdr. p. 1062.) leaves ovate-cordate, acuminated, quintuple-nerved, glabrous; follicles bluntish. ♄. ◠. S. Native of Java, among the Parang mountains, on rocks. Nearly allied to *T. ténuis.*

Rock Tylophora. Pl. tw.

§ 3. *Leaflets of stamineous corona rather membranous, finely acuminated, acute, without any cusp or point inside, longer than the gynostegium.*

20 T. TENE'RRIMA (Wight, contrib. ind. bot. p. 50.) twining, slender, smoothish; leaves narrow-lanceolate, attenuated at the apex; peduncles filiform, much longer than the leaves, bearing distant, 2-3-flowered fascicles; corolla deeply 5-cleft; leaflets of corona exceeding the gynostegium, ovate, finely acuminated at the apex; pollen masses transverse; stigma obtuse. ♄. ◠. S. Native of Nipaul, at Purpuhna; and the Himalaiah. Homolóstyles tenérrima, Wall. ascl. no. 96. 118. Leaves 1-2 inches long and 1-4 lines broad.

Very tender Tylophora. Shrub tw.

§ 4. *Leaflets of corona depressed, fleshy, clasping the base of the gynostegium, each drawn out into a cusp-formed, erect toothlet at the apex, inside.*

21 T. CAPPARIDIFÒLIA (Wight and Arnott, contrib. ind. bot. p. 51.) twining, glabrous; branches slender; leaves elliptic-oblong, mucronately acuminated, coriaceous, reticulately veined; racemes umbel-formed, almost sessile, few-flowered; flowers small; segments of corolla obtuse, glabrous; leaflets of corona roundish, fleshy, furnished on the inside at the apex with a short, acute toothlet. ♄. ◠. S. Native of Mysore. Wight, cat. no. 1542. Asclèpias ténuis, Heyne, herb. Wall. ascl. no. 122. Leaves 1½ to 2 inches long, and 5-7 lines broad.

Capparis-leaved Tylophora. Shrub tw.

22 T. PURPU'REA (Wall. ascl. no. 50. ex Wight and Arnott, contrib. ind. bot. p. 51.) twining, glabrous; branches slender; leaves subcordate-oblong, mucronately acuminated; peduncles filiform, about equal in length to the leaves, bearing each 2-3 small fascicles of flowers; segments of corolla acute; leaflets of corona roundish, clasping the base of the gynostegium, furnished with a short toothlet inside at the apex; pollen masses transverse; stigma obtuse. ♄. ◠. S. Native on the banks of the Irrawaddi.

Purple Tylophora. Shrub tw.

23 T. ASTHMA'TICA (Wight and Arnott, contrib. ind. bot. p. 51.) twining, downy; branches slender; leaves ovate-roundish, acuminated, usually cordate at the base, glabrous above, downy beneath; peduncles shorter than the leaves, bearing each 2-3 sessile, few-flowered umbels towards the apex; flowers rather large, on long pedicels, purplish; segments of corolla acute; leaflets of corona fleshy, depressed, clasping the base of the gynostegium, furnished with an erect, elongated tooth inside at the apex; pollen masses transverse, minute; stigma obtuse; follicles glabrous, divaricate. ♄. ◠. S. Native of the East Indies. Asclèpias asthmática, Roxb. fl. ind. 2. p. 33. Willd. spec. p. 1270. Asclèpias tunicàta, Wall. ascl. no. 117. Ascl. vomitòria, Kœnig. in herb. Banks. Roxb. mus. ind. or. t. 608. Cynánchum ipecacuánha, Willd. spec. 1. p. 1270. Cynánchum vomitòrium, Lam. dict. 2. p. 235. Cynánchum viridiflòrum, Sims, bot. mag. t. 1929. Spreng. syst. 1. p. 852. Hòya planiflòra, Wall. ascl. no. 117. b. V. Tylóphora pubéscens, Wall. ascl. no. 117. a., also Wall. ascl. nos. 119. 121. 148. unnamed.—Pluk. t. 336. f. 7. This plant is said to have been figured as Hòya viridiflòra in some foreign work. The roots are used on the coast of Coromandel as a substitute for Ipecacuanha.

Var. α, *pubéscens* (Wight, l. c.) downy in every part, except the upper surfaces of the leaves.

Var. β, *glàbra* (Wight, l. c.) glabrous in every part.

Asthmatic Tylophora. Shrub tw.

24 T. TOMENTÒSA; twining, tomentose; leaves cordate, ovate, mucronate, white from tomentum beneath; umbels about 5-flowered. ♄. ◠. S. Native of the East Indies. Cynánchum tomentòsum, Lam. dict. 1. p. 235. Perhaps belonging to the present section.

Tomentose Tylophora. Shrub tw.

Cult. For culture and propagation see *Hòya*, p. 128.

XXVII. BELOSTE'MMA (from βελος, *belos*, an arrow, and στεμμα, *stemma*, a crown). Wall. mss. ascl. no. 153. Wight and Arnott, contrib. ind. bot. p. 52.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate. Stamineous corona 5-leaved; leaflets linear-oblong, fleshy, fixed vertically to the middle of the gynostegium, averse, spreading. Anthers terminated by a membrane; pollen masses globose, rather ascending, or placed transversely under the dilated margin of the stigma; stigma mutic.—Twining, loosely downy shrubs. Leaves opposite, cordate, ovate, somewhat acuminated. Peduncles shorter than the leaves. Umbels simple, few-flowered. Flowers small. This genus differs only from *Tylóphora* in the form of the corona; in that the leaflets are close pressed on the gynostegium; in this they appear as if attached by the one end, and stand at right angles with the gynostegium, and transversely across the corolla.

1 B. HIRSU'TUM (Wall. l. c.). ♄. ◠. S. Native of Nipaul.

Hairy Belostemma. Shrub tw.

Cult. For culture and propagation see *Hòya*, p. 128.

XXVIII. MARSDE'NIA (named in honour of William Marsden, F.R.S. late Secretary to the Admiralty, and author of a "History of Sumatra," in which, though it is evident that he has not made botany his particular study, he has had the merit of turning the attention of botanists to several valuable plants, among others to the camphor tree of Sumatra (*Dryobálanops camphòra*), and to a species of this genus, the *Marsdènia tinctòria*, said to afford the best indigo in that island). R. Br. in mem. wern. soc. 1. p. 28. prod. p. 460.—Pergulària species, Spreng. syst. 1. pp. 843, 844.

Lin. syst. *Pentándria, Digýnia.* Corolla urceolate, 5-cleft, sometimes rotate. Stamineous corona 5-leaved; leaflets compressed, undivided, toothless inside. Anthers terminated by a membrane. Pollen masses erect, fixed by the base. Follicles smooth. Seeds comose.—Usually twining shrubs. Leaves opposite, broadish, flat. Cymes interpetiolar, sometimes thyrsoid. Stigma usually mutic, but sometimes beaked; beak undivided or bifid.—Plants natives of New Holland, East Indies; very few in South America and Syria. This genus differs from *Pergulària* chiefly in the want of the inner laciniæ to the corona; it is therefore an arbitrary separation, and made principally to obtain clearer characters for both. The two species with an elongated stigma are perhaps not truly of the genus, but if separated from it must form each a distinct genus. R. Br.

Sect. I. Marsde'niæ ve'ræ. Stigma mutic, or apiculated.

§ 1. *Throat of corolla naked.*

1 M. VELUTÌNA (R. Br. in wern. soc. mem. 1. p. 29. prod.

461.) stem twining, leaves cordate, broad-ovate, acuminated, tomentose, soft; cymes umbel-formed; throat of corolla naked; stigma mutic. ♄. ◠. S. Native of New Holland, within the tropic.

Velvety Marsdenia. Shrub tw.

2 M. Brunonia'na (Wight and Arnott, contrib. ind. bot. p. 40.) twining, glabrous; leaves broad-cordate, acuminated; peduncles shorter than the petioles; flowers cymose, largish, glabrous; segments of corolla obtuse; leaflets of corona attenuated, about equal in length to the gynostegium; stigma bluntly apiculated. ♄. ◠. S. Native of the East Indies, near Columala.—Wight, cat. no. 1524. The cymes are small; but the flowers are the largest of the genus.

Brown's Marsdenia. Shrub tw.

3 M. flavescens (Cunningh. in bot. mag. t. 3289.) twining; leaves oblong-lanceolate, acuminated, somewhat undulated, glabrous above, but clothed with hoary tomentum beneath; peduncles twice the length of the petioles; cymes many-flowered; corolla sub-rotate; stigma mutic. ♄. ◠. S. Native of New Holland, on the sea-shore. Flowers yellowish. Stamineous corona of 5 fleshy teeth, united to the back of the anthers, which latter are diaphanous at the extremity. Stigma flat.

Yellowish-flowered Marsdenia. Fl. Ju. July. Clt. 1823. Shrub tw.

§ 2. *Throat of corolla as well as the tube bearded. Hairs of the tube disposed in 5 reflexed fascicles.*

4 M. tinctòria (R. Br. l. c.) stems twining; leaves cordate-ovate, or oblong-acuminated, smoothish, furnished with a gland towards the base above; thyrse lateral; throat of corolla bearded; flowers small; leaflets of corona about equal in length to the gynostegium, subulate; stigma mutic. ♄. ◠. S. Native of Sumatra, Silhet, and Prome. Faroom-akkar, Marsd. sumat. p. 78. Pergulària tinctòria, Spreng. syst. 1. p. 844. Asclèpias tinctòria, Roxb. fl. ind. 2. p. 43. mus. ind. or. t. 615. M. monostàchya, Wall. mss. Flowers numerous, small, yellow. The leaves yield more and better indigo than *Indigófera tinctòria*; and Dr. Roxburgh has recommended an extensive cultivation of it.

Dyers' Marsdenia, or Sumatra Indigo. Shrub tw.

5 M. viridiflòra (R. Br. l. c. p. 30. prod. 461.) stems twining; leaves oblong-lanceolate, smoothish, obtuse at the base; tube of corolla villous inside. ♄. ◠. S. Native of New Holland, within the tropic. Pergulària viridiflòra, Spreng. syst. 1. p. 844.

Green-flowered Marsdenia. Shrub tw.

6 M. Hamiltònii (Wight, contrib. ind. bot. p. 41.) twining, glabrous; leaves cordate-oblong, acuminated; cymes subcapitate, many-flowered, shorter than the petioles; flowers small; tube of corolla ventricose, closed by hairs; leaflets of corona longer than the gynostegium, tapering at the apex; pollen masses oblong, fixed by minute corpuscles; stigma apiculated. ♄. ◠. S. Native of the East Indies, at Sukanagur. Cynánchum, Wall. ascl. no. 84. C. reticulàtum, Ham. herb. no. 750.

Hamilton's Marsdenia. Shrub tw.

7 M. Ròthii; leaves roundish-oval, obtuse, glabrous, as well as the stems, which are twining; corymbs axillary, dichotomous, hairy; corollas tomentose inside. ♄. ◠. S. Native of the East Indies. Asclèpias plicàta, Roth. nov. spec. Corolla black, beset with scattered hairs outside, and clothed with greyish tomentum inside; hardly a line in diameter.

Roth's Marsdenia. Shrub tw.

8 M. clau'sa (R. Br. l. c. p. 30.) stem twining; leaves lanceolate, acute at both ends, glabrous, wrinkled a little above; throat of corolla densely bearded. ♄. ◠. S. Native of Jamaica. Pergulària claúsa, Spreng. syst. 1. p. 844.

Closed-flowered Marsdenia. Shrub tw.

9 M. suave'olens (R. Br. l. c.) stem erectish; leaves oval-lanceolate, glabrous, veinless; corolla with a ventricose tube, and a bearded throat. ♄. ◠. S. Native of New Holland, without the tropic. Rudge, in Lin. trans. 10. p. 299. t. 21. f. 1. Ker. bot. reg. t. 489. Pergulària suavèolens, Spreng. syst. 1. p. 843. Panicles axillary, 6-8-flowered. Calycine segments ciliated. Filaments broad, inserted beneath a 5-toothed conical nectarium, ex Rudge. Flowers white.

Sweet-scented-flowered Marsdenia. Fl. July, Aug. Clt. 1816. Shrub 2 to 3 feet.

10 M. cinera'scens (R. Br. l. c.) stem erect; leaves ovate, bluntish, veiny, beset with a little scattered down, petiolate, half an inch long; corolla subrotate. ♄. S. Native of New Holland, within the tropic. Pergulària cineráscens, Spreng. syst. 1. p. 844.

Greyish Marsdenia. Shrub 2 to 3 feet.

§ 3. *Tube of corolla downy inside.*

11 M. Ròylei (Wight et Arnott, contrib. ind. bot. p. 40.) twining, tomentose; leaves broad-cordate or ovate, acuminated; cymes shorter than the leaves; calyx hairy; corolla hairy inside: throat crowned by 5 plicæ, which are opposite the sinuses; leaflets of corona much longer than the gynostegium, filiform at top; stigma bluntly apiculated. ♄. ◠. S. Native of Kenour, Royle; Simla, Countess of Dalhousie. M. velutìna, Royle, herb., but not of R. Br. The plicæ at the bottom of the recesses, between the segments of the corolla, almost resemble thickish scales.

Royle's Marsdenia. Shrub tw.

12 M. angustifòlia (Wight, contrib. ind. bot. p. 40.) twining, much branched; stem, branches, and peduncles downy; leaves almost sessile, lanceolate, glabrous in the adult state; cymes twin, few-flowered, shorter than the leaves; leaflets of corona shorter than the gynostegium; stigma truncate. ♄. ◠. S. Native on hills at Prome. Marsdènia, Wall. ascl. no. 58.—Rumph, amb. 5. t. 40. f. 1. ?

Narrow-leaved Marsdenia. Shrub tw.

§ 4. *Throat of corolla naked; tube sparingly pilose. Leaflets of corona broadish, truncate or bifid at the apex; bearing each, near the base, one acuminated lobe, and another keel-formed one. Cymes large, spreading, many-flowered; flowers rather large.—This section may eventually form a distinct genus.*

13 M. Calesia'na (Wight, contrib. ind. bot. p. 41.) twining, downy; leaves cordate, or cordate-ovate, acuminated, tomentose on both surfaces; cymes large, many-flowered; segments of corolla narrow, acute, with revolute edges; leaflets of the corona deeply bifid: one of the lobes is longer than the other, lying upon the anthers, the other shorter and keeled towards the base; stigma apiculated. ♄. ◠. S. Native of the East Indies, at Morang. Pergulària Calesiàna, Ham. herb. Wall. ascl. no. 57. e.

Cales's Marsdènia. Shrub tw.

14 M. tenacíssima (Wight and Arnott. contrib. ind. bot. p. 41.) twining; leaves cordate, acuminated, tomentose on both surfaces; cymes large; segments of corolla broad, obtuse; leaflets of corona broad, truncate, and nearly entire at the apex, or bifurcate; stigma bluntly apiculated. ♄. ◠. S. Native of the East Indies, on the hills of Rajemahl and Chittagong. Asclèpias tenacíssima, Roxb. cor. 3. p. 35. t. 240. fl. ind. 2. p. 31. mus. ind. orient. t. 1381. Asclèpias tomentòsa, Herb. madr. Asclep. echinàta, Herb. madr. Gymnèma tenacíssimum, Spreng. syst. 1. p. 844. Flowers greenish yellow. Corollas salver-shaped; segments greenish towards the centre, with the outer half

yellow. Leaves 4-6 inches long and 3-4 broad. Follicles ovate-lanceolate, downy, green, 6 inches long, and 4-5 in circumference.—The bark of the young luxuriant shoots yields a large portion of beautiful fine silky fibre, with which the mountaineers of Rajemahl make their bow-strings, on account of their great strength and durability. Their fibres, and those of the bark of a Malay plant (*Batha-calay*, or *poolas*, the *Urtìca tenacíssima*, Roxb.) are much stronger in the fibre than hemp, and even exceeding those of *Sansevèria Zeylánica*, Roxb. A line made of common hemp for a standard, broke with 150 lbs. when dry, and 190 lbs. when wet, the average of several trials. A similar line, of this substance, broke with 248 lbs. when dry, and 343 when wet, while that of *Urtìca tenacíssima* broke with 240 when dry, and 278 when wet.

Very tough Marsdenia. Clt. 1806. Shrub tw.

Sect. II. Nephra'ndra (from *νεφος, nephos*, a kidney, and *ανηρ ανδρος, aner andros*, a male; shape of anthers). Stigma beaked. Anthers kidney-shaped.

15 M. ere'cta (R. Br. l. c. p. 31.) stem erect; leaves cordate, ovate, acute; cymes umbel-formed; segments of the limb of the corolla beardless, 4-5 times longer than the tube. ♄. G. Native of Syria. Cynánchum eréctum, Lin. hort. cliff. 79. Willd. spec. 1. p. 1158. Jacq. hort. t. 38. Pergulària erécta, Spreng. syst. 1. p. 844.—Kniph. cent. 7. no. 19. Apócynum, Clus. 1. p. 124. Leaves pale green, glaucescent. Flowers numerous, white, sweet-scented, ex Jacq.

Erect Marsdenia. Fl. Jul. Aug. Clt. 1597. Sh. 3 to 6 ft.

16 M. rostra'ta (R. Br. l. c.) stem twining; leaves ovate, subcordate, acuminated, glabrous; umbels many-flowered; limb of corolla bearded. ♄. ◠. G. Native of New Holland, without the tropic. Pergulària rostràta, Spreng. syst. 1. p. 844. This species differs from all the preceding in the pollen masses being reniform, nearly transverse, fixed by the extremity, more remote from the corpuscles of the stigma.

Beaked Marsdenia. Shrub tw.

Cult. For culture and propagation see *Pergularia*, p. 133.

XXIX. COSMOSTI'GMA (from *κοσμος, kosmos*, decked; and *στιγμα*, a stigma; in reference to the stigma being adorned by a narrow wing). Wight, contrib. ind. bot. p. 41.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate. Stamineous corona 5-leaved; leaflets compressed, bifid. Anthers ventricose, terminated by a membrane; pollen masses erect, fixed by the base to the corpuscles of the stigma, hanging by long retinacula. Stigma mutic, crowned by a repand, flexuous, narrow wing. Follicles large, linear-oblong, obtuse, smooth. Seeds comose.—Twining shrubs. Leaves opposite, membranous. Corymbs usually twin, on long peduncles. Flowers small. This genus has been separated from *Marsdènia* on account of the very beautiful and peculiar stigma; the cleft leaflets of the corona allies it to the last section of that genus.

1 C. racemòsa (Wight, l. c. p. 42.). ♄. ◠. S. Native of Silhet and Chittagong. Asclèpias racemòsa, Roxb. fl. ind. 2. p. 32. mus. ind. or. t. 1818. Nèrium piscídium, Wall. cat. no. 59. but not of Roxb.

Racemose-flowered Comostigma. Shrub tw.

Cult. See *Pergulària*, p. 133, for culture and propagation.

XXX. HETEROSTE'MMA (from *ἑτερος, heteros*, variable, and *στεμμα, stemma*, a crown; the corona in each of the species has a form peculiar to itself). Wight and Arnott, contrib. ind. bot. p. 42.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate, 5-parted. Stamineous corona 5-leaved; leaflets dilated, furnished each with a process inside. Anthers lying upon the stigma, terminated by a membrane; pollen masses erect, obsoletely tetragonal, pellucid on one side. Follicles smooth. Seeds comose.—Twining shrubs. Leaves opposite, furnished above the base with a small gland. Umbels small, interpetiolar, on short peduncles. The corona being variable in the species of this genus, the principal distinction rests in the form and structure of the pollen masses, which resemble those of *Stapèlia*, and the allied genera.

1 H. Tanjore'nsis (Wight and Arnott, l. c.) twining, glabrous; leaves broadly ovate or oblong, short-acuminated, obtuse or cordate at the base; peduncles shorter than the leaves, few-flowered; leaflets of corona spreading, broad, truncate, furnished with a tongue-formed process inside; follicles divaricate, slender, glabrous, hooked at the apex. ♄. ◠. S. Native of the East Indies, in the province of Tanjore, in sand. Stapèlia involucràta, herb. madr. Leaves 2-4 inches long, and 1-2 broad.

Tanjore Heterostemma. Shrub tw.

2 H. Wallíchii (Wight, l. c.) twining; branches having a downy, lateral line on both sides; leaves ovate, acuminated, glabrous; peduncles very short, few-flowered; leaflets of corona much dilated, obcordate, furnished with an erect, fleshy process inside, lying upon the gynostegium. ♄. ◠. S. Native of Nipaul, on Sheopore. Wall. ascl. no. 154. without a name. Leaves 4-8 inches long, and 2-3 broad.

Wallich's Heterostemma. Shrub tw.

3 H. ala'ta (Wight, l. c.) twining; branches having a downy line on both sides; leaves ovate, acuminated, glabrous; umbels few-flowered, almost sessile; leaflets of corona cuspidate, furnished with a subulate tooth on the back, and a gland-formed process inside; follicles slender, glabrous, divaricate. ♄. ◠. S. Native of Nipaul, and Massooree. Hòya alàta, Wall. asclep. no. 136. Leaves 2-5 inches long, and 1-3 broad.

Winged Heterostemma. Shrub tw.

Cult. For culture and propagation see *Pergularia*, p. 133.

XXXI. PERGULA'RIA (from *pergula*, an arbour; twining plants, fit for covering arbours). R. Br. in mem. wern. soc. 1. p. 31. Blum. bijdr. p. 1055. Pergulària species, Lin.

Lin. syst. *Pentándria, Monogýnia.* Corolla salver-shaped, with an urceolate tube. Stamineous corona 5-leaved; leaflets compressed, undivided at top, and furnished each with a little segment inside. Anthers terminated by a membrane; pollen masses erect, fixed by the base. Stigma mutic. Follicles ventricose, smooth Seeds comose.—Twining plants, with broad membranous leaves; interpetiolar cymes, of yellowish, sweet-scented flowers, for which they are cultivated in China and the East Indies. Throat of corolla usually hairy.

1 P. odoratíssima (Roxb. and Smith, icon. pict. p. 16.) leaves cordate, acuminated, soft, downy; umbels shorter than the leaves; calycine segments shorter than the tube of the corolla, which is woolly inside; corona shorter than the tube of the corolla; segments of corolla short, obtuse. ♄. ◠. S. Native of China, Cochinchina, and Sumatra, where it is called *West coast creeper* by the English. Andr. bot. rep. t. 185. Pergulària mìnor, Sims, bot. mag. 755. Perg. tomentòsa, Lin. mant. 53. Cynánchum odoratíssimum, Lour. coch. p. 164. Flos Siámicus, Rumph. amb. 6. p. 58. t. 26. f. 1. The Malay name of the shrub is *Tonki* or *Tonkin*. Bark corky; young branches downy. Leaves rather downy while young, 4 inches long and 3 broad. Flowers middle-sized, greenish yellow, exceedingly fragrant. Seeds surrounded by a membranous rind, and ending in a long tuft of hairs.

Sweet-scented Pergularia. Fl. Ju. Jul. Clt. 1784. Sh. tw.

2 P. acce'dens (Blum. bijdr. p. 1056.) leaves ovate, or oval-

oblong, acuminated, rounded at the base: having the margins and veins downy; cymes pedunculate, twin; calycine segments obtuse, shorter than the tube of the corolla. ♄. ⌒. S. Native of Java, Sumatra, Madura, &c., by the sea side. It differs from *P. odoratissima* in the leaves never being cordate.

Approaching Pergularia. Fl. year. Shrub tw.

3 P. mìnor (Andr. bot. rep. 184.) leaves cordate, obtuse; with an acumen, downy while young; umbels shorter than the leaves; calycine segments about equal in length to the tube of the corolla. ♄. ⌒. S. Native of the East Indies. Curt. bot. mag. 755.? Tratt. tab. 713. P. odoratíssima, var. Smith, icon. pict. 3. p. 16. This is probably only a small variety of the first species, the leaves are rounder, with a more slender recurved acumen; and the corollas orange-coloured or yellow, but also very fragrant; and the segments of the corolla are blunter and shorter. Leaves 1½ inch broad, and the same in length.

Smaller Pergularia. Fl. May, Aug. Clt. 1790. Shrub tw.

4 P. parviflòra (Blum. bijdr. p. 1056.) leaves subcordate-ovate, acute, downy on the margins and veins beneath; umbellules pedunculate; calycine segments obtuse, shorter than the tube of the corolla. ♄. ⌒. S. Native of Java, about Kuripan, in calcareous soil.

Small-flowered Pergularia. Fl. May, July. Shrub tw.

5 P. villòsa (Blum. bijdr. p. 1057.) leaves subcordate-oval, acute, very soft beneath; umbellules simple; segments of calyx acute, shorter than the tube of the corolla. ♄. ⌒. S. Native of Java, on mount Parang, in the province of Tjanjor.

Villous Pergularia. Fl. July. Shrub tw.

6 P. pa'llida; branches downy; leaves oblong-cordate, acuminated, smooth; umbels simple or compound, on short peduncles, many-flowered; corona length of tube, but the calycine segments are shorter; segments of corolla narrow, with revolute edges; tube glabrous inside. ♄. ⌒. S. Native of the East Indies, at Gongachora and Munghir; and Penang. Asclèpias pállida, Roxb. fl. ind. 2. p. 48. P. limbàta, Wall. ascl. p. 61. P. víridis, Ham. herb. Young shoots beset with small recurved hairs. Leaves 4 inches long, and 1-2 broad. Petioles, pedicels, and peduncles villous. The flowers are pale yellow, and not fragrant, or in a very slight degree. The length and narrowness of the segments of the corolla, and want of fragrance, seem to be the most obvious marks by which this can be distinguished from *P. odoratíssima*.

Pale-yellow-flowered Pergularia. Shrub tw.

7 P. sanguinole'nta (Lindl. in hort. trans. 6. p. 72. Sims, bot. mag. 2532.) leaves ovate-lanceolate, quite glabrous; cymes many-flowered, shorter than the leaves; segments of corolla acuminated, obtuse. ♄. ⌒. S. Native of Sierra Leone. Plant trailing, full of blood-coloured juice. Corollas greenish yellow.

Bloody-juiced Pergularia. Fl. Jul. Aug. Clt. 1822. Sh. tw.

8 P. purpu'rea (Vahl. symb. 3. p. 44. Willd. spec. 1. p. 1248.) leaves cordate, acuminated, glabrous; umbels proliferous, shorter than the leaves; corolla with a villous throat, and narrow segments. ♄. ⌒. S. Native of the East Indies and China. Asclèpias cordàta, Burm. ind. p. 72. t. 27. f. 2. Branches rather villous. Pedicels and calyx downy. Flowers purple?

Purple-flowered Pergularia. Shrub tw.

9 P.? Japónica (Thunb. jap. 111. Willd. l. c.) leaves cordate, glabrous; umbels simple; calycine segments shorter than the tube of the corolla; segments of corolla obtuse, spreadingly reflexed. ♄. ⌒. S. Native of Japan. Stems glabrous. Leaflets of corona 5, subsagittate, erect, compressed, each furnished with a tooth outside. Stigma ending in a long thread. Perhaps a distinct genus, from the stigma terminating in a thread.

Japan Pergularia. Shrub tw.

10 P.? edu'lis (Thunb. prod. p. 38. fl. cap. 2. p. 151. act. nov. petrop. t. 14.) stem herbaceous, filiform, twining; leaves ovate, acuminated, glabrous; pedicels capillary, aggregate; root large, succulent, size of a human head. ♄. 4. ⌒. S. Native of the Cape of Good Hope, in Karro. Plant glabrous, with alternate branches. Leaves green above and pale beneath. Corolla an inch long. The root is eaten by the Hottentots. Perhaps a species of *Ceropègia*.

Edible-rooted Pergularia. Pl. tw.

N. B. What is *Pergulària lùcida* and *P. angustifòlia*, Fisch. hort. gorenki?

Cult. The greater number of the species of this genus are much valued for the fragrance of their flowers, and are well adapted to training up rafters or trellis work, in stoves or conservatories. They grow well in a mixture of loam, peat, and sand; and cuttings strike root readily in heat, under a hand-glass.

XXXII. DISCHI'DIA (from δις, *dis*, twice, and σχιζω, *schizo*, to cut; in reference to the bifid leaflets of the corona). R. Br. in wern. soc. mem. 1. p. 32. prod. 461. Blum. bijdr. p. 1059.

Lin. syst. *Pentándria*, *Digýnia*. Corolla urceolate, 5-cleft. Stamineous corona 5-leaved; leaflets bifid: segments subulate, spreading, recurved at apex. Anthers terminated by a membrane; pollen masses erect, fixed by the base. Stigma mutic. Follicles smooth. Seeds comose.—Herbs hanging, perennial, lactescent, besprinkled with white mealiness. Natives of the East Indies, especially of the Moluccas; and of New Holland, parasitical on trees. Stems rooting at the joints. Leaves opposite, roundish, thick, fleshy. Flowers small, subumbellate, usually white.

1 D. Bengale'nsis (Colebr. in Lin. trans. 12. p. 357. t. 15. Hook. bot. mag. 2916.) plant yellowish green, glabrous, fleshy; leaves oblong-lanceolate, 2-edged, flat; umbels few-flowered, from alternate axils, on short peduncles; corollas small, urceolate. ♄. S. Native of Silhet, on trees. D. lanceolàta Wall. ascl. no. 62.

Bengal Dischidia. Fl. Sept. Clt. 1818. Pl. creep.

2 D. cuneifòlia (Wall. l. c.) leaves cuneated, subretusely cuspidate, much attenuated at the base, and are, as well as the branches, scurfy. ♄. S. Native of the Burmese empire, on the banks of the river Attram, on trees. Nearly allied to *D. Bengalénsis*.

Cuneate-leaved Dischidia. Shrub creep.

3 D. Rafflesia'na (Wall. pl. rar. asiat. 2. p. 35. t. 184.) leaves roundish-ovate; ascidia or reservoirs crowded, pendulous, petiolate, oblong-ovate, angular, obtuse, large; lobes of corona oblong, obtuse, incurved; follicles smooth. ♄. S. Native of Singapore; also of Malacca and Salongohr, upon trees. A fleshy, pale green, glaucous plant. Umbels axillary. Corollas pale yellow.

Raffles's Dischidia. Shrub creep.

4 D. clava'ta (Wall. l. c. p. 36.) leaves roundish-ovate; ascidia or reservoirs crowded, pendulous, almost sessile, cylindrically clavate, arched, marginate, bluntly cuspidate; lobes of stamineous corona oblong, obtuse, incurved; follicles downy. ♄. S. Native of the Burmese empire, on the banks of the river Attram, in Martaban, near Assannee, on trees. Habit and mode of growth that of *D. Rafflesiàna*, but the reservoirs are of a different form.

Clavate Dischidia. Shrub creep.

5 D. nummula'ria (R. Br. prod. p. 461. Blum. bijdr. 1059.) fleshy; stem roughish; leaves roundish-ovate, mucronulate, convex on both surfaces, mealy beneath; umbellules on short peduncles; segments of corona subulate. ♄. S. Native of the East Indies, Java, and the Moluccas; also of New Holland, at Endeavour River, creeping upon trees. Col-

lỳris mìnor, Vahl. act. soc. hist. nat. hafn. 6. p. 111. ?—Rumph. amb. 5. t. 176. f. 1.

Moneywort-leaved Dischidia. Fl. year. Clt. ? Pl. creep.

6 D. Timorie'nsis (Nouv. ann. mus. 3. p. 377. t. 17.) leaves roundish-ovate, on short petioles; ascidia nearly sessile, oblong, a little arched, flattened, pendulous at the base of the branches; lobes obtuse, violaceous, downy inside; lobes of corona linear, arched, reflexed. ♄. S. Native of the island of Timor.

Timor Dischidia. Pl. creeping.

7 D. Wallìchii (Wight, contrib. ind. bot. p. 43.) fleshy, glabrous; leaves orbicular, hardly mealy. ♄. S. Native of Singapore. Wall. ascl. no. 64.—Rumph. amb. 5. t. 176. f. 2. Perhaps this is *Colly'ris mìnor*, Vahl, in which he says the leaves are oblong-ovate.

Wallich's Dischidia. Shrub creeping.

8 D. rhombifòlia (Blum. bijdr. p. 1059.) stem glabrous; leaves rhomb-ovate, obtuse, flat above and convex beneath; umbels on short peduncles; segments of corona linear, blunt. ♄. S. Native of Java, in woods on mounts Salak, Gede, and Burangrang, upon trees.

Rhomb-leaved Dischidia. Fl. year. Pl. creeping.

9 D. spatula'ta (Blum. bijdr. p. 1060.) stem glabrous; leaves spatulate, convex on both surfaces, rather mealy; umbellules nearly sessile; segments of the crown lanceolate. ♄. S. Native of the island of Nusæ-Kambanga, by the sea side, creeping upon trees.

Spatulate-leaved Dischidia. Fl. year. Pl. creeping.

10 D. cochlea'ta (Blum. bijdr. p. 1060.) stem downy; leaves roundish, convex above and wrinkled, concave beneath; umbellules on short peduncles; segments of corona obtuse, inflexed. ♄. S. Native of the island of Nusæ-Kambanga, creeping on the trunks of trees, by the sea shore.

Spoon-leaved Dischidia. Fl. year. Pl. creeping.

Cult. Vegetable mould is the best soil for the species of *Dischídia;* and they are easily increased by separating the rooted shoots.

XXXIII. LEPTOSTE'MMA (from λεπτος, *leptos*, narrow; and στεμμα, *stemma*, a crown; in reference to the corona, which is narrow.) Blum. bijdr. p. 1057.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, 5-toothed. Corolla tubular, with a constricted throat, which is sometimes closed with scales or fascicles of villi; limb semi-quinquefid. Stamineous crown of 5 free, cordate or sagittate, undivided leaflets. Anthers terminated by a membrane; pollen masses erect, fixed by the base. Stigma mutic. Follicles smooth. Seeds with a tuft of hairs at the end.—Herbs rooting on trees; with opposite or verticillate, fleshy leaves; and umbellulate flowers. An intermediate genus, between *Pergulària* and *Dischídia.*

* *Throat of corolla naked.*

1 L. lanceola'tum (Blum. bijdr. p. 1057.) leaves lanceolate, acuminated at both ends, glabrous; leaflets of corona rounded at the apex. ♄. S. Native of Java, in mountain woods.

Lanceolate-leaved Leptostemma. Fl. year. Pl. creep.

2 L. sagitta'tum (Blum. bijdr. p. 1057.) leaves lanceolate, acute or obtuse, glabrous; leaflets of corona sagittate, bluntish at the apex. ♄. S. Native of Java, upon trees, about Linga-jattie, in the province of Cheribon, where it is called *Kikondal.*

Sagittate-crowned Leptostemma. Fl. Aug. Sept. Pl. creep.

3 L. latifòlium (Blum. bijdr. p. 1058.) leaves oval-lanceolate, acute, glabrous; leaflets of corona minute, acutish, with tumid margins. ♄. S. Native of Java, on Mount Salak.

Broad-leaved Leptostemma. Fl. year. Pl. cr.

4 L. puncta'tum (Blum. bijdr. p. 1058.) leaves ovate, acuminated, convex, and glabrous on both surfaces; leaflets of corona rounded at the apex; corolla beset with elevated dots outside. ♄. S. Native of Java, in low woods.

Dotted-flowered Leptostemma. Fl. year. Pl. creep.

5 L. trunca'tum (Blum. l. c.) leaves small, ovate, acute, glabrous, rather convex beneath; leaflets of corona truncate, erose. ♄. S. Native of Java, in woods, on the higher mountains.

Truncate-crowned Leptostemma. Fl. June, July. Pl. cr.

* * *Throat of corolla closed.*

6 L. hirsu'tum (Blum. l. c.) leaves ovate, acute, hairy; throat of corolla closed by 5 scales; leaflets of corona rounded at the apex. ♄. S. Native of Java, about Rompien, in the province of Buitenzorg.

Hairy Leptostemma. Fl. May. Pl. creep.

7 L. fasciula'tum (Blum. bijdr. p. 1058.) leaves ovate, acutish, nearly glabrous; throat of corolla closed by 5 fascicles of villi; leaflets of corona rounded at the apex. ♄. S. Native of Java, on the mountains of Pant-jar, in the province of Buitenzorg.

Fascicled-flowered Leptostemma. Fl. July. Pl. creep.

Cult. For culture and propagation see *Dischídia*, above.

XXXIV. TRIPLOSPE'RMA (τριπλοος, *triploos*, triple; and σπερμα, *sperma*, a seed; the seeds are disposed in 3 ranks or series, in the follicles.) Stapèlia Cochinchinénsis, Lour. coch. p. 114.

Lin. syst. *Pentándria, Digýnia.* Corolla with a long slender tube, and a 5-parted limb; segments acute, connivent, covering the genitals. Stamineous corona fleshy, flat, stellate, of 5 acute, large, expanded leaflets. Anthers oblong, between the lobes of the corona. Stigmas 2, sessile. Follicles terete, subulate. Seeds long, terete, comose, disposed in 3 rows in each follicle. —A creeping, suffruticose plant. Stems terete, nearly simple. Leaves fleshy, opposite, ovate. Umbels large, simple, on a long, thick, common peduncle. Corollas white, funnel-shaped. Calycine segments acute.

1 T. Cochinchine'nsis. ♄. S. Native of Cochinchina, on the mountains. Hòya Cochinchinénsis, Spreng. syst. 6. p. 52. Stapèlia Cochinchinénsis, Lour. coch. 114.

Cochinchina Triplosperma. Shrub creeping.

Cult. For culture and propagation see *Dischídia*, above.

XXXV. HARRISO'NIA (named by Hooker, in compliment to Mrs. Harrison, of Ægburgh, near Liverpool, who was the first to introduce the plant from Brazil.) Hook. in bot. mag. vol. 53. t. 2699.

Lin. syst. *Pentándria, Digýnia.* Corolla urceolate, 5-toothed; with a naked throat. Stamineous corona 5-leaved; leaflets simple at top, furnished with a fleshy scale or process inside. ? —An erect, glabrous shrub. Leaves opposite, decussate, between fleshy and coriaceous, 2-3 inches long, elliptic-cordate, obtuse. Umbels pedunculate, terminal. Corollas fleshy, fine red; limb a little spreading. Hooker describes the pollen masses as erect; but we much doubt the correctness of this; but should it be so, it is a very remarkable genus among the tribe of Asclepiadeous plants, in which the pollen masses are erect, and the anthers terminated by a membrane.

1 H. loniceroìdes (Hook. l. c.) ♄. S. Native of Brazil.

Honeysuckle-like Harrisonia. Fl. Sept. Clt. 1825. Shrub erect.

Cult. For culture and propagation see *Gomphocárpus*, p. 142.

§ 2. *Stamineous corona inappendiculate outside.*

XXXVI. CONCHOPHY'LLUM (from κονχη, *conche*, a shell; and φυλλον, *phyllon*, a leaf; leaves convex above.) Blum. bijdr. p. 1060.—Collỳris, Vahl. act. hafn. 6. p. 109.

Lin. syst. *Pentándria, Digýnia.* Calyx small, 5-toothed. Corolla sub-globose, with a bearded throat; segments of the limb short. Stamineous crown, inclosed, 5-angled, inappendiculate outside. Anthers terminated by a membrane; pollen masses erect, fixed by the base. Stigma mutic. Follicles smooth. Seeds comose.—Herbs rooting on trees. Leaves opposite, somewhat imbricate, fleshy, roundish-cordate, emarginate, of a different colour beneath, convex and rather wrinkled above, and veinless beneath. Umbellules twin, pedunculate, interpetiolar.

1 C. imbrica'tum (Blum. bijdr. p. 1061.) ♄. S. Native of the island of Nusæ-Kambanga, on the sea-shore. Dischídia? Collỳris, Wall. pl. rar. asiat. 2. p. 36.—Colly'ris màjor, Vahl, in act. soc. hist. nat. hafn. 6. p. 111.—Rumph. amb. 5. t. 175. f. 3. bad.

Imbricated-leaved Conchophyllum. Fl. Nov. Pl. creeping.

Cult. For culture and propagation see *Dischídia*, p. 134.

XXXVII. GYMNE'MA (from γυμνος, *gymnos*, naked; and νημα, *nema*, a filament; the stamineous corona being absent, the filaments are left naked.) R. Br. in mem. wern. soc. 1. p. 33. prod. p. 461.

Lin. syst. *Pentándria, Monogy'nia.* Corolla sub-urceolate, 5-cleft; throat usually crowned by 5 scales, or teeth, inserted in the recesses between the segments of the corolla. Stamineous corona wanting. Anthers terminated by a membrane; pollen masses erect, fixed by the base. Follicles smooth. Seeds comose, generally marginate.—Usually twining shrubs, natives of the East Indies; tropical parts of New Holland, and Equinoxial Africa. Leaves opposite, membranous, flat. Umbels interpetiolar, cymose. In the greater number of the species, the stamens are not usually naked, but are furnished with a gland-like body, or fleshy tuft, at the base of each filament.

* § 1. *Tube of corolla pilose inside; throat crowned by 5 decurrent toothlets or scales.*

1 G. lactíferum (Rœm. et Schultes, syst. 6. p. 57. ex R. Br. l. c.) glabrous; stem erect, or twining a little, simple; leaves on short petioles, ovate, bluntly acuminated, usually unequal-sided; umbels many-flowered, shorter than the petioles; throat of small corolla crowned by 5 fleshy tubercles; tube furnished with double pilose lines, running from the tubercles. ♄. S. Native of Ceylon. Asclèpias lactífera, Lin. spec. 314. fl. zeyl. 111.—Burm. zeyl. p. 24. The milk of the plant is substituted for cow's milk, where that is scarce; and the leaves are boiled with food, ex Burm. Very nearly allied to *G. sylvéstre*.

Milk-bearing Gymnema. Shrub.

2 G. sylve'stre (R. Br. prod. l. c.) twining; clothed with soft down in every part except the upper surfaces of the leaves; leaves from oval, attenuated at the base and apex, to ovate or cordate, acute; peduncles equal in length to the petioles; umbels twin, sub-capitate, many-flowered; flowers small; stigma bluntly conical, much longer than the stamens; follicles slender, attenuated, glabrous. ♄. ◠. S. Native of the Peninsula of India, frequent in China and Ceylon. Wight, and Arnott, contrib. ind. bot. p. 44. G. parviflòrum, Wall. tent. fl. nep. p. 50. Perìploca sylvéstris, Willd. spec. 1. p. 1252. phyt. 1. p. 7. t. 5. f. 3. Asclèpias geminàta, Roxb. fl. ind. 2. p. 45. Segments of corolla ovate, acute. Scales in the throat long and thick. Hypogynous scales linear, obtuse, covering the genitals.

Wild Gymnema. Shrub tw.

3 G. gemina'tum (R. Br. prod. p. 462.) leaves ovate, smoothish; branchlets downy; peduncles shorter than the petioles; umbels twin; corolla with a crowned throat, and pilose tube. ♄. ◠. S. Native of New Holland, within the tropic, on the sea-shore.

Twin-umbelled Gymnema. Shrub tw.

4 G. hirsu'tum (Wight, and Arnott, contrib. ind. bot. p. 44.) twining, much branched; young branches, and under surfaces of leaves clothed with hairy tomentum; leaves downy above, from broad-ovate to narrow-oblong, acuminated; peduncles shorter than the petioles; umbels sub-capitate; flowers small. ♄. ◠. G. Native of the Neelgherry mountains. Wight, cat. no. 1531. Wall. ascl. no. 70. This may eventually prove a variety of *G. lactíferum*.

Hairy Gymnema. Shrub tw.

5 G. mólle (Wall. ascl. no. 72. b. 145. 151. Wight, and Arnott, contrib. ind. bot. p. 45.) twining; young branches clothed with soft pubescence; leaves from broad-cordate to ovate, acuminated, clothed with soft down beneath, smoothish above; umbels capitate, almost sessile; flowers small; stigma truncate, hardly higher than the stamina; follicles short, broad at the base, and gradually tapering to the apex, velvety. ♄. ◠. S. Native of the Burman Empire, on the banks of the Irrawaddi.

Soft Gymnema. Shrub tw.

6 G. acumina'tum (Wall. tent. fl. nep. p. 50.) twining; bark of stem corky; young branches rather tomentose; leaves oval-oblong, acuminated, glabrous above, and tomentose beneath, at length almost naked; peduncles shorter than the petioles; umbels sub-capitate; flowers small; scales of the throat exserted, one half shorter than the segments; follicles thick at the base, conical, short, woody, coriaceous, at length glabrous, 2 inches long, and 6-8 lines thick at the base; seeds large, surrounded by a membranous wing. ♄. ◠. S. Native of Chittagong, Silhet, Tavoy, and Maulmyne. Asclèpias acuminàta, Roxb. fl. ind. 2. p. 55. Cynánchum acuminàtum, Ham. herb. The specimens from Tavoy are more glabrous than the others.

Acuminated-leaved Gymnema. Shrub tw.

7 G. latifòlium (Wall. asclep. no. 68. 144. Wight, and Arnott, contrib. ind. bot. p. 45.) twining; ? young branches densely downy; leaves broad-oval, acuminated, sparingly pilose on both surfaces, parallelly veined; umbels shorter than the petioles, cyme-formed, many-flowered; flowers small; scales of throat inclosed; follicles rather slender, acuminated, warted, 3 inches long, and 2 lines thick at the base. ♄. ◠. ? S. Native of Tavoy, Silhet, Saluen, and the Peninsula of India. Leaves 4-6 inches long, and 3 broad.

Broad-leaved Gymnema. Shrub tw.

8 G. gla'brum (Wight, contrib. ind. bot. p. 45.) twining, glabrous; leaves ovate or cordate, acuminated, parallelly veined; follicles large, oblong-lanceolate, acuminated, ligneo-coriaceous, glabrous, 4 inches long, and 6 lines thick in the middle. ♄. ◠. S. Native of the East Indies. Wall. ascl. no. 150, without a name. Very nearly allied to the preceding, but quite distinct.

Glabrous Gymnema. Shrub tw.

§ 2. *Throat of corolla furnished with 5 decurrent, pilose lines.—The plants of this section have larger flowers than those of the last; and, owing to the pedicels being longer, the umbels are larger, though fewer-flowered.*

9 G. e'legans (Wight, et Arnott, contrib. ind. bot. p. 46.) twining; branches slender, glabrous, woody: the older ones rather warted; leaves cordate-ovate or oval-acuminated, with undulated edges; umbels on short peduncles, but not spirally elongated at length, as in the following species; pedicels about equal in length to the peduncles; flowers small; throat of corolla furnished with 5 pilose lines inside; stigma obtuse, longer than the stamens; follicles usually solitary, acuminated, white, 3 inches long, and 3-4 lines thick; seeds marginate. ♄. ◠. S. Native of the mountains of Dindygul, Salem, and Columala, also of Segaen.—Wight, cat. no. 1534. Wall. ascl. no. 67, 155, unnamed. Flowers white.

Elegant Gymnema. Shrub tw.

10 G. tíngens (Spreng. syst. 1. p. 844.) twining, glabrous; leaves cordate, acuminated to oval; umbels or corymbs often twin, at first shorter than the petioles, and at length spirally elongated; glands of filaments one half shorter than the stamens; follicles cylindrical, spoon-shaped; stigma simple, oval, mutic, crowning the tube of the corolla, and therefore exceeding the stamens. ♄. ⌒. S. Native of Pegu. Wight, and Arnott, contrib. ind. bot. p. 45. Asclèpias tíngens, Ham. ex Roxb. fl. ind. 2. p. 53. cor. 3. p. 34. t. 239. Asclèpias montàna, Roxb. fl. ind. 2. p. 45. mus. ind. or. t. 618. Períploca montàna, Roth. in herb. Wight. Microlòma Bidària, Ham. herb. Tylóphora Ariádnes, Ham. herb. Leaves 3-6 inches long, and 2-4 broad. Umbels compound at length. Flowers largish, numerous, pale yellow. Calyx 5-cleft to the base. Corolla having the tube as long as the column of fructification, furnished inside the rim with 5 double pilose ridges, which are ciliated with short brown hairs. Cordate divisions of the corona covering the stamens. Style simple. Follicles ovate-lanceolate, smooth and fleshy, 4 inches long, and one in diameter.

Dr. Hamilton, late Buchanan, informed Dr. Roxburgh, that from the leaves of this plant the Burmese prepare a green dye.

Staining Gymnema. Fl. July. Clt. 1823. Shrub tw.

§ 3. *Corolla ventricose; throat toothless; tube without any pilose lines inside. Filaments usually furnished with a fleshy tubercle at the base.—The plants referred to this section ought to form, perhaps, a distinct genus; they differ widely from the others in appearance. The pollen masses differ also from the rest of the genus, in being compressed and spatulate; and the retinacula are thickened, and sometimes very long.*

11 G. Nipaule'nse (Wall. tent. fl. nep. p. 50. t. 38.) leaves oval or ovate-oblong, acuminated, glabrous, glaucous beneath, and minutely reticulated with fuscous veins; common peduncles sometimes shorter and sometimes longer than the leaves; umbels compound, many-flowered; flowers subcapitate, on short pedicels. ♄. ⌒. G. Native of Nipaul. G. columnàre, Wall. ascl. no. 73. a. A large, much-branched shrub. Corollas yellow, urceolate, valvate in æstivation.

Nipaul Gymnema. Shrub tw.

12 G. columna're (Wall. ascl. no. 73. b. Wight and Arnott, contrib. ind. bot. p. 40.) leaves subcordate at the base, linear-oblong, acuminated, glabrous, pale glaucous beneath, and reticulated with fuscous veins; umbels compound, about equal in length to the leaves, many-flowered; flowers almost sessile. ♄. ⌒. S. Native of Nipaul? Very like *G. Nipaulénse*, and differs chiefly in the figure of the leaves.

Columnar Gymnema. Shrub tw.

13 G. sagitta'tum (Wall. tent. fl. nep. p. 50. ascl. no. 114. and no. 83. ?) leaves oval or oblong-ovate, attenuated at the apex, glabrous, whitish glaucous beneath, with the veins of the same colour; peduncles slender, about equal in length to the leaves; cymes compound, loose, with filiform branches: pedicels disposed along an elevated spiral line; flowers small, usually caducous; follicles slender, glabrous. ♄. ⌒. S. Native of Silhet. Anthers subsagittate. Cymes puberulous. Corolla subcampanulate, Wall. l. c.

Sagittate-anthered Gymnema. Shrub tw.

14 G. Wallíchii (Wight, contrib. ind. bot. p. 46.) leaves oval, short-acuminated, glabrous, paler beneath, with the veins of the same colour; cymes raceme-formed; pedicels disposed along an elevated spiral line; corolla ventricose, pilose inside; gynostegium furnished with 5 fleshy leaflets at the base. ♄. ⌒. S. Native of Singapore. Wall. ascl. no. 135. unnamed. The large fleshy glands or leaflets at the base of the gynostegium or column of fructification, render this a very doubtful species of *Gymnèma*, but the three preceding species have them also, but not so conspicuous.

Wallich's Gymnema. Shrub tw.

15 G. Finlaysonia'num (Wight, l. c.) twining, glabrous; leaves cordate, ovate, acuminated, glaucous beneath and reticulated with brown veins; umbels dense, many-flowered, longer than the petioles; corolla subcampanulate, glabrous; gynostegium short, naked at the base; retinacula of pollen masses elongated and spirally twisted in the middle. ♄. ⌒. S. Native of the East Indies.

Finlayson's Gymnema. Shrub tw.

16 G. trine'rve (R. Br. prod. p. 462.) stem erect; leaves oblong-lanceolate, 3-nerved, downy; umbels sessile; throat naked. ♄. S. Native of New Holland, within the tropic, on the sea shore. Perhaps the gynostegium is naked at the base.

Three-nerved-leaved Gymnema. Shrub.

17 G.? attenua'tum (Wall. tent. fl. nep. p. 50.) twining, smooth; leaves lanceolate, very much attenuated; corymbs slender, flexuous, rather longer than the leaves; corolla somewhat rotate, with a naked throat; pollen masses divaricate, almost horizontal, ovate; corpuscles bidentate at the apex. ♄. ⌒. S. Native of Silhet. Perhaps a species of *Tylóphora*.

Attenuated-leaved Gymnema. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

XXXVIII. SARCO'LOBUS (from σαρξ σαρκος, *sarx sarkos*, fleshy; and λοβος, *lobos*, a pod; the follicles are fleshy.) R. Br. in mem. wern. soc. 1. p. 34.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate, 5-parted; throat naked. Stamineous corona wanting. Anthers terminated by a membrane; pollen masses erect, fixed by the base. Stigma mutic. Follicles ventricose, fleshy or coriaceous, sometimes solitary by abortion. Seeds marginate, scabrous.?—Twining, glabrous shrubs Leaves opposite, broadish, firm. Umbels or corymbs interpetiolar, many-flowered. Follicles solitary by abortion.

1 S. Ba'nksii (Rœm. et Schultes, syst. 6. p. 58. ex R. Br. l. c.) glabrous; leaves broadish; umbels many-flowered; corolla rotate, with a naked throat; follicles fleshy. ♄. ⌒. S. Native of Java, near Batavia; and of Princes Island, where it was collected by Sir Joseph Banks. Follicles ventricose.

Banks's Sarcolobus. Shrub tw.

2 S. globòsus (Wall. asiat. res. 12. p. 577. t. 4.) leaves ovate-oblong; cymes bifid; corolla rotate, with a very short tube, villous inside; follicles large, fleshy, globose, blunt or retuse at both ends, muricated. ♄. ⌒. S. Native of the south of Bengal, in saltish places, on the shores of the Hoogly; Rangoon; and on the banks of the river Saluen.

Globose-fruited Sarcolobus. Shrub tw.

3 S. carina'tus (Wall. l. c. p. 578. t. 5.) leaves oval and oblong, rather fleshy; peduncles few-flowered; corollas rotate, with a very short tube, glabrous inside; follicles oblong, smooth, acute, keeled below. ♄. ⌒. S. Native along with the preceding species.

Keeled-fruited Sarcolobus. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

Tribe II.

GONOLO'BEÆ. Pollen masses 10, fixed by pairs to the retinacula of the stigma, transverse (f. 17. *g. h.*) adhering by the outer extremity (f. 17. *h.*), dehiscing transversely in respect to the cells, hidden by the stigmas. Stamineous corona undivided (f. 17. *d.*), lobed. Anthers terminated by a membrane.

XXXIX. GONO'LOBUS (from γονια, *gonia*, an angle; and λοβος, *lobos*, a pod; in reference to the ribbed follicles.) Rich.? in Michx. fl. bor. amer. 1. p. 119. R. Br. in werm. soc. mem. 1. p. 35.—Cynánchum species of Lin. and Jacq.

Lin. syst. *Pentándria, Digýnia.* Corolla sub-rotate, 5-parted (f. 17. *a.*) Stamineous corona saucer-shaped (f. 17. *d.*),

lobed. Anthers dehiscing transversely, terminated by a membrane; pollen masses fixed by the outer extremities, in respect to the cells (f. 17. *h.*), covered by the stigma. Stigma flattish-depressed, 5-lobed (f. 17. *e.*). Follicles ventricose, a little ribbed. Seeds comose.—Twining, suffruticose plants, natives of America, particularly within the tropics. Leaves opposite, broadish. Umbels interpetiolar, pedunculate.

1 G. marítimus (R. Br. l. c.) leaves cordate, hairy, tomentose beneath; umbels sessile; calycine segments lanceolate, acute; segments of corolla ovate, acute, hairy inside; tube very short. ♄. ⌒. S. Native of Tierra Bomba. Lindl. bot. reg. 931. Cynánchum marítimum, Lin. mant. 54. Jacq. amer. p. 83. t. 56. pict. t. 82. Corolla dark purple, ex Lin. Stem hairy. Corolla greenish, ex bot. reg.

Sea-side Gonolobus. Fl. June, July. Clt. 1826. Shrub tw.

2 G. suberòsus (R. Br. l. c.) leaves cordate, acuminated, with an open recess, rather hairy; calycine segments narrow; segments of corolla lanceolate. ♄. ⌒. S. Native of South America. Cynánchum suberòsum, Lin. hort. cliff. 79. spec. p. 310. Willd. spec. 1. p. 1255.—Dill. hort. elth. 308. t. 229. f. 296. Stem reddish, chinky at bottom. Flowers at first green, afterwards verging to blackish purple.

Corky-stemmed Gonolobus. Fl. July, Sept. Clt. 1732. Shrub tw.

3 G. crispiflòrus (R. Br. l. c.) leaves oblong, cordate, with the recess closed, nearly naked above, but villous beneath; umbels many-flowered; segments of corolla curled at apex. ♄. ⌒. S. Native of Jamaica, and at the Isthmus of Darien. Cynánchum crispiflòrum, Swartz. prod. 52. Ait. hort. kew. 1. p. 302. Swartz, fl. ind. occ. 1. p. 536.—Plum. icon. 210. t. 216. f. 1. Stem downy. There are some subulate glands at the recess of the leaf. Corolla white, painted with green lines at the base of the segments.

Curled-flowered Gonolobus. Fl. July, Aug. Clt. 1741. Shrub tw.

4 G. planiflòrus (R. Br. l. c.) leaves cordate, glabrous above, and tomentose beneath; umbels sub-compound; calycine segments lanceolate, acuminate; segments of corolla roundish-ovate, flat, spreading. ♄. ⌒. S. Native of New Spain, on the precipices of Mount de la Popa, about Carthagena; and of Trinidad. Cynánchum planiflòrum, Jacq. amer. 82. t. 86. pict. 43. t. 81. Lin. syst. 257. Leaves ciliated on the petioles, with rusty stiff pili. Corolla flat, veiny, and rusty.

Flat-flowered Gonolobus. Fl. Ju. Aug. Clt. 1818. Shrub twining.

5 G. viridiflòrus (Rœm. et Schultes, syst. 6. p. 61.) leaves ovate-cordate, or ovate, acuminated, glabrous; umbels few-flowered, shorter than the leaves; calycine segments lanceolate; segments of corolla oblong, acute. ♄. ⌒. S. Native about the Essequibo. Lindl. bot. reg. 1126. Cynánchum viridiflòrum, Meyer, prim. esseq. p. 141. G. Guianénsis, Spreng. syst. 1. p. 845. Stem hairy while young. Corolla greenish yellow. Stamineous corona margined with white. Very nearly allied to *G. planiflòrus;* but differs, in the leaves of that species being downy beneath, in the umbels being racemose, and in the calyx being longer than the corolla.

Green flowered Gonolobus. Fl. Sept. Clt. 1826. Shrub tw.

6 G. grandiflòrus (R. Br. l. c.) hairy; leaves cordate-ovate, acuminated, glaucous beneath; segments of corolla ovate, acuminated, coriaceous. ♄. ⌒. S. Native of South America. Lindl. bot. reg. t. 1053. Cynánchum grandiflòrum, Cav. icon. 1. p. 14. t. 21. Willd. spec. 1255. Stem and peduncles beset with rufous hairs. Petioles villous. Corolla coriaceous, larger than in any other species of the genus, greenish; corona purple.

Great-flowered Gonolobus. Fl. July, Aug. Clt. 1826. Shrub tw.

7 G. rostra'tus (R. Br. l. c.) hairy; leaves oblong-cordate, with the recess open; calycine segments ovate; segments of corolla narrow-lanceolate, 3 times longer than the calyx, pilose outside. ♄. ⌒. S. Native of Trinidad. Cynánchum rostràtum, Vahl, symb. 3. p. 45. Willd. spec. 1. p. 1254. Hairs of the stem retrograde. Leaves 2-3 inches long, rather pilose. Umbels few-flowered. Pedicels and petioles hairy. Corolla acuminately rostrate before expansion.

Beaked-flowered Gonolobus. Fl. Ju. Sept. Clt. 1824. Shrub tw.

8 G. nìger (R. Br. l. c.) glabrous; leaves ovate-cordate, acute; racemes few-flowered. ♄. ⌒. S. Native of Mexico. Cynánchum nìgrum, Cav. icon. 2. p. 45. t. 159. Willd. spec. 1. p. 1255. Nearly allied to *G. racemòsus;* but differs, in the ovate, acuminated leaves, and corolline segments, in the few-flowered racemes, and in the corolla being 4 times larger, and black, or very dark purple.

Black-flowered Gonolobus. Fl. Oct. Clt. 1825. Shrub tw.

9 G. racemòsus (R. Br. l. c.) glabrous; leaves ovate-cordate, acuminated; racemes simple, many-flowered; calycine segments lanceolate, concave, acute; segments of corolla lanceolate, flat, revolute and emarginate at the apex. ♄. ⌒. S. Native about Carthagena, among bushes. Cynánchum racemòsum, Lin. mant. p. 54. Jacq. amer. p. 81. t. 54. pict. t. 80. Willd. spec. 1. p. 1255. Leaves 4 inches long, rusty beneath. Flowers small, white.

Racemose-flowered Gonolobus. Fl. Ju. Aug. Clt. 1820. Shrub tw.

10 G. Caroline'nsis (R. Br. l. c.) stem and petioles hairy; leaves ovate-cordate, acuminated, downy, on longish petioles; flowers glabrous; segments of corolla oval-oblong, bluntish; follicles smooth. ♃. ⌒. F. Native of North America, on the banks of the Mississippi, in hedges. Cynánchum Carolinénse, Jacq. icon. 2. t. 342.? Flowers purplish, umbellate.

Carolina Gonolobus. Fl. Ju. July. Clt. 1806. Pl. tw.

11 G. macrophy'llus (Nutt. gen. amer. 1. p. 163.) stems and petioles hairy; leaves large, cordate, abruptly acuminated, puberulous; segments of corolla oval-oblong. ♄. ⌒. F. Native of Carolina and Virginia, in shady woods. Cynánchum macrophýllum, Michx. fl. bor. amer. 1. p. 119. Vincetóxicum gonocárpus, Walt. fl. car. 104. Gonólobus hirsùtus, Lodd. bot. cab. 365, but not of others. Asclèpias gonocárpus, Gmel. syst. p. 446. Cynánchum macrophýllum, Pers. ench. 1. p. 274. Flowers dark purple, or dirty yellow.

Large-leaved Gonolobus. Fl. June, July. Clt. 1822. Shrub twining.

12 G. hirsu'tus (Rœm. et Schultes, syst. 6. p. 63. Sweet, fl. gard. t. 1.) stems and petioles very hairy; leaves cordate-ovate, gradually acuminated, downy on both surfaces; segments of corolla linear-oblong, obtuse; follicles oblong, muricated. ♃. ⌒. F. Native from Pennsylvania to Carolina, in hedges, near rivulets. Gonolòbium hirsùtum, Michx. fl. bor. amer. 1. p. 119. Vincetóxicum acanthocárpus, Walt. fl. carol. p. 104. Asclèpias acanthocárpos, Gmel. syst. 446. Cynánchum hirsùtum. G. echinàtus, Lodd. cat. Flowers dark purple.

Hairy Gonolobus. Fl. June, July. Clt. 1806. Pl. tw.

13 G. díscolor (Rœm. et Schultes, syst. 6. p. 63.) stem hairy; leaves soft, cordate; peduncles longer than the petioles, umbellate; corollas of 2 colours: with linear-lanceolate segments. ♃. ⌒. F. Native of Virginia and Canada. Cynánchum díscolor, Sims, bot. mag. t. 1273. Cyn. Virgínicum, Herb. Banks. —Gron. virg. p. 36.? Nearly allied to *G. Carolinénsis*, and *G. suberòsus.* Corollas green outside and purple inside.

Discoloured-flowered Gonolobus. Fl. July, Aug. Clt. 1809. Pl. tw.

14 G. híRTUS (R. Br. l. c.) stems beset with rufescent hairs;

leaves ovate-cordate. ♄. ⌒. S. Native of America. Cynánchum hírtum. Lin. hort. cliff. p. 79. Willd. spec. 1. p. 1256. —Mor. hist. 3. p. 511. sect. 15. t. 3. f. 61. Stems chinky at bottom. This is a very doubtful plant. Leaves larger than in *G. suberòsus*; and the flowers are larger and purplish.

Rough Gonolobus. Shrub tw.

15 G. prostra'tus (R. Br. l. c.) stems prostrate, downy; leaves reniformly cordate, acute, tomentose beneath; umbels small, few-flowered; segments of corolla linear, obtuse. ♃. ⌒. G. Native of Mexico. Cynánchum prostràtum, Cav. icon. 1. p. 5. t. 7. Willd. spec. 1. p. 1257. Corollas green, small. Peduncles downy, almost the length of the leaves.

Prostrate Gonolobus. Fl. July, Aug. Clt. 1823. Pl. prostrate.

16 G. undula'tus (R. Br. l. c.) glabrous; leaves oblong, acuminated, attenuated at the base, undulated; umbels capitate; calycine segments ovate, concave, spreading; segments of corolla bluntish, much shorter than the tube. ♄. ⌒. S. Native near Carthagena, on Mount de la Popa. Tube of corolla depressedly globose. Corollas small, cinereous outside, and dirty purple inside.

Undulated-leaved Gonolobus. Shrub tw.

17 G. altíssimus (Rœm. et Schultes, syst. 6. p. 65.) stem tomentose or downy; leaves cordate, tomentose on both surfaces; umbels dense, capitate; calycine segments lanceolate, concave, tomentose outside, length of the tube of the corolla; segments of the corolla roundish, flat, obtuse. ♃. ⌒. S. Native of woods, about Carthagena. Cynánchum altíssimum, Jacq. amer. 84. t. 87. Vahl, ecl 2. p. 23. Corollas dirty purple.

Tallest Gonolobus. Fl.? Pl. tw.

18 G. filifórmis (Rœm. et Schultes, syst. 6. p. 65.) glabrous; leaves ovate, acuminated, shining; umbels globose; calycine segments lanceolate, concave, acuminated; segments of corolla ovate, acuminated, pilose beneath. ♃. ⌒. S. Native of Carthagena, among bushes. Cynánchum filifórme, Jacq. amer. p. 86. t. 60. f. 1. Cynánchum leucánthum, Jacq. amer. pict. t. 86. Stems filiform, shining. Peduncles twice longer than the petioles. Flowers very small, white.

Filiform-stemmed Gonolobus. Pl. tw.

19 G. a'lbus (Poir. suppl. 2. p. 815.) glabrous; leaves ovate, acute, white below; umbels many-flowered. ♃. ⌒. S. Native of Peru. Asclèpias álba, Cav. icon. p. 136. t. 310. Leaves subcordate, 2 inches long. Umbels sometimes twin. Corollas whitish-grey, ½ an inch in diameter.

White-flowered Gonolobus. Pl. tw.

20 G. obtusifòlius (Rœm. et Schultes, syst. 6. p. 66.) leaves roundish-cordate, soft and tomentose beneath. ♃. ⌒. S. Native of South America, Cayenne.? Asclèpias (Gonolòbium) obtusifòlium, Pers. ench. 1. p. 274.

Blunt-leaved Gonolobus. Pl. tw.

21 G. diadema'tus (Ker. bot. reg. t. 252.) hairy; leaves oblong-cordate; segments of corolla ovate, furnished with a corona in the throat. ♄. ⌒. S. Native of Mexico. Flowers green.

Crowned Gonolobus. Fl. Sept. Oct. Clt. 1812. Shrub tw.

22 G. oblìquus (R. Br. l. c.) stems hairy; leaves ovate-cordate, villous, acute; umbels much shorter than the leaves; pedicels length of peduncles; calycine segments narrow-lanceolate, acute, villous; segments of corolla ovate, acuminated, with oblique points, and revolute edges. ♃. ⌒. S. Native of Carolina; but the plant has never been met with by Pursh. Cynánchum oblìquum, Jacq. coll. 1. p. 148. icon. rar. 2. t. 341. Willd. spec. 1. p. 1256. Flowers fetid, an inch in diameter, brownish purple. Nectarium purplish. Anthers yellow.

Oblique-flowered Gonolobus. Fl. July, Aug. Clt. 1818. Pl. tw.

23 G. Nuttallia'nus (Spreng. syst. 1. p. 845.) glabrous; leaves reniformly cordate, acuminated, upon longish petioles, auriculate at the base; segments of corolla linear-oblong, oblique; follicles ribbed. ♃. H. Native on the banks of the Mississippi, near St. Louis. G. viridiflòrus, Nutt. gen. amer. 1. p. 163. Flowers greenish.

Nuttall's Gonolobus. Fl. July, Aug. Clt. 1822. Pl. tw.

24 G. uniflòrus (H. B. et Kunth, nov. gen. amer. 3. p. 207. t. 238.) branches and leaves downy; leaves ovate-oblong, much acuminated at the apex, and sagittately cordate at the base; peduncles solitary, 1-flowered, about the length of petioles; calycine segments lanceolate, villous; segments of corolla obliquely ovate-oblong, acuminated, bearded on one side, twice longer than the calyx. ♄. ⌒. S. Native near the town of Mexico. Flowers as large as those of *Philadélphus coronària*. Corona in the bottom of the corolla, short, annular, undulated. Very like *Cynánchum denticulàtum*, Vahl.

One-flowered Gonolobus. Fl. July. Clt. 1825. Shrub tw.

25 G. aristolochioìdes (H. B. et Kunth, nov. gen. amer. 3. p. 208.) branches downy, and leaves beneath; leaves ovate, short-acuminated at top, and deeply cordate at the base; umbels many-flowered, hardly exceeding the petioles; peduncles and pedicels downy; calycine segments ovate, acutish; segments of corolla ovate-oblong, acute, beardless, 4 times longer than the calyx. ♄. ⌒. S. Native of the province of Caraccas, in humid places, near Guigne, and at Lake Tacaragua. Corolla yellow. Corona and anthers as in *G. ripàrius*.

Aristolochia-like Gonolobus. Fl. March. Shrub tw.

26 G. floccòsus (Bertol. ex Spreng. syst. add. p. 110.) leaves cordate, acuminated, tomentose beneath; flowers glomerate; follicles echinated. ♄. ⌒. S. Native of Guadaloupe.

Floccose Gonolobus. Shrub twining.

27 G. pauciflòrus (Spreng. syst. 1. p. 846.) shrubby, glabrous; branches downy; leaves oblong, obtuse; peduncles usually 3-flowered, axillary. ♄. ⌒. S. Native of Hispaniola.

Few-flowered Gonolobus. Shrub twining.

28 G. ripa'rius (H. B. et Kunth, l. c.) branches pilose; leaves ovate, acuminated at apex, deeply cordate at base, rather pilose beneath; umbels many-flowered; peduncles and pedicels downy; calycine segments oblong-lanceolate; segments of corolla oblong-acute, beardless, 3 times longer than the calyx. ♄. ⌒. S. Native of New Granada, on the banks of the river Magdalena, between Mompox and Morales. Corolla green, with a short, undulately-curled margin.

River-side Gonolobus. Shrub tw.

29 G. barba'tus (H. B. et Kunth. l. c. p. 209. t. 239.) branches downy; leaves ovate, acuminated at top, and cordate at the base, with a wide recess, glabrous; umbels many-flowered, about the length of the leaves; pedicels glabrous, longer than the peduncle; calycine segments oblong-lanceolate, acuminated (f. 17. *a*); segments of corolla obliquely ovate, acuminated (f. 17. *b. c.*), bearded on one side, twice longer than the calyx. ♄. ⌒. S. Native of Mexico, near Campeche. Flowers as large as those of *Periploca Græ'ca*, 5-7 in each umbel. Corona very short, disk-formed, composed of short, fleshy, bidentate teeth or threads surrounding the stamens (f. 17. *d.*)

FIG. 17.

Bearded-flowered Gonolobus. Shrub tw.

Cult. For culture and propagation see *Oxypétalum*, p. 148.

XL. MATE'LEA (meaning not explained by Aublet). Aubl. guian. 1. p. 277. t. 109. f. 1. R. Br. in mem. wern. soc. 1. p. 36.—Hóstea, Willd. spec. 1. p. 1274.

LIN. SYST. *Pentándria, Digy'nia.* Corolla rotate, 5-parted. Stamineous corona saucer-shaped, lobed. Anthers dehiscing transversely, terminated by a membrane; pollen masses fixed by the exterior extremity, in respect to the cells, covering the stigma. Stigma flattish, depressed. Follicles ventricose, ribbed. Seeds naked.—Shrub erect. Leaves opposite, biglandular above the base. Flowers racemose, lateral.

1 M. PALU'STRIS (Aubl. l. c.) leaves oblong-ovate, acuminated; racemes simple. ♄. S. Native of Guiana, in marshy places. Hóstea viridiflòra, Willd. spec. 1. p. 1274. Flowers green.

Marsh Matelea. Shrub 2 to 3 feet.

2 M. LATIFÒLIA (Aubl. l. c. f. 2.) leaves ovate-oblong; flowers axillary. ♄. S. Native of Guiana. Flowers green.

Broad-leaved Matelea. Shrub 1 to 2 feet.

Cult. For culture and propagation, see *Calótropis*, p. 147.

Tribe III.

ASCLEPIE'Æ. Asclepiàdeæ veræ, part. R. Br. in mem. wern. soc. 1. p. 21. Pollen masses 10, smooth, 2 appertaining to each anther, fixed by pairs to the corpuscles of the stigma by their tops or beneath their tips, pendulous.

§ 1. *Stamineous corona appendiculate, simple, 5-leaved; leaflets opposite the anthers, sub-cucullate, seated on the top of the tube of the filaments, having 5 small segments, one between each of the larger ones, in the same series. Corolla 5-parted, reflexed.*

XLI. ASCLE'PIAS (from Æsculapius, the god of medicine; powerful medicinal effects of some species.) R. Br. in mem. wern. soc. 1. p. 36.—Asclèpias, spec. Lin. Juss. and others.

LIN. SYST. *Pentándria, Digýnia.* Corolla 5-parted, reflexed. Corona seated on the upper part of the tube of the filaments (f. 18. *a.*), 5-leaved; leaflets cucullate, having a horn-formed process protruding from the bottom. Anthers terminated by a membrane; pollen masses compressed, fixed by the tapering tops, pendulous. Stigma depressed, mutic. Follicles smooth. Seeds comose.—Erect, North American herbs. Leaves opposite, verticillate, and sometimes alternate. Umbels interpetiolar.

* *Leaves opposite.*

1 A. SYRÌACA (Lin. spec. 313. Lam. dict. 1. p. 281.) stems simple; leaves lanceolate-oblong or oval, gradually acute, tomentose beneath; umbels drooping. ♃. H. Native from New England to Virginia, in fields, and on the banks of rivers, common. Pursh, fl. amer. sept. 1. p. 180. A. Syrìaca, β, Illinénsis, Pers. ench. 1. p. 275. A. pubéscens, Mœnch. A. Apócynum, Gat. fl. montaub. p. 48. A. obovàta, and A. tomentòsa, Elliot, ex Spreng.—Blackw. t. 521.—Plenck, off. t. 255. Flowers in large, loose umbels, pale purple, sweet-scented. The nectaries, or leaflets of the corona, act as fly-traps. Lamarck has given, as the native country of this species Syria and Egypt; and adds, as a synonyme, the Apócynum erectum latifolium, incanum Syriacum; floribus parvis obsolete purpurascentibus, of Tour. inst. p. 91; as also a singular variety of the same, the Apócynum majus Syriacum rectum; caule viridi; flore axalbido, Tourn. p. 91.

Syrian Swallow-wort. Clt. 1629. Pl. 3 to 5 feet.

2 A. EXALTA'TA (Lin. amœn. acad. 3. p. 404. spec. 313. Link. enum. 1. p. 251.) stems downy; leaves oblong, acute, petiolate, downy on the nerves beneath; umbels drooping? pedicels, elongated; horns of corona elongated. ♃. H. Native of North America. A. Syrìaca, β, exaltàta, Willd. spec. 1. p. 1265. Schultes, syst. 6. p. 69. A. connìvens, Baldw. Corolla purplish outside, and white inside. Horns of corona white, incurved, longer than the corolla.

Exalted Swallow-wort. Fl. July, Aug. Clt. 1800. Shrub 2 to 3 feet.

3 A. PHYTOLACCOÌDES (Lyon, ex Pursh, fl. amer. sept. 1. p. 180.) stems erect, simple; leaves broad-ovate-oblong, acute, glabrous, paler beneath; umbels lateral and terminal, solitary, on long peduncles, drooping. ♃. H. Native of Virginia and Carolina, on the mountains; as well as on the banks of the Platte and Arkansas. Stem spotted with purple. Leaves large, with a purple midrib. Corolla green; corona white, with truncate leaflets.—Gron. virg. p. 38.

Phytolacca-like Swallow-wort. Fl. July, Aug. Clt. 1812. Pl. 3 to 4 feet.

4 A. SPECIÒSA (Torrey, in ann. lyc. new york, 2. p. 218.) plant clothed with fine tomentum; leaves ovate, cordate, obtuse, on short petioles; umbels axillary, and terminal, solitary; leaflets of corona erect, lanceolate, 3 times longer than the gynostegium, bluntish, bidentate inside, at the base. ♄. H. Native of North America, on the banks of the Canadian river. Flowers twice as large as those of *Ascl. Syrìaca*, pale purple?. Calycine segments lanceolate, spreading. Segments of corolla oblong, reflexed, obtuse. Horns of corona short, incurved, compressed.

Showy Swallow-wort. Pl. 2 to 3 feet.?

5 A. DE'BILIS (Michx. fl. amer. bor. 1. p. 116.) smoothish; stems weak, erect, simple; leaves petiolate, oval-lanceolate, acute at both ends, membranous; umbels terminal and axillary, loose-flowered; pedicels capillary. ♃. H. Native from New York to Carolina; in shady, rocky situations, near rivulets. Flowers white. Leaves large. The fibres of the stem produce a kind of flax, as all the rest of the species do, but far superior, being of a beautiful silky gloss, and extreme strength.

Weak Swallow-wort. Fl. July, Aug. Clt. 1818. Pl. 2 ft.

6 A. PARVIFLÒRA (Ait. hort. kew. 1. p. 307.) leaves lanceolate, acuminated, glabrous, attenuated at the base; umbels lateral, solitary; stems suffruticose, erect. ♃. H. Native of Carolina and Florida, in sandy fields. Pursh. fl. amer. sept. 1. p. 180. Jacq. eclog. t. 28. A. perénnis, Walt. fl. carol. p. 107. Flowers small, white.

Small-flowered Swallow-wort. Fl. July, Aug. Clt. 1774. Pl. 2 to 3 feet.

7 A. POLYSTA'CHYA (Walt. fl. car. p. 107.) leaves lanceolate, smooth, petiolate; stems suffruticose; umbels lateral and terminal. ♃. H. Native of Carolina. This plant is not mentioned by Pursh; but is probably the same as *A. parviflòra.*

Many-spiked Swallow-wort. Fl. July, Aug. Clt. 1825. Pl. 2 to 3 feet.

8 A. CURASSA'VICA (Lin. spec. 314.) stem simple, seldom a little branched; leaves oblong-lanceolate, tapering at both ends, glabrous; umbels erect, solitary, lateral. ♄. S. Native of Curassoa, Essequibo, Cumana, Trinidad, and now found in most parts of tropical America. Meyer, Ess. p. 138. Lodd. bot. cab. 349. Ker. bot. reg. 81. A. bícolor, Monch.—Sloan. hist. 2. t. 129. —Dill. elth. 34. t. 30. f. 33. —Herm. par. t. 36.? Stem rather downy. Flowers of a reddish-orange colour, or scarlet. Follicles muricated with scattered teeth, ex Lam. The

FIG. 18.

roots have been sent to England as Ipecacuanha. The juice of the plant, made into a syrup, is said to be a powerful anthelmintic; it is given to children in the West Indies, for that purpose, from a tea to table-spoonful. The juice, and pounded plant, is said to be an excellent styptic. The root, dried and reduced to powder, is frequently used by the negroes as an emetic, and hence its name of Wild or Bastard Ipecacuanha. (f. 18.)

Var. β, *albiflòra;* flowers white.

Var. γ, *ramòsa;* stem branched at top, divaricated.

N.B.—What is *A. Curassávica*, Lour. coch. 170, of which he says, that the stems are simple and twining, the leaves opposite; the flowers pale, and disposed in lateral, erect umbels; the follicles ventricose and conical; the seeds ovate, compressed, curved, and comose. A native near Canton, in China.

Curassoa Swallow-wort, or Bastard Ipecacuanha. Fl. Ju. Sept. Clt. 1692. Shrub 1 to 3 feet.

9 A. NÍVEA (Lin. spec. 313.) stems simple; leaves ovate-lanceolate, smoothish; umbels erect, terminal, solitary. ♃. H. Native from Virginia to Carolina, on the banks of rivers, in sandy and gravelly soil. Sims, bot. mag. 1187.—Dill. elth. 33. t. 29. f. 32. Flowers white, ex Pursh. Corolla green, purplish outside, with white nectaries, ex Lin. Stem nodose, puberulous. Leaves tomentose beneath, ex Sims, l. c. Very like *A. Curassávica.*

Snowy-flowered Swallow-wort. Fl. July, Aug. Clt. 1730. Pl. 1 to 3 feet.

10 A. VIRGA'TA (Balb. in cat. taur. 1813. p. 14.) stems erect, simple; leaves linear-lanceolate, glabrous; umbels erect, lateral, solitary: and terminal, twin. ♃. H. Native of America. Very like *A. nívea*, but differs in the colour of the flowers. Flowers white.

Twiggy Swallow-wort. Fl. Jul. Aug. Clt. 1820. Pl. 2 ft.

11 A. INCARNA'TA (Lin. spec. 314.) stem erect, branched and tomentose at top; leaves lanceolate, rather woolly on both surfaces; umbels numerous, usually twin; horns of corona exserted. ♃. H. Native from Canada to Virginia, in swamps, and on river banks, common. Michx. fl. bor. amer. 1. p. 115. Pursh, 1. p. 181. Jacq. hort. vind. t. 107. Ker. bot. reg. 250. Corn. can. 9. t. 93. Flowers red, or purplish.

Flesh-coloured-flowered Swallow-wort. Fl. July, Aug. Clt. 1710. Pl. 2 feet.

12 A. PU'LCHRA (Ehrh. ex Willd. enum. p. 278.) stem divided at top; leaves lanceolate; umbels erect, twin; horns of corona exserted. ♃. H. Native of North America. A. incarnàta, β, Willd. spec. 1. p. 1267. Pursh. fl. amer. sept. 1. p. 181. Flowers red, or purple. This plant is said, by Pursh, to be more hairy than *A. incarnàta*, but in every other respect no wise different. Sometimes the leaves are quite glabrous, and only downy in those on the upper part of the stem, as in it. But Willdenow says it is a very distinct species, and remains so in cultivation; the leaves are shorter, and a little broader, downy beneath, as well as the top of the stem and branches.

Fair Swallow-wort. Fl. July, Aug. Clt. 1710. Pl. 2 feet.

13 A. CITRIFÒLIA (Jacq. coll. 2. p. 290. icon. rar. t. 343.) stems erect, simple, rather hairy; leaves ovate-lanceolate, acute, repandly undulated, glaucous, and minutely hairy beneath, firm; umbels terminal and lateral, solitary, hemispherical. ♃. H. Native of America. Root thick, fleshy. Leaves 4 inches long. Flowers white, size and form of those of *A. Curassávica.*

Orange-leaved Swallow-wort. Fl. July, Aug. Clt. 1818. Pl. 1 foot.

14 A. AMŒ'NA (Lin. spec. 313.) stems simple, with 2 rows of down; leaves almost sessile, oblong-oval, downy beneath; umbels terminal, and are, as well as the foliola of corona, erect; appendages of corona exserted, red. ♃. H. Native from New England to Virginia, in wet meadows, on the edges of woods and ditches. Michx. fl. bor. amer. 1. p. 118. Pursh. 1. p. 181. A. compréssa, Monch.—Dill. elth. t. 27. f. 30. Flowers beautiful, purple. Habit of *A. Syrìaca.* Leaves white beneath, large, with a purple middle nerve, ex Dill.

Pleasant Swallow-wort. Fl. July, Aug. Clt. 1732. Pl. 2 to 3 feet.

15 A. PURPURA'SCENS (Lin. spec. 313.) stem simple, rather hairy at top; leaves ovate, villous beneath; umbels erect; foliola of corona resupinate. ♃. H. Native of Virginia and Carolina, in shady swamps.—Dill. elth. t. 28. f. 31. Flowers purple. Habit of *A. Syrìaca.* Stem brownish green at bottom. Leaves large, with a purplish middle nerve. Petals herbaceous, striped with purple at the base, ex Dill.

Purplish-flowered Swallow-wort. Fl. July, Aug. Clt. 1732. Pl. 2 to 3 feet.

16 A. VARIEGA'TA (Lin. spec. 312.) stem simple, erect; leaves ovate, petiolate, wrinkled, naked; umbels almost sessile; pedicels tomentose. ♃. H. Native from New York to Carolina, on dry, sunny hills, on the borders of woods. Sims, bot. mag. 1182.—Pluk. alm. t. 77. f. 1. Flowers in dense umbels, very handsome; petals and foliola of corona white; fructification red. A. hýbrida, Mich. fl. bor. amer. 1. p. 115. "Stem simple, rather tomentose; leaves petiolate, oval, minutely puberulous; umbels leafless, terminal." Michx. l. c. Stems variegated with purple.

Variegated-flowered Swallow-wort. Fl. July, Aug. Clt. 1597. Pl. 3 to 4 feet.

17 A. OBTUSIFÒLIA (Michx. fl. bor. amer. 1. p. 115.) leaves stem-clasping, oblong-roundish, obtuse, waved; umbels terminal, solitary, on long peduncles, many-flowered, glabrous; horns or appendages of corona exserted. ♃. H. Native of from New Jersey to Carolina, on the banks of rivers; in sandy, barren soils, along the Platte, on the Missouri, ex Torrey, in ann. lyc. new york, 2. p. 217. A. purpuráscens, Walt. fl. car. p. 105. Flowers large, purple. Perhaps the same plant as *Gonólobus obtusifòlius.*

Var. β, *latifòlia* (Torrey, in ann. lyc. new york. 2. p. 217.) leaves broad-obovate, obtuse, ending in a short mucrone, cordate at the base, glabrous on both surfaces, with flat edges; umbels almost sessile, axillary; leaflets of corona cucullate, about equal in length to the gynostegium, bidentate; horns of corona exserted. ♃. H. Native of North America, on the banks of the Canadian river. Leaves 4 inches long, and 3 broad. Flowers rather smaller than in the species. Calycine segments lanceolate, acute. Corolla reflexed, pale greenish purple. Perhaps a proper species.

Blunt-leaved Swallow-wort. Fl. June. Clt. 1820. Pl. 2 to 3 feet.

18 A. MELLIODÒRA (St. Hil. ex Spreng. syst. addenda, p. 110.) stem simple, erect; leaves petiolate, linear, elongated, acute, downy beneath; umbels lateral, many-flowered. ♃. F. Native of Brazil, on the banks of the Rio Grande.

Honey-scented Swallow-wort. Pl.

19 A. ACUMINA'TA (Pursh, fl. amer. sept. 1. p. 182.) stems erect, glabrous, simple; leaves ovate, sub-cordate, acuminated, on short petioles: superior ones sessile; umbels lateral, solitary, erect. ♃. H. Native from New Jersey to Florida, in deep cedar swamps, and on the banks of rivers. A. cordàta, Walt. fl. car. p. 105. A. periplocæfòlia, Nutt. gen. amer. 1. p. 106. Leaves glabrous, but rough on the edges, acute. Flowers red and white. Roots very large, resembling those of *A. tuberòsa.* Horns of corona inclosed.

Acuminated-leaved Swallow-wort. Fl. July. Clt. 1826. Pl. 2 feet.

20 A. LAURIFÒLIA (Michx. fl. bor. amer. 1. p. 117.) stems erect, glabrous; leaves almost sessile, oval-lanceolate, gradually

narrowed, very acute, glabrous, roughish above, on the edges. ♃. H. Native of Georgia, on the river Athamaha. Flowers purple. Allied to *A. amœ'na.*

Laurel-leaved Swallow-wort. Fl. July. Pl. 2 feet.

21 A. cine'rea (Walt. fl. carol. p. 105. Gmel. syst. 5. p. 446.) stems erect, simple, with an alternating downy line; leaves nearly linear, smooth, with revolute edges; umbels lateral, few-flowered; horns of corona inclosed. ♃. H. Native of Carolina. Enslènia cinèrea, Spreng. syst. 1. p. 850. Flowers white. This species is placed between *A. acuminàta*, and *A. paupércula*, by Walt., but is not mentioned by Pursh.

Grey Swallow-wort. Fl. July, Aug. Clt. 1825. Pl. 1 foot.

22 A. rubricau'lis (H. B. et Kunth, nov. gen. amer. 3. p. 148.) stems erect, simple, reddish, downy at top; leaves nearly sessile, erect, linear, with revolute edges, nerved, glabrous. ♃. F. Native of Mexico, on the declivities of mountains, near La Vente del Perigrino. Umbels many-flowered. Flowers white, a little larger than those of *A. galioìdes;* segments of corolla oblong-elliptic, flat, sub-emarginate. Appendages of corona exserted. The revolute edges of the leaves of this species, and the two following, are perhaps occasioned by drying, and are, therefore, probably flat in the recent state.

Red-stemmed Swallow-wort. Fl. April. Pl. ½ to 1 foot.

23 A. ròsea (H. B. et Kunth, nov. gen. amer. 3. p. 189.) stems erect, almost simple, downy at top; leaves erectish, linear, 1-nerved, with revolute edges, puberulous above, and clothed with hoary down beneath; umbels 15-flowered. ♃. G. Native of Mexico, near the town of Chilpancinga. Flowers structure and size of those of *A. rubricaúlis*, but rose-coloured; and the appendages of the corona rather shorter.

Rose-coloured-flowered Swallow-wort. Fl. June, Aug. Clt. 1824. Pl. ½ to 1 foot.

24 A. linifòlia (Hort. madr. ex H. B. et Kunth, l. c. p. 190.) stem suffruticose?, branches having a downy line on one side only; leaves on very short petioles, spreading, linear or lanceolate, acute, with rather revolute edges, veiny, membranous, glabrous; umbels about 10-flowered; peduncles downy on one side; appendages of corona hardly exserted. ♃. G. Native of Mexico, between the city and Chapollepeque. A. salicifòlia, Lodd. bot. cab. 272. Flowers white, size of those of *A. nívea.*

Flax-leaved Swallow-wort. Fl. July, Aug. Clt. 1818. Shrub 2 to 3 feet.

25 A. glauce'scens (H. B. et Kunth, l. c. p. 190.) stems erect, simple, glabrous; leaves on very short petioles, linear-oblong, acute, somewhat cordate, flat, veiny, thickish, glabrous; glaucescent beneath; umbels interpetiolar and terminal. ♃. G. Native of New Spain, betwixt Acapulco and La Vente de la Moxonera. Leaves 3½ inches long. Interpetiolar umbels solitary, and the terminal ones twin? Flowers size of those of *A. Syrìaca*, sweet-scented. Pedicels and peduncles downy. Corollas white; appendages of the corona sublunate, compressed, a little exserted. Follicles hairy or downy in the immature state.

Glaucescent-leaved Swallow-wort. Pl. 1 to 2 feet.

* * *Leaves verticillate.*

26 A. quadrifòlia (Pursh, fl. amer. sept. 1. p. 183.) stems erect, simple, glabrous; leaves ovate, acuminated, petiolate; those in the middle of the stem larger, and 4 in a whorl, the rest opposite; umbels twin, terminal, loose-flowered; pedicels filiform. ♃. H. Native from New York to Virginia, on limestone rocks. Jacq. obs. 2. p. 33. Lodd. bot. cab. 1258. Flowers small, sweet-scented, with white petals, and red nectaries.

Four-leaved Swallow-wort. Fl. May, July. Clt. 1820. Pl. 1 foot.

27 A. verticilla'ta (Lin. spec. 315.) stems erect, often branched, having a downy line on one side; leaves very narrow, linear, thick, quite glabrous, usually verticillate, but sometimes scattered; appendages of corona exserted. ♃. H. Native from New Jersey to Carolina; and on the upper part of the Arkansas. Michx. fl. bor. 1. p. 116. Pursh, 1. p. 183. Lodd. bot. cab. 1067.—Pluk. mant. t. 336. f. 4. Corollas with yellowish green petals and white nectaries.

Verticillate-leaved Swallow-wort. Fl. July, Aug. Clt. 1759. Pl. 1 to 2 feet.?

28 A. Mexica'na (Cav. icon. 1. p. 42. t. 58.) stems erect; leaves linear-lanceolate, with revolute edges; lower ones 4-6 in a whorl: upper ones 3 in a whorl, or opposite; umbels many-flowered. ♃. G. Native of Mexico. Follicles furrowed. Involucrum of many short leaves. Corollas white, size of those of *A. nívea.* It differs from *A. verticillàta*, in the leaves being much broader, and in the flowers being larger.

Mexican Swallow-wort. Fl. July, Aug. Clt. 1821. Pl. 2 to 3 feet.

29 A. galioìdes (H. B. et Kunth, nov. gen. amer. 3. p. 148.) stem shrubby, branched, furnished with 4 rows of hairs; leaves 4 in a whorl, almost sessile, erect, linear, with revolute edges, 1-nerved, glabrous; appendages of corona awl-formed, and exserted. ♄. G. Native of New Spain, in temperate parts, between Valladolid de Mechoacan, and Lake Cuiseo. Leaves 2½ inches long. Flowers size of those of *A. nívea*, white. Follicles solitary from abortion. Umbels about 10-flowered.

Galium-like Swallow-wort. Fl. July, Sept. Shrub.

* * * *Leaves alternate or scattered.*

30 A. lina'ria (Cav. icon. 1. p. 42. t. 57.) stem shrubby? branched?; leaves scattered, approximate, sessile, linear, filiform, acutely mucronate, with revolute edges, smooth, H. B. et Kunth, nov. gen. amer. 3. p. 192; "leaves linear, subulate, channelled; umbels pedunculate, drooping, lateral, many-flowered," Cav. l. c. ♄. G. Native of Mexico, at Chalco, and elsewhere. Flowers white. Appendages of corona clavate, ex Cav.; small, horn-formed, ex Kunth; corona yellowish. Branches downy, ex Kunth. Kunth's character of this plant does not exactly agree with that of Cavanilles.

Linaria-leaved Swallow-wort. Fl. July. Clt. 1802. Pl. 2 ft.

31 A. arma'ta (Spreng. syst. 1. p. 849.) stem suffruticose, beset with retrograde prickles; leaves ovate-oblong, glabrous; peduncles cymose, lateral; horns exserted. ♄. S. Native of New Granada, Bertero.

Armed-stemmed Swallow-wort. Shrub erect.

32 A. lanuginòsa (H. B. et Kunth, nov. gen. amer. 3. p. 193.) stem simple?; leaves alternate, petiolate, ovate-lanceolate, rounded at the base, woolly on both surfaces, white beneath; umbels extra-axillary and terminal, sometimes proliferous; appendages of corona inclosed. ♃. G. Native of Mexico, between Cassava and Pachuca. Herb fetid. Peduncles woolly. Plant downy at top. Flowers about the size of those of *A. Curassávica*, white; segments emarginate.

Woolly Swallow-wort. Pl. 1 to 2 feet.

33 A. ru'bra (Lin. spec. 316.) leaves alternate, ovate, acuminated; umbels compound; stem erect, simple. ♃. H. Native of Virginia. Gron. virg. 27. Flowers red.

Red-flowered Swallow-wort. Fl. July, Aug. Clt. 1825. Pl. 1 to 2 feet.

34 A. tuberòsa (Lin. spec. 316.) stems erectish, divaricately branched at top, very hairy; leaves scattered, oblong-lanceolate, hairy; umbels disposed in a terminal, sub-corymb. ♃. H. Native of North America, in stony, sandy fields, and woods, common. Pursh, 1. p. 184. Ker. bot. reg. 76. Lodd. bot.

cab. 1297.- Dill. elth. t. 30. f. 34. Flowers very showy; corolla and corona bright orange; fructification yellow. Umbels disposed as if they were in a terminal corymb.

Tuberous-rooted Swallow-wort. Fl. June, July. Clt. 1690. Pl. 1 to 2 feet.

35 A. DECU'MBENS (Mill. dict. no. 10. Willd. spec. 1. p. 1218.) stems decumbent, hairy; leaves lanceolate, very hairy; umbels lateral. ♃. H. Native of Carolina, in barren fields. A. tuberòsa, β. decúmbens, Pursh, 1. p. 184. Flowers showy; having the petals and nectaries bright orange-coloured; and the fructification yellow. "Leaves ovate, obtuse, almost sessile, villous; stem decumbent, hairy." Gron. virg. 27.

Decumbent Swallow-wort. Fl. July, Aug. Clt. 1731. Pl. decumbent.

† *Species not sufficiently known.*

36 A. VANÍLLA (Rafin. in amer. month. journ. 4. nov. 1818. p. 39.) stem simple, downy at top; leaves opposite, lanceolate, downy at the base, glabrous, ciliated; umbels axillary, erect. ♃. H. Native of Kentucky, on the banks of the green river. Flowers lilac, having the smell of Vanilla.

Vanilla-scented Swallow-wort. Pl. ?

37 A.? KLAPROTHIA'NA (Rœm. et Schultes, syst. 6. p. 82.) leaves opposite, oblong, acuminated, downy beneath; umbels axillary, few-flowered. ♃. H. Native of North America, Klaproth. A. acuminàta, Willd. reliq. mss. ex Rœm. et Schultes, l. c.

Klaproth's Swallow-wort. Pl. ?

38 A.? REPA'NDA (Gmel. syst. 1. p. 445. ex Schultes, l. c.) leaves revolutely-repand, hairy. ♃. H. Native of? Leaves opposite, with revolute edges.

Repand-leaved Swallow-wort. Pl.

39 A. LU'TEA (Rafin. journ. bot. 1. p. 229.) leaves petiolate, oblong, acute, narrowed at the base; umbels erect; petals procumbent: horns furnished with a subulate appendage. ♃. H. Native of Philadelphia.

Yellow Swallow-wort. Pl. ?

40 A.? MARGARATA'CEA (Hoffmansegg in Willd. reliq. mss. ex Schultes, syst. 6. p. 86.) leaves oblong-lanceolate, acuminated at both ends, glabrous; stem simple; umbels erect, lateral, solitary. ☉. S. Native of Brazil.

Pearl-flowered Swallow-wort. Pl.

41 A.? TRUNCA'TA (Willd. enum. suppl. p. 13. Link. enum. 1. p. 252.) leaves petiolate, opposite, cordate-oblong, acuminated, quite glabrous, whitish beneath. ♄. S. Native country unknown. The flowers of this plant have not been seen.

Truncate Swallow-wort. Clt.? Shrub.

†† *Plants referred to Asclèpias by authors, but none of them evidently belong to the genus. Leaves of all opposite.*

42 A. MUCRONA'TA (Thunb. prod. 1. p. 47. fl. cap. 2. p. 155.) stems erect, herbaceous, hairy; leaves oblong, obtuse, mucronate, glabrous; umbels axillary. ♃. G. Native of the Cape of Good Hope, beyond Kamton's river, and near Krum river. Peduncles shorter than the leaves; pedicels downy.

Mucronate-leaved Swallow-wort. Pl. 1 foot.

43 A. CONVOLVULA'CEA (Willd. spec. 1. p. 1269.) stem twining; leaves roundish-cordate, rather pilose as well as the stems: lobes distant; umbels compound. ♄. ◠. S. Native of Guinea. Very like *A. fœ'tida*. Common peduncles longer than the leaves, pilose.

Convolvulus-like Swallow-wort. Shrub tw.

44 A. FILIFÓRMIS (Lin. suppl. 169. Thunb. prod. 1. p. 47. fl. cap. 2. p. 154.) stem erect; leaves filiform, glabrous; umbels lateral, on long peduncles, 5-6-flowered, length of leaves. ♃. G. Native of the Cape of Good Hope, at Krum river. Margins of leaves revolute. Follicle solitary, elliptic. This and *Cynánchum filifórme* and *Apócynum filifórme* are probably one and the same plant.

Filiform Swallow-wort. Pl. 1 to 2 feet.

45 A. GRAMÍNEA (Lam. dict. 1. p. 283.) stem branched; leaves linear, grassy, glabrous, with revolute edges; horns of corona erect, mucronate. ♃. S. Native of the East Indies. Stem rather angular. Leaves an inch long. Corolla white, with undulated edges. Calyx villous outside.

Grassy-leaved Swallow-wort. Pl. 1 to 2 feet.

46 A. SPIRA'LIS (Forsk. ægypt. p. 49. no. 66.) stem shrubby; leaves petiolate, oval-oblong; flowers solitary, axillary; petals linear, spiral, hairy inside; corona of 5 ovate, erect leaflets, white. ♄. G. Native of Arabia Felix, on the road to Djalia and Meneira, among *Pánicum dichótomum*. Segments of calyx linear-lanceolate. Corolla spreading, with greenish yellow segments, and white corona. Stigma operculate. Follicles edible. Shrub not milky.

Spiral-petalled Swallow-wort. Shrub.

47 A. CANE'SCENS (Willd. nov. act. am. nat. cur. 3. p. 418.) stems ascending at top, but procumbent at the base, downy; leaves ovate, veiny, acute, downy; umbels few-flowered, axillary, on short peduncles; follicles ovate, acuminated, downy. ♃. H. Native of Cappadocia and Galatia. Asclèpias orientàlis, flore viridi, Tourn. cor. 2.—Buxb. cent. 3. p. 17. t. 30. Flowers green.

Canescent Swallow-wort. Pl. procumbent.

48 A. PARVIFLÒRA (Humb. et Bonpl. in Willd. rel. mss. ex Schultes, syst. 6. p. 82.) stems scandent; branches fascicled; leaves elliptic; flowers solitary, terminal. ♄. ◠. S. Native of South America.

Small-flowered Swallow-wort. Shrub tw.

49 A. CLUSIÆFÒLIA (Horsfield, in Willd. rel. mss. ex Schultes, syst. 6. p. 82.) leaves obovate, fleshy: umbels axillary; stems twining. ♄. ◠. S. Native of Java.

Clusia-leaved Swallow-wort. Shrub tw.

50 A. FERRUGÍNEA (Humb. et Bonpl. in Willd. rel. mss. ex Schultes, syst. 6. p. 83.) clothed with rusty hairs; leaves ovate-cordate; stems twining; umbels axillary. ♄. ◠. S. Native of Caraccas.

Rusty Swallow-wort. Shrub tw.

51 A. FORSKŒ'LII (Schultes, syst. 6. p. 85.) twining; corolla campanulate, green, twisted; petals linear. ♃. H. Native of Arabia Felix, at Lohaja. A. nívea, Forsk. ægypt. 51. no. 73. A. nivàlis, Gmel. syst. p. 444.

Forskœl's Swallow-wort. Pl. tw.

52 A. MACROPHY'LLA (Humb. et Bonpl. in Willd. rel. mss. ex Schultes, syst. 6. p. 86.) stems twining; leaves elliptic-cordate, acute; umbels nearly sessile. ♄. ◠. S. Native at Cumana.

Long-leaved Swallow-wort. Shrub tw.

53 A. CYNANCHOÌDES (Humb. et Bonpl. l. c.) leaves oblong-lanceolate, acute, glabrous; umbels terminal. ♄. ◠. S. Native of Caraccas.

Cynanchum-like Swallow-wort. Shrub tw.

54 A. HASTA'TA (Bunge, in mem. acad. petersb. 2. p. 117.) stems twining, glabrous; leaves opposite, petiolate, hastately cordate, acuminated, rather hispid above, and smoothish beneath, the basilar lobes rounded: umbels axillary, pedunculate, many-flowered. ♃. ◠. G. Native of China, on the mountains of Zui-wey-scan. Flowers white, sweet-scented. Perhaps a species of *Dœ'mia*. ?

Hastate-leaved Swallow-wort. Pl. tw.

Cult. *Asclèpias* is a genus of extremely handsome border flowers. They thrive best in peat earth, or light rich soil: they are generally increased by dividing at the root in spring,

and sometimes by seeds. Rare or scarce species should always be grown in peat soil, and have a little protection during severe frost by mulching the roots. The greenhouse and stove species require the same treatment as other common stove and greenhouse plants.

XLII. POLYO'TUS (from πολυς, *polys*, many, and ους ωτος, *ous otos*, an ear; leaflets of corona auriculate at the base). Nutt. in amer. phil. soc. trans. vol. 5. new ser. p. 199.—Aceràtes, Elliott.—Asclèpias species of authors.

Lin. syst. *Pentándria*, *Digýnia*. Corolla rotate, 5-parted, reflexed. Corona simple, 5-parted; segments ovate, concave, without any horn-formed process inside, auriculate at the base. Anthers terminated by a membrane; pollen masses compressed, pendulous, fixed by their tapering apices. Stigma depressed, mutic. Follicles smooth or villous. Seeds comose.—Erect herbs. Leaves scattered, or nearly opposite. Umbels interpetiolar or terminal.

1 P. heterophy'llus (Nutt. l. c.) erect, villous; leaves opposite, oblong-ovate, generally acute; umbels globose, interpetiolar; corona nearly equal to the gynostegium in height. ♃. H. Native of Pennsylvania and Virginia, in dry fields, ex Pursh; and of the Arkansas territory, from Fort Smith to Red River. Asclèpias viridiflòra, Pursh, fl. 1. p. 181. Gomphocárpus viridiflòrus, Spreng. syst. 1. p. 849. Ascl. lanceolàta, Juss. Corolla greenish, with yellowish green corona. Umbels nearly sessile.

Var. β, lanceolàta; leaves from oval to ovate-lanceolate, flat or undulated, downy or smooth. ♃. H. Found at New Haven. Corolla greenish, with a brownish corona.

Variable-leaved Polyotus. Fl. June, July. Pl. 2 to 3 feet?

2 P. lanuginòsus (Nutt. l. c. p. 200.) decumbent, hairy; leaves ovate, scattered; umbels generally solitary, terminal. ♃. H. Native of the Arkansas territory, below the confluence of the White river with the Missouri. Asclèpias lanuginòsus, Nutt. gen. amer. 1. p. 168. Asclèpias Nuttalliàna, Torrey. in ann. lyc. new york, 2. p. 217. Root tuberous. Stem 4-6 inches high. Flowers greenish. A doubtful species, which requires to be examined in a living state.

Woolly Polyotus. Pl. ½ foot, decumbent.

3 P. longifòlius (Nutt. l. c.) puberulous; stems erectish; leaves scattered, long-linear, acute; umbels interpetiolar, pedunculate; corona stipitate, shorter than the gynostegium; follicles villous. ♃. H. Native from Illinois and Missouri to Red river, on the margins of ponds; and in places overflowed by rain in winter. It is also to be found in swamps near the Atlantic sea coast; from Sussex county and Delaware to Georgia. Asclèpias longifòlia, Michx. fl. bor. amer. 1. t. 116. Aceràtes longifòlia, Ell. sketch. bot. p. 317. Asclèpias incarnàta, Walt. fl. car. p. 106. Ascl. floridàna, Lam. dict. 1. p. 284. A. paupércula, Nutt. gen. amer. 1. p. 167. Gomphocárpus longifòlium, Spreng. syst. 1. p. 849. Umbels loose, nearly globose. Leaves 6 inches long, and ½ an inch broad, downy beneath. Flowers small, greenish; petals tipped with obscure purple. Segments of corona oblong, concave, with a purplish line near the base. Fructification yellow.

Long-leaved Polyotus. Fl. Ju. Jul. Clt. 1816. Pl. 2 to 3 ft.

4 P. angustifòlius (Nutt. l. c. p. 201.) stems erect; leaves linear, nearly opposite; umbels interpetiolar, nearly sessile; corona rather longer than the gynostegium, sessile; leaflets of corona tridentate at the apex. ♃. H. Native of the Arkansas territory, in dry prairies, from Fort Smith to the Red River. Stems naked at bottom. Leaves somewhat revolute and scabrous on the edges, acute. Umbels 3-4-8-flowered. Flowers greenish, with a mixture of white. Leaflets of corona concave and auriculate below: having the central tooth of each small. This species is nearly allied to *Gomphocárpus* and *Asclèpias*, particularly to *Ascl. cinèrea*.

Narrow-leaved Polyotus. Pl. 1½ foot.

5 P. obova'tus (Nutt. l. c.) leaves obovate, mucronate, tomentose beneath; umbels almost sessile; corona twice as long as the gynostegium. ♃. H. Native of Georgia. Asclèpias obovàta, Ell. sketch. p. 321. Flowers greenish.

Obovate-leaved Polyotus. Pl.

Cult. For culture and propagation see *Asclèpias*, above.

XLIII. ENSLE'NIA (so named after Aloysius Enslen, an assiduous and practical botanist, patronized in his researches in the United States by Prince Lichtenstein). Nutt. gen. amer. 1. p. 164. and in amer. phil. soc. trans. 5. p. 203.

Lin. syst. *Pentándria*, *Digýnia*. Corolla 5-parted, erect. Corona simple, 5-parted, petaloid, flat, truncate: the segments ending in a bifid thread. Stigma conical, sub-bilamellate. The rest as in *Asclèpias*.—A twining herb. Leaves opposite. Flowers umbellate.

1 E. a'lbida (Nutt. gen. amer. l. c. amer. phil. soc. trans. l. c.). ♃. ◠. H. Native near Fort Smith, and other places along the banks of the Arkansas; found also on the banks of the Potomac, Scioto and Ohio, &c.

Whitish-flowered Enslenia. Pl. tw.

Cult. For culture and propagation see *Asclèpias*, above.

XLIV. GOMPHOCA'RPUS (from γομφος, *gomphos*, a club, and καρπος, *karpos*, a fruit; in reference to the ventricose follicles). R. Br. in mem. wern. soc. 1. p. 37.—Asclèpias species, Lin. and Thunb.

Lin. syst. *Pentándria*, *Digýnia*. Corolla 5-parted, reflexed. Corona seated on the top of the tube of the filaments; 5-leaved; foliola cucullate, furnished with a tooth on both sides, empty inside. Anthers terminated by a membrane; pollen masses compressed, fixed by their tapering tops, pendulous. Stigma depressed, mutic. Follicles ventricose, echinated by soft spines. Seeds comose.—Erect shrubs or subshrubs, natives of South Africa. Leaves opposite, with usually revolute edges. Umbels interpetiolar.

1 G. arbore'scens (R. Br. l. c. p. 38. and in Hort. kew. ed. 2. vol. 2. p. 79.) stem villous, branched; leaves ovate-oblong, glabrous, with an acumen. ♄. G. Native of the Cape of Good Hope. Asclèpias arboréscens, Lin. mant. 216. Willd. spec. 1. p. 1271. Thunb. fl. cap. 2. p. 156. Jacq. schœnbr. 1. p. 25. t. 50. Asclèpias crassifòlia, Hort. par. Asclèpias pubéscens, Lin. mant. 215. exclusive of the synonymes which belong to *G. crispa*.—Burm. afr. 31. t. 13.—Pluk. amalth. 18. t. 359. f. 3. Peduncles, pedicels, and calyxes villous. Corollas white, glabrous.

Arborescent Gomphocarpus. Fl. Dec. Clt. 1714. Shrub 4 to 6 feet.

2 G. fruticòsus (R. Br. l. c.) stem downy; leaves linear-lanceolate, glabrous. ♄. G. Native of the Cape of Good Hope, beyond the first range of mountains, abundant. Sims, bot. mag. 1628. Asclèpias fruticòsa, Lin. spec. 313. Thunb. fl. cap. 2. p. 154. A. glàbra, Mill. dict. no. 12. fig. 45. Apócynum salicifòlium, Medic. act. parl.—Herm. par. 23. t. 24. Plukn. alm. 36. t. 138. f. 2.—Asclèpias crassifòlia, Lin. syst. p. 214. Branches slender. Leaves 4-5 inches long and an inch broad. Flowers white. Peduncles and pedicels downy.

Shrubby Gomphocarpus. Fl. June, Sept. Clt. 1714. Sh. 5 to 7 feet.

3 G. setòsus (R. Br. l. c.) branches villous; leaves glabrous. ♄. G. Native of Arabia Felix. Asclèpias setòsus, Vahl, symb. 1. p. 23. t. 8. Forsk. desc. p. 51. Leaves an inch

long. Peduncles and pedicels villous. Flowers green. Follicles bristly.

Bristly Gomphocarpus. Shrub.

4 G. crísPUS (R. Br. l. c.) branches downy; leaves lanceolate-cordate, undulated, hispid. ♄. G. Native of the Cape of Good Hope. Asclèpias críspa, Lin. suppl. 170. mant. 215. Thunb. prod. 1. p. 47. fl. cap. 2. p. 154.—Commel. rar. t. 17. —Pluk. phyt. t. 139. f. 1.—Mor. hist. sect. 15. t. 3. f. 37. Peduncles and calyxes pilose. Flowers greenish yellow. Lam. Umbels solitary, terminal, pedunculate, purple, ex Lin.

Curled-leaved Gomphocarpus. Fl. July. Clt. 1714. Shrub 1 to 2 feet.

5 G. angustifòlius (Link, enum. 1. p. 251.) stem erect, downy; leaves linear-lanceolate, flat, glabrous. ♄. G. Native of Mexico. Asclèpias angustifòlia, Willd. enum. 13. Schultes, syst. 6. p. 70. Asclèpias lineàris, Hort. Leaves 2 inches long. Umbels dense, terminal, or nearly so. Corolla small, flesh-coloured or white.

Narrow-leaved Gomphocarpus. Fl. July, Aug. Clt. 1817. Shrub 2 to 3 feet.

Cult. These are very elegant shrubs when in blossom. They are of easy culture, growing most freely in a light soil; and are increased by seed, which ripen in abundance.

XLV. OTA'RIA (from *ους ωτος, ous otos*, an ear; the leaves of the corona are biauriculate at the base). Kunth, nov. gen. amer. 3. p. 149.—Asclèpias auriculàta, H. B. et Kunth, l. c.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted. Corolla 5-parted, reflexed. Corona 5-leaved, seated on the upper part of the tube of the filaments; leaflets cucullate, each running from the bottom into a horn-formed process, biauriculate on the inside at the base. Anthers terminated by a membrane; pollen masses compressed, fixed by the tapering apices, pendulous. Stigma concave, mutic.—An erect, herbaceous plant. Leaves opposite, petiolate, reticulately veined, membranous. Umbels interpetiolar. Flowers greenish yellow.

1 O. auricula'ta. ♃. G. Native of Mexico, near Ario, in groves. Asclèpias auriculàta, H. B. et Kunth, nov. gen. amer. 3. p. 149. t. 228. Branches terete, downy. Leaves oblong, acute, rounded at the base, flat, membranous, glabrous. Umbels involucrated by many downy bracteas. Style pilose at top.

Auricled Otaria. Pl. 3 to 4 feet.

Cult. For culture and propagation see *Gomphocárpus*, above.

XLVI. OXYSTE'LMA (from *οξυς, oxys*, sharp, and *στελμα, stelma*, a crown; in reference to the foliola of corona being acute). R. Br. in wern. mem. 1. p. 40. prod. fl. nov. holl. p. 462.—Periploca species, Roxb.

Lin. syst. *Pentándria, Digynia.* Corolla rotate, spreading. Column exserted. Stamineous corona 5-leaved; leaflets acute, undivided. Anthers terminated by a membrane. Pollen masses compressed, fixed by their attenuated apices, pendulous. Stigma mutic. Follicles smooth. Seeds comose.—Suffruticose, twining, glabrous shrubs. Leaves opposite. Racemes or umbels interpetiolar.

1 O. escule'ntum (R. Br. l. c.) leaves linear-lanceolate, veiny, smooth; racemes longer than the leaves; corolla fringed with hairs; follicles oblong, acuminated. ♃. ◠. S. Native of the East Indies, in hedges, and amongst bushes on the banks of water courses. Periploca esculénta, Lin. suppl. 168. Roxb. cor. 1. p. 13. t. 11. Asclèpias ròsea, Roxb. fl. ind. 2. p. 40. —Pluk. alm. 19. t. 359. f. 6. Root composed of filiform fibres. Leaves deciduous during the dry season, 4-6 inches long. Flowers large, beautiful white, with a tinge of rose colour. Roxburgh does not find that the natives ever eat any part of this plant; but cattle, however, eat it. It is the *Dooghdika* of the Sanscrit, see Jones, asiat. res. 4. p. 268.

Esculent Oxystelma. Clt. 1816. Shrub tw.

2 O. Wallíchii (Wight, contrib. ind. bot. p. 54.) leaves narrow, linear-lanceolate; margins of corolla ciliated; follicles short, oval, obtuse. ♄. ◠. S. Native of the East Indies, on the banks of the Ganges and Irawaddi; and of the province of Tanjore, near Pathacottah. This is very nearly allied to *O. esculéntum*, only differing in the sharper and shorter follicles.

Wallich's Oxystelma. Shrub tw.

3 O. carnòsum (R. Br. prod. 462.) leaves fleshy, suboval, mucronate, glabrous; fascicles of flowers umbel-formed, pedunculate; segments of corolla linear. ♄. ◠. S. Native of New Holland, within the tropic. This species differs considerably from the rest, both in the form of the corolla, and in that of its corona.

Fleshy-leaved Oxystelma. Shrub tw.

4 O. Zippelia'num (Blum. bijdr. p. 1053.) leaves narrow-linear-lanceolate, cuspidate, smoothish; peduncles 2-3-flowered at the apex; corolla having the base and margin bearded. ♄. ◠. S. Native of Java, about Batavia, collected in the gardens of Zippeli.

Zippeli's Oxystelma. Fl. Oct. Shrub tw.

5 O. Hooperia'num (Blum. bijdr. p. 1053.) leaves cordate, acuminated, smoothish; fascicles many-flowered; corolla glabrous. ♄. ◠. S. Native of Java, about Kuripan, in the garden of James Hooper; and at the foot of Mount Salak, where it is called *Aroy tjapu tuhur*.

Hooper's Oxystelma. Fl. year. Shrub tw.

6 O. Bornoue'nse (R. Br. in append. to Clapp. and Denh. trav. p. 34.) flowers racemose; segments of corolla semi-ovate; follicles inflated; leaves lanceolate, cordate at base. ♄. ◠. G. Native of north Africa, in Bornou. This species differs from *O. esculénta* in the inflated follicles, and in the leaves being cordate at the base.

Bornou Oxystelma. Pl. tw.

Cult. For culture and propagation see *Oxypétalum*, p. 148.

XLVII. IPHI'SIA (meaning unknown to us). Wight and Arnott, contrib. ind. bot. p. 52.

Lin. syst. *Pentándria, Dygýnia.* Corolla rotate, 5-cleft. Stamineous corona 5-leaved; leaflets fleshy, suddenly narrowed to the apex. Anthers terminated by a membrane; pollen masses ventricose, fixed by their tops to the extremities of ascending, filiform appendiculi, or retinacula, pendulous. Stigma mutic. Follicles smooth, attenuated at the apex, glabrous. Seeds comose.—Erectish or twining herbs or subshrubs. Leaves opposite. Flowers small. Umbels interpetiolar, simple, aggregate, or almost sessile at the bends of the peduncles. This genus is very nearly related to *Tylóphora*, both in habit and structure of the flowers, but is separated on account of the truly pendulous pollen masses.

1 I. multiflòra (Wight and Arnott, l. c.) suffruticose, twining, glabrous; leaves oval, cuspidately-acuminated, petiolate; umbels sessile at the flexures of the common peduncle, disposed alternately; segments of corolla short; retinacula or appendiculi elongated, bent upwards at the base and downwards at the apex. ♄. ◠. G. Native of the Neelghery mountains.

Many-flowered Iphisia. Shrub tw.

2 I. Gova'nii (Wight, contrib. ind. bot. p. 52.) erectish; leaves almost sessile from broad, oval, acuminated, to lanceolate acute; umbels simple, aggregate, few-flowered; pedicels as long as the peduncles; segments of corolla lanceolate, glabrous inside and hairy outside; retinacula or appendiculi short, at first erectish. ♄. G. Native of the Himalaiah.

Govan's Iphisia. Shrub or herb.?
Cult. For culture and propagation see *Calótropis*, p. 147.

XLVIII. PENTA'TROPIS (from πεντε, *pente*, five, and τροπις, *tropis*, a keel). R. Br. in Salt. trav. append. ex Wight and Arnott, contrib. ind. bot. p. 52.—Asclèpias microphýlla, Roxb.

Lin. syst. *Pentándria*, *Digýnia*. Corolla rotate, 5-cleft. Stamineous corona 5-leaved; leaflets opposite the anthers, adnate vertically to the gynostegium, averse, loose or free at apex; pollen masses ventricose, pendulous, fixed beneath their tops. Stigma mutic. Follicles smooth. Seeds comose.—Twining subshrubs. Leaves rather fleshy, flat. Umbels interpetiolar, few-flowered, almost sessile. Follicles obsoletely trigonal, flattish on one side.

1 P. microphy'lla (Wight and Arnott, l. c.) twining, glabrous; leaves rather fleshy, ovate, mucronate, rounded at the base or subcordate; umbels almost sessile, few-flowered; pedicels long-filiform; calyx minute; corolla spreadingly reflexed; segments acute; leaflets of corona broad, averse at the base, cuspidate and incurved at the apex, equal to the gynostegium. ♄. ⌒. S. Native of Coromandel and Bengal, on argillaceous banks of rivers; particularly the river called Yamuna, in Bengal. Asclèpias microphýlla, Roxb. fl. ind. 2. p. 35. Schultes, syst. 6. p. 85. Asclep. tenuiflòra, Roxb. mus. ind. or. t. 610. Oxystélma caudàta, Ham. herb. Wall. ascl. no. 110.—Asclep. alexiàca, Jacq. may be this plant, but the figure in Rheed. mal. 9. t. 13., to which he refers his plant, has no affinity with this. Roxburgh supposes that synonyme to be *Tylóphora asthmática*, but there are many obvious reasons against that affinity.

Small-leaved Pentatropis. Shrub tw.

2 P. cynanchoìdes (R. Br. in append. to Salt. trav.) ♄. ⌒. G. Native of Abyssinia. We know nothing of this plant but the name.

Cynanchum-like Pentatropis. Shrub tw.
Cult. For culture and propagation see *Oxypétalum*, p. 148.

XLIX. RAPHISTE'MMA (from ῥαφις, *raphis*, a needle, and στεμμα, *stemma*, a crown; in reference to the narrow, elongated leaflets of the corona). Wall. pl. asiat. rar. 2. p. 40. t. 163. Wight and Arn. contrib. ind. bot. p. 54.—Asclèpias pulchélla, Roxb.

Lin. syst. *Pentándria*, *Digýnia*. Corolla campanulate; limb 5-parted; staminal corona 5-leaved: leaflets compressed, elongated. Anthers terminated by a membrane; pollen masses fixed beneath their apexes, pendulous. Stigma bluntly conical. Follicles solitary by abortion, somewhat ventricose. Seeds comose.—A glabrous twining shrub. Leaves largish, cordate. Flowers white, corymbose. Corona exserted, equal to the limb of the corolla. This genus, Dr. Wallich suggests, is very nearly allied to *Kanàhia*, the difference appearing more in habit and country than any character afforded by the flower.

1 R. pulche'llum (Wall. l. c. t. 163.). ♄. ⌒. S. Native of Silhet, Gualpara, Tavoy, Pegu, near Rangoon. Asclèpias pulchélla, Roxb. fl. ind. 2. p. 54. Pergulària? campanulàta, Hamilt. herb. Flowers large.

Neat Raphistemma. Shrub tw.
Cult. For culture and propagation see *Oxypetalum*, p. 148.

L. UROSTE'LMA (from ουρα, *oura*, a tail, and στελμα, *stelma*, a crown; in reference to the tails of the gynostegium). Bunge, in mem. acad. petersb. 2. p. 118.

Lin. syst. *Pentándria*, *Digy'nia*. Calyx 5-parted; with lanceolate, acute segments. Corolla campanulate, deeply 5-cleft; segments villous inside, and at length revolute. Corona simple, shortly 5-lobed: lobes obtuse; gynostegium furnished with 5 membranous processes, and each of these processes is furnished with a long filiform appendage, which is pentagonal at the base. Pollen masses twin, solid, pendulous. Follicles muricated. Seeds comose.—A scandent or twining plant. Leaves cordate, waved, acuminated. Racemes axillary, pedunculate. Flowers pale, dirty reddish white.

1 U. Chine'nse (Bunge, l. c.). ♄. ⌒. G. Native of China.
China Urostelma. Pl. tw.
Cult. For culture and propagation see *Oxypétalum*, p. 148.

LI. ANA'NTHERIX (from α, priv. and ανθερις, *antherix*, an awn; there are no horn-formed processes from the base of the leaflets of the corona, as in *Asclèpias*). Nutt. gen. amer. 1. p. 169. and in amer. phil. soc. trans. 5. p. 201.—Asclèpias species of authors.

Lin. syst. *Pentándria*, *Digýnia*. Corolla subcampanulate, 5-cleft. Corona simple, 5-lobed; lobes compressed, empty inside (not furnished with a horn-formed process, as in *Asclèpias*), incurved, furnished with a little segment inside, longer than the gynostegium, which is sometimes pedicellate. The rest as in *Asclèpias*.—Erect, herbaceous plants. Leaves alternate or opposite, sometimes subverticillate, and the axils sometimes spinulose. Flowers large, umbellate, or panicled, terminal. Follicles muricated or smooth. This genus is very nearly allied to *Calótropis*, but differs essentially in the insertion of the corona, and in the form and character of its segments.

Sect. I. Lepiste'lma (from λεπις, *lepis*, a scale; and στελμα, *stelma*, a crown; in reference to the scales inside the corona). Segments of corona furnished each with a little scale or segment inside. Gynostegium sessile. Follicles usually muricated.

1 A. víridis (Nutt. gen. amer. 1. p. 169. amer. phil. soc. trans. 5. p. 201.) leaves opposite, sessile, obovate-oblong, mucronulate, smoothish; umbels cauline, subpanicled, few-flowered; segments of corona very long. ♃. H. Native of the Arkansas territory, in damp pine barrens, near St. Mary's; and Carolina. Asclèpias víridis? Walt. fl. car. p. 107. Ascl. connìvens, Baldw. in Ell. sketch. p. 320. Podostígma víridis, Ell. sketch. 327. Gomphocárpus víridis, Spreng. syst. 1. p. 849. Corolla green. Corona purplish; fructification white.

Green-flowered Anantherix. Fl. Aug. Sept. Clt. 1812. Pl. ½ to 1 foot.

2 A. panicula'tus (Nutt. in amer. phil. soc. trans. 5. p. 203.) leaves scattered, ovate-oblong, bluntish, mucronulate; umbels divided, subpanicled; corona one half shorter than the corolla; follicles muricated. ♃. H. Native of the Arkansas territory, in cedar swamps, near Fort Smith; and also near the Red river. Asclèpias víridis, Walt. fl. carol. p. 137. Pursh, fl. 1. p. 183. Stem angular. Leaves scabrous on the margins, 4-5 inches long, and 1-1½ broad. Umbels several, terminal. Corolla yellowish-green. Corona variegated with purple and white.

Panicled-flowered Anantherix. Pl. 1 to 2 feet.

3 A. decu'mbens (Nutt. l. c.) leaves scattered, nearly opposite, ovate-lanceolate, very long, acute; umbels nearly globose, terminal; corona about equal in length to the corolla. ♃. H. Native of the Arkansas territory, on dry hills, near the confluence of the Kiamesha with the Red river. Stem rather angular, 1 to 1½ inches long. Leaves scabrous on the edges, Umbels solitary. Peduncles downy. Corolla greenish. Corona brownish. Follicles muricated.

Decumbent Anantherix. Pl. decumbent.

Sect. II. Styla'ndra (from στυλος, *stylos*, a column, and ανηρ ανδρος, *aner andros*, a male; in reference to the gynostegium being pedicellate). Nutt. in amer. phil. soc. trans. 5. p. 203. Segments of corona destitute of the little segment

inside. Column of fructification or gynostegium pedicellate. Follicles smooth.

4 A. pu'milus (Nutt. in amer. phil. soc. trans. 5. p. 203.) leaves linear, nearly opposite, sessile; segments of corolla almost 3 times longer than the corona. ♃. H. Native of Georgia, in pine barrens, in Effingham county, Elliott; near St. Mary's, Balwyn; near Charleston, Fraser; on dry sandy fields, South Carolina, Walter; near Fort Barrington, Lyon. Stylándra pùmila, Nutt. gen. amer. 1. p. 170. Podostígma pubéscens, Ell. sketch. 1. p. 326. Asclèpias pedicellàta, Walt. fl. car. p. 106. Pursh, fl. 1. p. 182. Leaves downy, rough from dots above. Segments of corona lunulate. Flowers greenish yellow. Plant 3 inches high.

Dwarf Anantherix. Fl. June, Aug. Clt. 1824. Pl. $\frac{1}{4}$ ft.

5 A. Bu'ngei; stems simple, erect, glabrous; leaves opposite, lanceolate-linear, acute, glabrous beneath; but having the margins rather hispid above; panicle terminal, dichotomous, loose, many-flowered. ♃. H. Native of China, at the foot of the mountains near Lun-zuan-ssy. Asclèpias paniculàta, Bunge, in mem. acad. petersb. 2. p. 117. Petals oblong, bluntish, greenish, glabrous. Cuculi concave, obtuse.

Bunge's Anantherix. Pl. $\frac{1}{2}$ foot.?

† *Doubtful species.*

6 A. Torreya'nus; leaves ovate. ♃. H. Native of North America, among the Rocky Mountains. Anántherix, nov. spec. Nutt. mss. ex Torrey. ann. lyc. new york, 2. p. 219.

Torrey's Anantherix. Pl.?

7 A. Nuttallia'nus; leaves linear-lanceolate, obtuse at the base, petiolate. ♃. H. Native along with the preceding. Anántherix, nov. spec. Nutt. mss. ex Torrey. l. c.

Nuttall's Anantherix. Pl.?

Cult. For culture and propagation see *Asclèpias*, p. 142.

LII. XYSMALO'BIUM (*ξυσμα, xysma*, a thread, and *λοβος, lobos*, a pod; in reference to the follicles being clothed with ramenta). R. Br. in mem. wern. soc. 1. p. 38.—Asclèpias spec. Lin. and Thunb.

Lin. syst. *Pentándria, Digýnia.* Corolla 5-cleft, spreading. Stamineous corona seated on the top of the tube of the filaments, in a simple series of 10 parts; 5 of the segments or parts are fleshy, roundish, naked inside, and opposite the anthers, the other 5 are small. Anthers terminated by a membrane; pollen masses compressed, fixed by their apexes, pendulous, with broadish connecting processes. Stigma mutic. Follicles ventricose, ramentaceous. Seeds comose—Erect shrubs, natives of south Africa. Leaves opposite. Umbels interpetiolar. Flowers largish: having the limb sometimes bearded.

1 X. undula'tum (R. Br. l. c.) stems villous, simple; leaves sessile, oblong-lanceolate, undulated, glabrous; petals ciliated. ♄. G. Native of the Cape of Good Hope, on hills, about Paradys, in Kamanasie, and elsewhere. Asclèpias undulàta, Lin. spec. 312. Thunb. prod. 1. p. 47. fl. cap. 2. p. 155. Asclèpias ciliàta, Lin. syst. ed. 15. p. 271.—Commel. rar. t. 16. Lower leaves a span long. Umbels frequently sessile. Corolla bearded, "greenish," ex Lam.

Waved-leaved Xysmalobium. Fl. July. Clt. 1783. Shrub 1 to 2 feet.

2 X. grandiflòrum (R. Br. l. c.) stems simple, hairy; leaves petiolate, oblong, hairy; umbels pedunculate. ♄. G. Native of the Cape of Good Hope, in Kamanasie and elsewhere. Asclèpias grandiflòra, Lin. suppl. p. 170. Thunb. prod. 1. p. 47. fl. cap. 2. p. 156. Leaves 2 inches long. Flowers large, checquered like those of *Fritillària melèagris*, ex Lin.; large, glabrous, variegated with purple, ex Thunb.

Great-flowered Xysmalobium. Shrub 1 foot.

Cult. For culture and propagation see *Gomphocárpus*, p. 144.

LIII. CALO'TROPIS (from *καλος, kalos*, beautiful, and *τροπις, tropis*, a keel; the flowers are beautiful, and the leaflets of the corona are keeled). R. Br. in mem. wern. soc. 1. p. 39.—Asclèpias species of Lin. and Roxb.

Lin. syst. *Pentándria, Digýnia.* Corolla subcampanulate, with an angular tube; angles saccate; limb 5-parted. Stamineous corona 5-leaved: leaflets keel-formed, length of the tube of the filaments (gynostegium), and adnate to it, recurved at the base. Anthers terminated by a membrane; pollen masses compressed, fixed by their tapering apexes, pendulous. Stigma mutic. Follicles ventricose, smooth. Seeds comose.—Erect, glabrous shrubs, natives of the East Indies, Africa, and Persia. Leaves broad, opposite. Umbels interpetiolar. Flowers large, showy.

§ 1. *Leaves almost sessile, cuneate-oblong or broad-ovate, retuse, or subcordate at the base.*

1 C. proce'ra (R. Br. in hort. kew. ed. 2. vol. 2. p. 78.) leaves obovate-oblong, on short petioles, whitish from wool; segments of corolla spreading. ♄. S. Native of Persia. Asclèpias procèra, Ait. hort. kew. ed. 1. vol. 1. p. 305. Willd. spec. 1. p. 1263. Schneevogt. icon. t. 18. Asclèpias gigantèa, Andr. bot. rep. t. 271. Lam. dict. 1. p. 280.—Badelsar, Alp. egypt. 85. t. 86. and Zja Rack, Brun. trav. 315. t. 184. probably belongs to the present plant. Corollas white; petals marked at top by a purple spot.

Tall Calotropis. Fl. July, Sept. Clt. 1714. Shrub 6 feet.

2 C. gigante'a (R. Br. l. c.) shrub hoary; leaves stem-clasping, oblong-ovate, downy beneath; segments of corolla reflexed, with revolute edges; corona shorter than the gynostegium, obtuse, circinnately recurved at the base; incurved and subtridentate at the apex. ♄. S. Native of the East Indies, common; and now become almost indigenous to South America and Africa; as we have seen it growing in great profusion on rocks in St. Jago, and in sand about the Gambia, Senegal, and the island of Goree. Asclèpias gigantèa, Lin. spec. p. 312.? Ait. hort. kew. ed. 1. vol. 1. p. 305. Willd. spec. 1. p. 1264. Roxb. fl. ind. 2. p. 30. Jacq. obs. 3. p. 17. t. 69. Asclèpias gigantèa *β*, Lam. dict. 1. p. 280.—Seb. thes. 1. p. 41. t. 26. f. 1. Erìcu, Rheed. mal. 2. p. 53. t. 31. Madòrus, Rumph. amb. 7. t. 14. f. 1. Bark ash-coloured; young shoots covered by soft woolly down. Leaves decussate, broad, wedge-shaped, bearded on the upper side at the base, pretty smooth on the upper surface, but clothed with woolly down on the under side, 4-6 inches long, and 2-3 broad. Umbels sometimes, though rarely, compound, surrounded by several involucral scales. Flowers beautiful, a mixture of rose colour and purple. *Nella jeberoo* is the Telinga name of this plant, *Urku* the Sanscrit name, and *Aknnea* the Bengalese name. The milky juice which flows from this plant when wounded is applied to various medicinal purposes by the natives; besides which they employ the plant itself, and preparations thereof, to cure all kinds of fits, epileptic, convulsive, spasmodic, and paralytic, as well as poisonous bites and venereal complaints. A fine sort of silky flax is prepared from the young shoots in some places. A large species of gryllus feed upon the leaves. It is the Mador and Mudor plant, from which the late Dr. Duncan, of Edinburgh, obtained that singular substance called Mudarine, which possesses the property of congealing by heat, and becoming again fluid on exposure to cold.

Var. β; albiflòra; flowers white. ♄. S. Native of the East Indies, along with the species. Belèricu, Rheed. mal. l. c, *Zella Jeeleereo* of the Telingas; *Swetakind* of the Bengalese, and *Ulurka* in Sanscrit.

Giant Calotropis. Fl. Jul. Sept. Clt. 1690. Sh. 6 to 10 ft.

3 C. Hamiltònii (Wight. contrib. ind. bot. p. 53.) segments of corolla erect; leaflets of corona equal in length to the gynos-

tegium, acuminated at the base and recurved, but bipartite and spreading at the apex. ♄. S. Native of the East Indies, in various parts. C. procèra, Ham. in Lin. trans. 14. p. 426. exclusive of the synonyms. Wall. ascl. no. 92. Asclèpias Madàre, Hort. bot. calc. The Persian *C. procèra* is quite distinct from the Indian one.

Hamilton's Calotropis. Shrub 6 to 10 feet.

4 C. Wallíchii (Wight. l. c.) segments of corolla spreading; leaflets of corona exceeding the gynostegium, obtuse at the base, and recurved, but incurvedly 2-lobed above the stigma at the apex. ♄. S. Native of the East Indies, at Melloon. C. gigantèa, Wall. ascl. no. 91. b. In addition to the above marks of distinction, this differs in habit from all the preceding species; the flowers are in loose, long-peduncled panicles, in place of contracted cymes or umbels.

Wallich's Calotropis. Shrub.

5 C. heterophy'lla (Wall. ascl. no. 91. a.) segments of corolla erectish; leaflets of corona equal in length to the gynostegium, obtuse and recurved at the base, having the margins lying on the top of the stigma, 2-lobed: lobes thickish, subdiverging. ♄. S. Native on the banks of the Irrawaddi. The flowers are smaller than in other species, and are disposed in small, compact, long-peduncled umbels.

Various-leaved Calotropis. Shrub.

§ 2. *Leaves petiolate, cuneate, or elliptic-oblong.*

6 C. Sussue'la; succulent and smooth; leaves petiolate, oblong, acuminated; umbels few-flowered; corolla flat, fleshy; corona short. ♄. S. Native of the Moluccas. Asclèpias Sussuèla, Roxb. fl. ind. 2. p. 31. Coròna Ariádnes, Rumph. amb. 5. t. 182. Corolla nearly 3 inches in diameter when fully expanded, ex Roxb.

Sussuela Calotropis. Shrub.

7 C. herba'cea; herbaceous, erect, smooth; leaves petiolate, oblong; umbels compound; corolla with a globular tube, which incloses the corona; segments or petals triangular, spreading; leaflets of corona shorter than the gynostegium, acute, and spreadingly recurved at the base, but tridentate at the apex, and lying upon the gynostegium. ♃. S. Native of the interior parts of Bengal. Padmarka, Jones, asiat. res. 4. p. 267. Stems nearly simple. Young shoots green. Leaves pale green, paler beneath, furnished with a few bristly glands on the middle nerve on the upper side at the base. Peduncles longer than the pedicels, mixed with subulate bracteas. Flowers large, a mixture of purple, red, and white Very like *C. gigantèa*. Root woody.

Herbaceous Calotropis. Pl. 2 to 3 feet.

Cult. All the species of *Calótropis* bear handsome, large flowers, and on that account are worth cultivating in every collection of stove plants. A mixture of loam, sand, and peat, is a good soil for them; and young cuttings, thinly planted in a pot filled with sand, strike root freely under a hand-glass, in heat. If care is not taken with them, they are very liable to rot, as the least injury causes them to decay.

LIV. OXYPE'TALUM (from *οξυς, oxys*, sharp, and *πεταλον, petalon*, a petal; in reference to the long, sharp-pointed petals). R. Br. mem. wern. soc. 1. p. 41. H. B. et Kunth, nov. gen. amer. 3. p. 197. Mart. nov. gen. bras. 1. p. 48.—Gothofrèda, Vent. choix. p. 7. t. 60.

Lin. syst. *Pentándria, Digýnia.* Corolla with a short ventricose tube, and a 5-parted limb (f. 19. *c.*); segments ligulate at top (f. 19. *c.*). Stamineous corona 5-leaved; leaflets roundish, simple, fleshy (f. 19. *f.*). Anthers terminated by a membrane; pollen masses linear, pendulous, fixed to the curvitures of the processes, at length ascending. Stigma terminated by an elongated, bipartite acumen (f. 19. *e.*). Follicles unknown.—Twining shrubs, natives of South America. Leaves opposite. Umbels interpetiolar, subcorymbose or cymose. Flowers sweet-scented.

* *Twining shrubs.*

1 O. Ba'nksii (Schultes, syst. 6. p. 91. Mart. nov. gen. bras. 1. p. 48. t. 29.) twining; leaves ovate-cordate, downy; peduncles many-flowered, subcorymbose; segments of corolla linear-lanceolate, acuminated, reflexed; leaflets of corona roundish; retinacula of anthers naked at top. ♄. ⌒. S. Native of Brazil, near Rio Janeiro, where it was first discovered by Sir Joseph Banks in 1768. Corolla yellowish, or cream-coloured; segments much longer than the tube.

Banks's Oxypetalum. Shrub tw.

2 O. appendicula'tum (Mart. l. c. p. 48. t. 30.) twining; leaves ovate, acuminated, cordate, downy; peduncles cymose, usually 4-flowered; segments of corolla narrow-lanceolate, acute, erectly spreading; leaflets of corona roundish; retinacula of anthers furnished with a membranous appendage at apex. ♄. ⌒. S. Native of Brazil, in the province of Minas Geraes, among bushes, near Lagoa, between St. Joao d'El Rey and Villa Rica. Flowers pale yellow.

Appendiculate-flowered Oxypetalum. Clt. 1823. Sh. tw.

3 O. ripa'rium (H. B. et Kunth, nov. gen. amer. 3. p. 154. t. 231. Mart. l. c. p. 49.) twining; leaves ovate, cordate, acuminated, downy; peduncles 2-6-flowered, subcorymbose; segments of corolla long-linear; leaflets of corona emarginately 2-lobed; retinacula of anthers naked at top. ♄. ⌒. S. Native of New Granada, on the banks of the river Mayo, near Mamendoy; Mexico at Misantla; also of Brazil, in the province of Minas Geraes, near St. Joao Baptista. Corollas cream-coloured, or pale yellow. (f. 19.)

FIG. 19.

River-side Oxypetalum. Shrub tw.

4 O. monta'num (Mart. l. c. p. 49.) twining; leaves lanceolate, acute, petiolate; peduncles many-flowered, cymose; petals linear, erect, reflexed at top; leaflets of corona acute; retinacula of anthers sagittately dilated at top. ♄. ⌒. S. Native of Brazil, on the top of Mount Itambe da Villa do Principe. Flowers cream-coloured.

Mountain Oxypetalum. Shrub tw.

5 O. Berteria'num (Spreng. syst. 1. p. 850. add. p. 111.) leaves elliptic, mucronate, downy; cymes lateral, crowded; flowers small. ♄. ⌒. S.. Native of New Granada, Bertero.

Bertero's Oxypetalum. Shrub tw.

6 O. Megapota'micum (Spreng. syst. add. p. 111.) twining; leaves cordate-lanceolate, acuminated, smooth; peduncles cymose, clothed with hoary down. ♄. ⌒. S. Native of Brazil, at Rio Grande.

Rio Grande Oxypetalum. Shrub tw.

7 O. Gothofre'da (Schultes, syst. 6. p. 92.) twining; leaves cordate, ovate, tomentose; racemes few-flowered, axillary and terminal; segments of corolla lanceolate, acute, 4 times longer than the tube. ♄. ⌒. S. Native of New Spain, at Santa Fe de Bogota. Gothofrèda cordifòlia, Vent. choix, p. 7. t. 60. Glands solitary at the base of the petioles.

Gothofreda's Oxypetalum. Shrub tw.

* * *Erect shrubs.*

8 O. foliòsum (Mart. l. c. p. 50.) villous; stems erect, her-

baceous; leaves approximate, nearly sessile, ovate-cordate, acute; peduncles many-flowered, cymosely corymbose, approximate towards the tops of the branches; segments of corolla erect, linear, acute; leaflets of corona emarginately 2-lobed; retinacula of anthers naked at top. ♃. S. Native of Brazil. Corolla cream-coloured, with a violaceous base. Corona rose-coloured.

Leafy Oxypetalum. Shrub erect.

9 O. ERE'CTUM (Mart. l. c.) stems erect, herbaceous; leaves ovate-cordate, acute, downy; peduncles 1-flowered; segments of corolla linear-lanceolate, spreading; leaflets of corona emarginately bidentate; retinacula of anthers naked. ♃. S. Native of Brazil, in the province of Minas Geraes, in fields at Capao and Villa Rica. Corollas cream-coloured.

Erect Oxypetalum. Pl. erect.

10 O. STRÍCTUM (Mart. l. c.) stem erect, herbaceous, straight; leaves lanceolate, cordate, almost sessile; segments of corolla lanceolate, acute; leaflets of corona profoundly bifid; membranes of anthers elongated, but the retinacula are naked. ♄. S. Native of Brazil, in fields, at the river Paraopeba, between St. Joao d'El Rey, and Villa Rica. Corolla yellow. Corona white.

Straight Oxypetalum. Pl. erect.

11 O. CAPITA'TUM (Mart. l. c.) stem herbaceous, erect; leaves lanceolate, acute, villous; flowers crowded, in globose umbels; leaflets of corona bifid; retinacula naked. ♃. S. Native of the Brazils, in the Mine provinces, near Contendas, in St. Philip. Flowers pale yellow.?

Capitate-flowered Oxypetalum. Pl. erect.

Cult. The species answer well for training up the rafters, in a stove, or warm part of a greenhouse. A mixture of loam, sand, and peat, or any light rich soil, suits them well; and cuttings strike root freely in sand, under a hand-glass, in heat.

LV. SCHUBE'RTIA (named after H. B. Schubert, a professor at Erlang). Mart. nov. gen. bras. 1. p. 55.

Lin. syst. *Pentándria, Digýnia.* Corolla funnel-shaped; tube gibbous at the base; limb 5-parted, spreading. Stamineous corona inclosed in the tube, 5-leaved; leaves adnate to the tube of the filaments, lanceolate, connivent. Anthers terminated by a membrane; pollen masses pendulous, fixed by their attenuated apexes. Stigma turbinate, plano-convex at top. Follicles? Seeds comose.—Twining hairy shrubs, natives of South America, in shady places. Leaves opposite, petiolate, cordate. Umbels pedunculate, interpetiolar. Corollas rather fleshy, usually bearded inside.

1 S. MULTIFLÒRA (Mart. l. c. p. 56. t. 33.) leaves cordate-obovate, acute; umbels many-flowered; tube of corolla glabrous inside, shorter than the segments, which are linear. ♄. ◠. S. Native of Brazil, in shady places, among granite rocks, in the province of Pernambuco. Cynánchum multiflòrum, Spreng. syst. add. p. 110. Corollas white.

Many-flowered Schubertia. Shrub tw.

2 S. GRANDIFLÒRA (Mart. l. c. p. 57.) leaves cordate, obovate, acute; umbels few-flowered; tube of corolla bearded inside, equal to the segments of the limb. ♄. ◠. S. Native of Brazil. Corollas white.?

Great-flowered Schubertia. Shrub tw.

3 S. LONGIFLÒRA (Mart. l. c.) leaves cordate, obovate, acute, villous; umbels many-flowered; tube of corolla very hairy inside, 3 times longer than the segments, which are lanceolate. ♄. ◠. S. Native of Carthagena, in woods. Cynánchum longiflòrum, Jacq. amer. 85. t. 59. ed. pict. p. 45. t. 85. Macroscèpis longiflòra, Spreng. syst. 1. p. 851. Corollas greenish white.

Long-flowered Schubertia. Shrub tw.

Cult. For culture and propagation see *Oxypétalum*, above.

LVI. LACHNO'STOMA (from λαχνη, *lachne*, wool; and στομα, *stoma*, a mouth; throat of corolla bearded.) H. B. et Kunth, nov. gen. amer. 3. p. 198. t. 232.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted. Corolla somewhat salver-shaped, with a short tube, a 5-parted spreading limb; and a bearded throat; segments of the limb ovate-oblong, acute, rather unequal-sided. Stamineous corona inserted in the throat of the corolla, 5-leaved; leaflets lunately 2-lobed, fleshy. Anthers terminated by a membrane; pollen masses compressed, laterally fixed by their tapering tops, pendulous. Stigma mutic, peltate.—A twining shrub; with opposite leaves; and interpetiolar racemes. Flowers twin, approximating in an umbellate manner. This genus is allied to *Cynánchum* on one hand, and *Oxypétalum* on the other; but is distinguished from them, in the form of the corolla, and corpuscles, as well as by the mutic stigma, and in the corona being inserted in the throat of the corolla; and from both, in the filaments being adnate to the tube of the corolla, and in the throat being bearded.

1 L. TIGRÌNUM (H. B. et Kunth, l. c.) ♄. ◠. S. Native of New Granada, near Santa Fe de Bogota. Stems densely clothed with rusty hairs, as well as the petioles and peduncles and calyxes. Leaves elliptic-oblong, acuminated, rounded at the base, villous on both surfaces, and beset with rusty hairs on the nerves and veins beneath. Petioles 4-5 inches long, and 2 broad. Calyx hairy. Corolla hairy outside; segments elegantly and reticulately spotted.

Tiger-spotted-flowered Lachnostoma. Shrub tw.

Cult. For culture and propagation see *Oxypétalum*, above.

LVII. MACROSCE'PIS (from μακρος, *macros*, long; and σκεπω, *skepo*, to cover; in reference to the calyx being larger than the corolla.) H. B. et Kunth, nov. gen. amer. 3. p. 200. t. 233.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, exceeding the corolla a little, bracteate at the base. Corolla thickish, with a globose-ventricose tube, and a spreading, 5-parted limb; segments of limb obliquely ovate, obtuse. Corona of 5 fleshy scales, inserted in the throat of the corolla. Gynostegium saucer-shaped, hardly exceeding the tube of the corolla. Filaments connate, adnate to the tube of the corolla. Anthers terminated by a membrane; pollen masses compressed, pendulous, fixed by their tops. Stigma mutic, peltate. Follicles unknown.—A twining plant, with hairy branches. Leaves opposite, obovate, cordate, hairy. Peduncles interpetiolar, 2-flowered; pedicels involucrated by bracteas. This genus is very nearly allied to *Lachnóstoma*, from which it is distinguished by the large calyx, by the structure of the corona, gynostegium, and beardless throat. There is also considerable affinity between this genus and *Gonólobus*.

1 M. OBOVA'TA (H. B. et Kunth, l. c. p. 201. t. 233.) ♄. ◠. S. Native of New Spain, on the shore, about Campeche. M. pàtens, Spreng. syst. 1. p. 851. Cynánchum hirsùtum, Vahl. Leaves $3\frac{1}{2}$ inches long, and 2 broad. Petioles and midrib of leaves on the under side beset with rusty hairs. Segments of calyx pilosely ciliated. Corolla glabrous.

Obovate-leaved Macroscepis. Shrub tw.

Cult. For culture and propagation see *Oxypétalum*, above.

LVIII. ARAU'JIA (named after Antonio de Araujo, a great promoter of botany in Portugal.) Brot. in Lin. trans. 12. p. 62. Physiánthus, Mart. nov. gen. bras. 1. p. 53.

Lin. syst. *Pentándria, Digýnia.* Calyx large, 5-parted (f. 20.

a.) Corolla campanulately urceolate (f. 20. *b.*) with 5 swellings outside at the base, and a corresponding number of cavities inside; limb spreading a little, 5-cleft. Column inclosed. Stamineous corona of 5 leaves; leaflets cucullate, furnished each with a horizontal scale outside. Anthers terminated by a membrane; pollen masses pendulous, fixed by their tapering tops. Stigma ovate, 2-horned at the apex. Follicles ovate, ventricose, bent downwards, semi-bilocular; dissepiment or placenta covered with numerous lamellæ. Seeds comose, adhering to the lamellæ of the dissepiment.—Twining, herbaceous plants. Leaves opposite, cordate. Racemes interpetiolar, few-flowered, cymose. Flowers white.

FIG. 20.

1 A. sericófera (Brot. l. c. p. 62. t. 1.) leaves cordate, glabrous, glandular at the top of the petioles; racemes cymose, pendulous, few-flowered; root creeping. ♄. ⁀. S. Native of Peru, from which place it was received by Brotero, under the name of *Apócynum Peruviànum*. Flowers white. (f. 20.)

Silk-bearing Araujia. Fl.? Clt.? Shrub tw.

2 A. a'lbens; herbaceous; leaves acute at the apex, cordately truncate at the base; white and pruinose beneath; flowers sub-dichotomously cymose. ♄. ⁀. S. Native of Brazil, in the province of St. Paul. Physiánthus álbens, Mart. nov. gen. bras. 1. p. 54. t. 32. Graham, in bot. mag. t. 3201. Lindl. bot. reg. t. 1759. Leaves tomentose beneath, and beset with fine scattered pili above. Corolla downy, white, with a tinge of red; tube length of calyx.

Whitish-flowered Araujia. Fl July, Aug. Clt. 1830. Sh. twining.

3 A. Megapota'mica; twining, glabrous; leaves sagittately cordate, acuminated; peduncles 1-flowered; lobes of corona denticulated. ♄. ⁀. S. Native of Brazil, at Rio Grande. Physiánthus Megapotámica, Spreng. syst. add. p. 112.

Rio Grande Araujia. Shrub tw.

Cult. For culture and propagation see *Oxypétalum*, p. 148.

LIX. KANA'HIA (the plant is called Kanakk by the Arabs.) R. Br. in. mem. wern. soc. 1. p. 38. Asclèpias species, Forsk.

Lin. syst. *Pentándria, Digýnia.* Corolla campanulate, with a 5-parted limb. Column half-inclosed. Stamineous corona, seated on the top of the tube of the filaments, 5-leaved; leaflets thickened from the base, subulate, undivided. Anthers terminated by a membrane. Pollen masses ventricose, fixed by their apexes, pendulous. Stigma mutic. Follicles slender, striated. Seeds comose?—An erect shrub, native of Arabia. Leaves opposite, flat. Peduncles interpetiolar, bearing at their apexes many-flowered fascicles; pedicels imbricate, unibracteate at the base.

1 K. laniflòra. ♄. G. Native of Arabia Felix and Abyssinia. K. Kánnah, Rœm. et Schultes, syst. 6. p. 95. Asclèpias laniflòra, Forsk. descrip. p. 51. Vahl, symb. 1. p. 23. t. 7. Kanakk of the Arabs. Leaves 3 inches long, quite glabrous, tapering to both ends. Leaves of involucrum subulate, unequal.

Woolly-flowered Kanahia. Shrub.

Cult. For culture and propagation see *Calótropis*, p. 147.

LX. DIPLO'LEPIS (from διπλοος, *diploos*, double; and λεπις, *lepis*, a scale; leaflets of corona furnished each with a scale inside.) R. Br. in. mem. wern. soc. 1. p. 41.

Lin. syst. *Pentándria, Digýnia.* Corolla with a short, urceolate tube; and a 5-parted limb. Stamineous corona 5-leaved; leaflets obtuse, furnished with a scale each inside. Anthers terminated by a membrane. Pollen masses ventricose, fixed near their apexes, pendulous. Stigma mutic, elongated, undivided. Follicles unknown.

1 D. Menzie'sii (Rœm. et Schultz, syst. 6. p. 95.) ♄. ⁀.? S. Native of Chili, near Valparaiso. This is the only certain species of the genus. The Asclèpias vomitòria, Konig. mss. agrees with this genus in many respects, especially in the form, and insertion of the pollen masses; but differs considerably in habit, and in having a blunt stigma.

Menzies's Deplolepis. Shrub twining?

2 D.? apicula'ta (Lindl. in hort. trans. 6. p. 68.) leaves roundish-elliptic, cordate, apiculated, shining, very villous, as well as the stems; stigma depressed. ♄. ⁀. G. Native of China. Flowers greenish.

Apiculated-leaved Diplolepis. Fl. Ju. July. Clt. 1821. Shrub tw.

Cult. For culture and propagation see *Oxypétalum*, p. 148.

§ 2. *Gynostegium appendiculate. Corona simple, of one piece; having its tube sometimes furnished with segments or keels inside. Corolla sub-rotate.*

LXI. HOLOSTE'MMA (from ὁλος, *holos*, entire; and στεμμα, *stemma*, a crown; the corona is almost entire.) R. Br. in mem. wern. soc. 1. p. 42. Asclèpias species of authors.

Lin. syst. *Pentándria, Digýnia.* Corolla subrotate, 5-cleft. Stamineous corona inserted in the gynostegium, simple, annular, obsoletely 5-lobed. Anthers terminated by a membrane. Pollen masses pendulous, compressed, fixed by their tapering tops. Stigma mutic. Follicles ventricose, smooth. Seeds comose —Glabrous, twining shrubs. Leaves opposite, broad. Umbels interpetiolar, on short peduncles. Flowers showy, white.

1 H. Rhe'edii (Spreng. syst. 1. p. 851. Wall. pl. asiat. rar. 2. p. 51.) leaves broad-ovate, cordate. ♄. ⁀. S. Native of Malabar, Mysore, Samulcottah, and the Circars; also at Gualpara, and Kinour. H. A'da Kòdien, Rœm. et Schultes, syst. 6. p. 95. Asclèpias annulària, Roxb. fl. ind. 2. p. 37. mus. ind. orient. t. 613. Asclèpias convolvulàcea, Heyne, herb. Cynánchum annulàre, Heyne, herb. C. cordifòlium, and C. grandiflòrum, Russ. herb. Sarcostémma annulàre, Roth. nov. spec. p. 178. Rœm. et Schultes, syst. 6. p. 115. Gomphocárpus volùbilis, Hamilt. herb. Corollas yellowish or whitish, tinged with red. Follicles smooth.

Rheede's Holostemma. Shrub twining.

2 H. fra'grans (Wall. pl. asiat. rar. 2. p. 51.) leaves oblong-cordate: upper ones oblong-lanceolate, sagittately cordate at the base: lobes imbricating. ♄. ⁀. S. Native of the Burmese Empire, on mountains on the banks of the Irrawaddi, at Scendya, and Prome, also on mount Taong Dong, not far from Ava.

Fragrant Holostemma. Shrub twining.

3 H. tubercula'tum (Blum. bijdr. p. 1055.) leaves membranous, ovate, acute, deeply cordate at the base, paler beneath; follicles tubercular. ♄. ⁀. S. Native of Java, on mountains.

Tubercular-follicled Holostemma. Fl. year. Shrub tw.

4 H. murica'tum (Blum. bijdr. p. 1055.) leaves membranous, ovate-oblong, acuminated, deeply cordate at the base, glaucescent beneath; follicles muricated. ♄. ⁀. S. Native of Java, on the mountains, where it is called *Tjaput tuhur*.

Muricated-follicled Holostemma. Fl. Nov. Dec. Shrub tw.

5 H. læ've (Blum. bijdr. 1055.) leaves coriaceous, oblong, acuminated, obliquely sub-cordate at the base; follicles smooth. ♄. ⁀. S. Native of Java, on Mount Salak, in shady places.

Smooth Holostemma. Fl. Feb. April. Shrub tw.

Cult. See *Oxypétalum*, p. 148. for culture and propagation.

LXII. CYNA'NCHUM (from *κυων κυνος, kyon kynos*, a dog; and *αγχω, ancho*, to strangle; poisonous effects of some species.) R. Br. in mem. wern. soc. 1. p. 43. Wight, and Arnott, contrib. ind. bot. p. 55. Cynánchum species, Lin. and others.

LIN. SYST. *Pentándria, Digýnia.* Corolla sub-rotate, 5-parted. Stamineous corona, 5-20-lobed; when only 5-lobed, the lobes are opposite the anthers. Anthers terminated by a membrane. Pollen masses ventricose, pendulous. Stigma usually apiculated, but sometimes mutic, rarely rostrate. Follicles smooth. Seeds comose.—Herbs or sub-shrubs, for the most part twining. Leaves opposite. Umbels interpetiolar.

§ 1. *Stamineous corona tubular, with a 5-10 cleft border, inclosing the gynostegium; the 5 inner segments opposite, and parallel with the anthers and exterior lobes. Pollen masses inserted beneath their apexes. Follicles cylindrical, much divaricate.—Stems twining. Leaves cordate.*

1 C. DALHÒUSIÆ (Wight, contrib. ind. bot. p. 55.) twining, smoothish; leaves linear-lanceolate, attenuated, broadest at the base, cordate, pale beneath, and marked with brown veins; umbels few-flowered; pedicels longer than the peduncles; segments of corolla oval, obtuse; corona equal in length to the corolla, 10-lobed: alternate lobes the smallest: the inner segments small, obtuse, tooth-formed; stigma sub-apiculated, undivided. ♄. ⌒. H. Native at Simla, Countess of Dalhousie; Mussorie, Royle. Leaves 4-6 inches long, and 4-12 lines broad at the base.

Countess of Dalhousie's Cynanchum. Shrub tw.

2 C. ACU'TUM (Lin. spec. p. 310., exclusive of the synonymes. R. Br. mem. wern. soc. 1. p. 44.) herbaceous twining, glabrous; leaves oblong, ovate-cordate, acute; segments of corolla oblong, obtuse; stigma apiculated, semi-bifid; follicles cylindrical, divaricate. ♃. H. Native of Italy, Spain, Tauria, Astrachan, &c. Bieb. fl. taur. 1. p. 177. Jacq. misc. 1. p. 16. t. 1. Schkuhr. handb. 1. p. 166. t. 54. C. Monspelìacum, Brot. fl. lus. 1. p. 411. C. Monspelìacum, β, Lam. dict. 1. p. 235. C. Sibíricum, Willd. act. nov. am. N. C. berol. 1799. t. 6. f. 2. Pers. 1. p. 273.—Tourn. inst. 93.—Clus. hist. 125.—Trew. ehrh. 44. t. 82. Flowers white.

Acute-leaved Cynanchum. Fl. July. Clt. 1596. Pl. tw.

3 C. PUBE'SCENS (Bunge, in mem. acad. petersb. 2. p. 118.) corona double; outer one 10-cleft, having the alternate segments acute, ovate; the rest filiform and elongated; inner corona 5-cleft, with shorter, filiform segments; segments of corolla linear, obtuse; leaves cordate, acute, downy; stems herbaceous, twining. ♃. ⌒. F. Native of China, in hedges. Flowers minute, white. Nearly allied to *C. acùtum*.

Downy Cynanchum. Pl. twining.

4 C. EXCE'LSUM (Desf. fl. atl. 1. p. 212.) herbaceous, twining, glabrous; leaves cordate-lanceolate, acute, glabrous; follicles long, narrow, flattish, very acute. ♃. ⌒. H. Native of Barbary, on the shore about Tozzer. Leaves like those of *C. acùtum*, 1-2 inches long.

Tall Cynanchum. Fl. July. Clt. 1816. Pl. tw.

5 C. MONSPELÌACUM (Lin. spec. p. 311., exclusive of the synonymes. R. Br. l. c.) herbaceous, twining, glabrous; leaves reniform, coarctate at top, and semi-lanceolate; segments of corolla lanceolate, bluntish; stigma apiculated, semi-bifid; follicles cylindrical. ♃. ⌒. H. Native of Italy, south of France, Spain, and Greece, by the sea side. Cav. icon. 1. p. 44. t. 60. Jacq. coll. 4. p. 106. icon. 2. t. 340. St. Hil. 35. t. 6.—Tourn. inst. 93.—Clus. hist. 1. p. 126. Flowers white, but flesh-coloured, according to Jacquin.

Montpelier Cynanchum. Fl. Aug. Sept. Clt. 1596. Shrub twining.

6 C. LONGIFÒLIUM (Martens, ex Spreng, syst. add. p. 110.) herbaceous, twining; leaves cordate, acuminated, nerved; segments of corolla acute; exterior corona 10-leaved: the 5 alternate lobes lanceolate, acute, and the other 5 sub-crenated and obtuse. ♃. H. Native about Venice.

Long-leaved Cynanchum. Pl. twining.

7 C. CHINE'NSE (R. Br. in mem. wern. soc. 1. p. 44.) herbaceous, twining, glabrous?; leaves ovate-cordate, with a short acumen; segments of the corolla linear, acute, compressedly filiform, entire. ♃. ⌒. H. Native of China, in the province of Peckley, Sir G. Staunton. Stigma ending in semi-bifid point. Follicles cylindrical.

Chinese Cynanchum. Pl. twining.

8 C. BIROSTRA'TUM (Hook. and Arn. in Beech. voy. pt. bot. p. 35.) leaves narrow, cordately-sagittate, with oblong-obtuse lobes, sub-coriaceous, glabrous; umbels many-flowered; pedicels and calyxes downy; tube of corolla urceolate; segments of the limb lanceolate, downy outside; stamineous corona simple, of 5 bifid segments; stigma long-beaked, deeply bifid. ♄. ⌒. F. Native of Chili, about Conception. Flowers white. Leaves resembling those of *C. acùtum*.

Birostrate Cynanchum. Shrub twining.

§ 2. *Stamineous corona tubular, with a 5-10-cleft border, inclosing the gynostegium; the 5 inner keels simple, or drawn out into segments. Pollen masses fixed beneath their apexes. Follicles ventricose, angular, spreading. Stems twining. Leaves cordate, rounded or acute at the base.*

9 C. CORYMBÒSUM (Wight, l. c. p. 56.) twining, glabrous; leaves cordate-ovate, acuminated, glaucous beneath; corymbs longer than the petioles, many-flowered; corona equal in length to the corolla, 10-cleft, with the alternate lobes smaller, and the inner carinæ simple; pollen masses fixed beneath their apexes; stigma apiculated, bifid. ♄. ⌒. S. Native of Silhet. Cynánchum, Wall. ascl. no. 81.

Corymbose-flowered Cynanchum. Shrub tw.

10 C. PEDUNCULA'TUM (R. Br. in mem. wern. soc. 1. p. 97. prod. p. 463.) twining; common peduncles longer than the leaves; leaves cordate, smoothish; axils 2-leaved; inner carinæ of the corona drawn out into segments; stigma apiculated, emarginate. ♄. ⌒. G. Native of New Holland, within the tropic. C. Browniànum, Rœm. et Schultes, syst. 6. p. 97.

Pedunculate Cynanchum. Shrub twining.

11 C. FLORIBU'NDUM (R. Br. l. c.) twining; common peduncles shorter than the leaves; leaves cordate, acuminated, quite glabrous; axils without leaves; inner keels of the corona drawn out into segments; stigma apiculated, emarginate. ♄. ⌒. G. Native of New Holland, without the tropic.

Bundle-flowered Cynanchum. Shrub twining.

12 C. ERUBE'SCENS (R. Br. l. c.) twining; common peduncles about equal in length to the petioles; leaves cordate, acute; axils usually 2-leaved; branchlets and flowers clothed with fine down outside; inner carinæ of the 10-cleft corona shorter than the corolla, simple. ♄. ⌒. G. Native of New Holland, within the tropic.

Reddish Cynanchum. Shrub twining.

13 C. BONPLANDIA'NUM (Rœm. et Schultes, syst. 6. p. 98.) twining; branches marked by a downy line; leaves lanceolate, acuminated, glabrous, membranous; umbels almost sessile; calyxes downy; corona 10-lobed: the alternate lobes the longest, and alternating with the segments of the corolla: stigma conical, convex, emarginate. ♄. ⌒. S. Native of New Andalusia. C. lanceolàtum, H. B. et Kunth. nov. gen. amer. 3. p. 203. Flowers minute, white. Corolla rotate, with ovate-acute segments.

Bonpland's Cynanchum. Shrub twining.

14 C. MONTEVIDE'NSE (Spreng. syst. 1. p. 851.) herbaceous, twining; leaves cordate-oblong and lanceolate, acute, and are, as

well as the umbels, glabrous; segments of corolla elongated and spreading; alternate teeth of corona shorter. ♃. ◠. S. Native of Montevideo.

Montevideo Cynanchum. Pl. twining.

15 C. mucrona'tum (H. B. et Kunth, nov. gen. amer. 3. p. 203. t. 335.) twining; branches furnished with 2 rows of down; leaves oblong, cuspidately-mucronate, acute at the base, glabrous; umbels almost sessile; calyxes glabrous; corona 5-parted, with ovate segments, which are ligulate at the apex, alternating with the segments of the corolla; stigma terminated by an emarginate tubercle. ♄. ◠. S. Native of New Granada, on the declivities of Mount Avila. Leaves 8-9 lines long. Corolla white, glabrous, with obliquely-oblong acute segments, having the middle nerve green.

Mucronate-leaved Cynanchum. Shrub twining.

16 C. microphy'llum (H. B. et Kunth, nov. gen. amer. 3. p. 204. t. 204.) twining; branches furnished with 2 rows of down; leaves ovate, acute, mucronate, rounded at the base, glabrous; flowers solitary, twin or tern, or by fours; calyxes glabrous; corona 5-parted, with emarginately-bidentate, concave segments, alternating with the lobes of the corolla; stigma terminated by an emarginate tubercle. ♄. ◠. S. Native of New Granada, in frigid places, near the town of Pasto. Leaves very small. Petioles furnished with interpetiolar cilia. Corolla white, rotate, with obliquely ovate, acute segments.

Small-leaved Cynanchum. Shrub twining.

17 C. serpyllifòlium (H. B. et Kunth, nov. gen. amer. 3. p. 205.) twining; branches marked by a downy line; leaves ovate-oblong, acuminated, rounded at the base, ciliated a little; umbels sessile; calyx rather pilose; corona 5-parted: with the segments bifid at the apex; stigma convex, emarginate?. ♄. ◠. S. Native near Quito, in shady places; and on the declivities of Mount Pichincha. Very like *C. microphýlla*, but is larger, in the leaves and flowers: and also differs in the flowers being umbellate, in the structure of the corona and gynostegium. Corolla campanulate, white, with ovate-oblong, hardly oblique segments.

Wild Thyme-leaved Cynanchum. Shrub twining.

§ 3. *Stamineous corona tubular, with a 5-10-cleft border, inclosing the gynostegium; inner segments or carinæ wanting. Pollen masses usually fixed by their apexes. Stigma terminated by a bifid point. Stems twining. Leaves sub-cordate.*

18 C. pauciflòrum (R. Br. in mem. wern. soc. 1. p. 45.) twining, glabrous; leaves ovate, acuminated, reniformly cordate at the base: the auricles diverging; umbels few-flowered; peduncles shorter than the petioles; flowers glabrous, on short petioles; corona equal to the corolla, with a 10-cleft, plicate border, naked inside: the lobes opposite the anthers, lanceolate, acuminated, bifid at top, the alternate ones very short, and emarginate or truncate; pollen masses fixed beneath their apexes; stigma apiculated, obtuse, hardly emarginate. ♄. ◠. S. Native of the East Indies, frequent in hedges. Periploca tunicàta, Retz, obs. 2. p. 15. Willd. phyt. 1. p. 7. no. 23. t. 5. f. 3. Asclèpias tunicàta, Roxb. fl. ind. 2. p. 35. mus. ind. or. t. 609. This plant has been removed by Wight, and Arnott, from the section in which Mr. R. Brown placed it. As there are no interior keels, but only folds of the corona, which arise from contractions of its mouth, and disappear when expanded. Follicles ventricose. Perhaps this, and *C. angustifòlium*, ought to have been described with 5 lobes to the corona, the alternate ones being so very short.

Few-flowered Cynanchum. Fl.? Clt. 1820. Shrub twining.

19 C. Wallíchii (Wight, l. c.) twining, glabrous; leaves oblong-ovate, acuminated, cordate at the base, auricled: auricles a little incurved; corymbs shorter than the leaves, many-flowered; pedicels equal in length to the peduncles, or exceeding them; corona equal to the corolla, somewhat 10-cleft; the lobes opposite the anthers, longer, and bifid; pollen masses fixed beneath their apexes; stigma mutic. ♄. ◠. S. Native of the East Indies, at Jentaga and Chuna-Poonjee. Cynánchum, Wall. ascl. no. 80. Very closely allied to *C. pauciflòrum*.

Wallich's Cynanchum. Shrub twining.

20 C. calliala'tum (Hamilt. herb. no. 767, ex Wight, and Arnott, contrib. ind. bot. 56.) twining, glabrous; leaves ovate or oval, acuminated, cordate at the base, with a narrow recess, glaucous beneath; umbels shorter than the petioles; pedicels equal to the peduncle in length; corona 10-lobed, almost twice as short as the corolla: the lobes opposite the anthers, bifid at apex: the alternate ones very short; stigma sub-apiculated, entire; follicles winged. ♄. ◠. S. Native on the banks of the Ganges, and at Columala. Wall. ascl. no. 83. C. auriculàtum, Hamilt. herb. no. 768. Wall. ascl. no. 85. Periploca tunicàta, Herb. madr. Wall. ascl. no. 75. b. c.

Beautiful-winged-podded Cynanchum. Shrub twining.

21 C. ala'tum (Wight, and Arnott, contrib. ind. bot. p. 57.) twining, smoothish; leaves of the older branches cordately auricled at the base: of the young floriferous branches, oval, cuspidate, cordate at the base, or emarginate, glaucous beneath; umbels about equal in length to the petioles; pedicels longer than the peduncles; corona shorter than the corolla, with a crenately 10-lobed, truncate border: the alternate lobes rather the smallest; stigma apiculated, bifid; follicles flattish on one side, with the angles marginately winged. ♄. ◠. S. Native of Coromandel. Wight, cat. no. 1552. Asclèpias truncàta, Roxb. in herb. Banks. The winged follicles, and truncate corona, will readily distinguish it from all other species of this section.

Winged-follicled Cynanchum. Shrub twining.

22 C. ovalifòlium (Wight, l. c.) twining, glabrous; leaves oblong-oval, acuminated; cymes many-flowered; peduncles longer than the petioles; corona about equal in length to the corolla, 10-cleft; stigma apiculated, somewhat emarginate. ♄. ◠. S. Native of Penang. Cynánchum, Wall. ascl. no. 82. The oval leaves, and cymose inflorescence, readily distinguish this species.

Oval-leaved Cynanchum. Shrub twining.

23 C. angustifòlium (Wight, and Arnott, l. c.) twining, smoothish; petioles rather hairy, reflexed; leaves linear-lanceolate, cuspidate, more or less cordate at the base; umbels short, many-flowered; corona 10-lobed, the lobes opposite the anthers, broadly linear-oval, about equal in length to the corolla; the alternate ones very short, and inconspicuous, all truncate and emarginate; stigma apiculated, somewhat emarginate. ♄. ◠. S. Native of Coromandel. Wight, cat. no. 1553. Leaves 3-5 inches long, and 4-6 lines broad.

Narrow-leaved Cynanchum. Shrub twining.

§ 4. *Gynostegium or column of fructification stipitate. Stamineous corona tubular, inserted at the base of the stipe of the gynostegium, 5-cleft, without any segments or inner carinæ inside. To this section, remarkable for the elongation of the torus or stipe of the gynostegium, belong also a species from the Cape of Good Hope.*

24 C. gracíllimum (Wall. asclep. no. 86. Wight, and Arnott, l. c.) twining, glabrous; branches slender; leaves cordate, acuminated, incurvedly auricled at the base; umbels few-flowered; peduncles about equal in length to the petioles, but longer than the pedicels; segments of corolla lanceolate; stalk of gynostegium exceeding the corona, which is 5-cleft, and naked inside; pollen masses fixed by their apexes; stigma beaked, equal, 5-furrowed, truncate, equal to the membranes of the anthers. ♄. ◠. S. Native of the East Indies, at Segaen. Wall. ascl. no. 86.

Very-slender Cynanchum. Shrub twining.

§ 5. *Stamineous corona deeply 5-cleft; segments opposite the anthers, furnished each with a parallel segment inside. Pollen masses fixed by their apexes, or beneath them.*

25 C. auricula'tum (Royle, ex Wight, contrib. ind. bot. p. 58.) twining; leaves cordate-ovate, acuminated, ciliated, auricled at the base; umbels cyme-formed, on long peduncles, few-flowered; corolla 5-parted; corona deeply 5-cleft: segments obtuse, exceeding the gynostegium, furnished each with a little parallel segment inside. ♄. ⌒. F. Native of Kinour and Kamaon. Wall. ascl. no. 137.

Auricled Cynanchum. Shrub twining.

26 C. Ròylei (Wight, l. c.) twining?, downy; leaves broad-cordate at the base, and auricled, gradually tapering into a subulate apex; umbels on long peduncles, many-flowered; corolla 5-cleft; corona deeply 5-cleft: segments obtuse, about equal to the gynostegium, furnished each with a small parallel segment, inside. ♄. ⌒. F. Native of Kinour, Ròyle.

Royle's Cynanchum. Shrub twining.

§ 6. *Stamineous corona tubular, inclosing the gynostegium; with a 10-cleft border; without any segments or carinæ inside. Stigma terminated by an entire point. Stems erect.*

27 C. ròseum (R. Br. in mem. wern. soc. 1. p. 47.) leaves lanceolate-linear, undulated, smoothish; pedicels and calyxes pilose; corona 10-cleft; stigma entire. ♃. H. Native of Dahuria, among rocks. Asclèpias Dahùrica, Willd. spec. 1. p. 1272.?—Gmel. sib. 4. p. 78. t. 42. Root thick, sweet, creeping. Flowers beautiful, purple.

Rose-coloured-flowered Cynanchum. Fl. July, Aug. Clt. 1818. Pl. 1 to 1½ foot.

28 C. orienta'le (Willd. herb. ex Spreng. syst. 1. p. 851.) herbaceous, twining; leaves deeply-cordate, oblong, acute, glabrous, as well as the umbels and peduncles. ♃. ⌒. H. Native of Asia Minor.

Eastern Cynanchum. Pl. twining.

§ 7. *Stamineous corona saucer-shaped, fleshy, 5-10-lobed, simple inside. Pollen masses fixed beneath their apexes. Stigma terminated by an entire, very short point. Follicles smooth. Stems erectish, or twining a very little.*

29 C. vincetóxicum (R. Br. in mem. wern. soc. 1. p. 47.) stems erect; corollas beardless; umbels simple; pedicels 3 times longer than the peduncle; corona 5-lobed. ♃. H. Native of Europe, in gravelly places, between the 59° and 40° of latitude, as well as of Sweden, Denmark, &c. &c. Asclèpias vincetóxicum, Lin. spec. p. 314. Willd. spec. 1. p. 1268. Oed. fl. dan. t. 849. Heyne, term. bot. t. 42. f. 3. Schkuhr. handb. t. 55. Bull. herb. t. 96. Plenck, icon. t. 154. Jaume, St. Hil. 21. t. 6. Ludw. eclyp. t. 25. Asclèpias álba, Mill. dict. no. 1. fig. t. 53. Vincetóxicum officinàle, Mœnch. meth. p. 317. Stem furnished with a downy line on each side. Leaves ovate, acuminated, finely ciliated on the edges when young. Corollas white.

Var. β, mìnus; all parts of the plant are one half smaller than those of the species. ♃. H.

Vincetoxicum Cynanchum. Fl. May, Aug. Clt. 1596. Pl. 1 to 3 feet.

30 C. lu'teum (Spreng. syst. 1. p. 852.) erect, glabrous; leaves ovate, nearly sessile, rather fleshy, veiny; umbels axillary; corolla coriaceous, with bearded edges. ♃. H Native of Crete, Sieber. Flowers yellow.

Yellow-flowered Cynanchum. Pl.

31 C. me'dium (R. Br. l. c. p. 48.) stems twining at tops; corollas beardless; umbels often divided; pedicels hardly longer than the peduncle; corona 5-lobed. ♃. H. Native country unknown. Asclèpias mèdia, Hort. Allied to the *C. nìgrum.*

Intermediate Cynanchum. Fl. May, Aug. Clt.? Pl. 2 to 3 feet.

32 C.? villòsum (Schultes, syst. 6. p. 103.) leaves ovate-oblong, villous beneath, undulated; lower ones cordate; umbels erect, simple; corollas bearded. ♃. H. Native country unknown. Asclèpias villòsa, Willd. enum. 1. p. 278. Balb. misc. 15. t. 4. Flowers white.?

Villous Cynanchum. Fl. Ju. Aug. Clt. 1821. Pl. 2 to 3 feet.

33 C. nìgrum (R. Br. l. c. p. 48.) stems twining at tops; corollas bearded; umbels simple; pedicels hardly longer than the peduncles; corona semi-10-cleft. ♃. H. Native of the south of Europe. Sims. bot. mag. 2390. Asclèpias nìgra, Lin. spec. p. 315. Willd. spec. 1. p. 1269. Leaves ovate-lanceolate, acuminated, finely ciliated on the edges, narrower than those of *C. vincetóxicum.* Flowers brown.

Black-flowered Cynanchum. Fl. July, Aug. Clt. 1596. Fl. 2 to 3 feet.

34 C. mela'nthos (Hort. par. ex Poir. suppl. 2. p. 430.) stems twining at tops, rather hairy; leaves ovate-cordate, acute, rather downy: with rounded, closed lobes. ♃. H. Native country unknown. Flowers dark purple.

Black-flowered Cynanchum. Fl. July, Aug. Clt. 1818. Pl. 2 to 3 feet.

35 C. fusca'tum (Link. enum. 1. p. 250.) stems twining at tops; corolla bearded; umbels simple. ♃. H. Native of the south of Europe, as of Spain. Asclèpias fuscàta, Willd. enum. suppl. p. 29. Horn. hort. hafn. suppl. 29. C. vincetóxicum, β, Schultes, syst. 6. p. 104. Asclèpias lùtea, Mill. dict. Flowers yellow. This is intermediate between the *C. vincetóxicum* and *C. nìgrum*, but is more nearly allied to the latter.

Brownish-flowered Cynanchum. Fl. July, Aug. Clt. 1817. Pl. 2 to 3 feet.

§ 8. *Stamineous corona deeply 5-cleft; segments simple. Pollen masses fixed beneath their apices.—Decumbent or erect plants, sometimes twining a little. Umbels sessile, or nearly so.*

36 C. glau'cum (Wall. ascl. no. 133. Wight, and Arnott, contrib. ind. bot. p. 58.) herbaceous, erect, glabrous or downy; stems rather compressed, and rather angular; leaves broad-ovate, or oblong-oval or lanceolate, obtuse, pale glaucous beneath; umbels almost sessile; corolla 5-cleft: segments hairy inside; corona deeply 5-cleft: segments obtuse; pollen masses fixed beneath their apexes; stigma obtuse, apiculated. ♃. H. Native of Nipaul.

Var. α, latifòlium (Wight, contrib. ind. bot. p. 58.) leaves broad-ovate, obtuse; umbels many-flowered. ♃. H. Native of Nipaul. C. glaúcum, Wall. asclep. no. 133.

Var. β, oblongifòlium (Wight. l. c.) leaves oblong-oval; umbels few-flowered. ♃. H. Native of Nipaul. Wall. ascl. no. 132, unnamed.

Var. γ, lanceolàtum (Wight, l. c.) leaves oblong-lanceolate, obtuse; umbels sessile, many-flowered. ♃. H. Native of the Peninsula of India, and at Simla. Wight, cat. no. 1554. Wall. ascl. no. 134, unnamed.

Glaucous Cynanchum. Pl. 2 to 3 feet.?

37 C. Kinourie'nse (Wight, contrib. ind. bot. p. 58.) herbaceous, erect; stems and petioles hairy; leaves oval, cuspidate, on short petioles, downy above towards the margins, and on the nerves and veins, hairy beneath on the nerves, which are conspicuous, and veins; umbels few-flowered: corona deeply 5-cleft, equal to the gynostegium; segments obtuse, separated by broad recesses; pollen masses fixed by their apexes; stigma obtuse. ♃.

H. Native of Kinour, Royle. In this species the rhizoma is short, thick, and abrupt.

Kinour Cynanchum. Pl.

38 C. Arnottia'num (Wight, l. c.) herbaceous, erect, glabrous; leaves oblong-oval, obtuse or emarginate, mucronate, on short petioles; umbels sessile, many-flowered; corolla brownish purple outside, 5-cleft; segments beset with white hairs inside; corona deeply 5-cleft, equal to the gynostegium: segments obtuse, separated by broad recesses; pollen masses fixed beneath their apexes; stigma apiculated. ♃. H. Found by Mr. Royle, on his journey to Cashmere. The colour of the flowers will readily distinguish this from other allied species.

Arnott's Cynanchum. Pl.

39 C. na'num (Hamilt. herb. no. 765. Wight, and Arnott, l. c. p. 59.) herbaceous, erect, glabrous; leaves on short petioles, linear-acutish, sub-auriculated at the base; umbels almost sessile, many-flowered, involucrated; corolla rather large, 5-parted: segments obtuse; corona deeply 5-cleft, equalling the gynostegium: with obtuse segments; pollen masses fixed by their apexes; stigma apiculated. ♃. H. Native of the East Indies, north of Camrupa, among reeds, Hamilt. Leaves 4-5 inches long, and 2-5 lines broad.

Dwarf Cynanchum. Pl. dwarf.

40 C.? Heynea'num (Rœm. et Schultes, syst. 6. p. 101.) leaves oval, mucronate, ciliated at the base, as well as the petioles, discoloured beneath, and reticulated; umbels few-flowered, length of the petioles; stems glabrous. ♄. ⌒. S. Native of the East Indies. Periploca reticulàta, Roth. nov. spec. p. 126.

Heyne's Cynanchum. Fl.? Clt. 1825. Shrub twining.

41 C. Sibíricum (R. Br. in mem. wern. soc. 1. p. 48.) stems decumbent, herbaceous; leaves lanceolate-linear, opposite, or 3 in a whorl; umbels on short peduncles; corona deeply 5-cleft; pollen masses fixed beneath their apexes; stigma an emarginate papilla; follicles ventricose. ♃. H. Native of Siberia and China. Asclèpias Sibírica, Lin. spec. p. 315. Gmel. sib. 4. p. 77. no. 21. Murr. comm. gœtt. 1779. p. 23. t. 7. Plant white from fine down. Flowers greenish white, smelling like those of the lime tree.

Siberian Cynanchum. Fl. Ju. July. Clt. 1775. Pl. dec.

42 C. pilòsum (R. Br. in mem. wern. soc. 1. p. 46.) twining; leaves ovate, acutish, and are, as well as the calyxes, hairy; umbels short; corona 10-cleft, length of the corolla; stigma terminated by a bifid point. ♄. ⌒. G. Native of the Cape of Good Hope. Ker. bot. reg. 111. Periploca Africàna, Lin. spec. 309 exclusive of the synonymes. Thunb. prod. 1. p. 47. fl. cap. 2. p. 152. Andr. bot. rep. t. 557. Jacq. misc. 1. p. 13. t. 1. f. 3. —Commel. rar. t. 18.—Plukn. phyt. 37. t. 137. f. 4.—Morr. hist. 3. p. 611. sect. 15. t. 3. f. 62. The whole plant is hairy. Corollas purple; corona white. Follicles ventricose.

Var. β; leaves flat, sinuate; flowers pale green; follicles thick, glabrous. Burm. afr. t. 14. f. 2.

Pilose Cynanchum. Fl. Ju. Sept. Clt. 1726. Shrub tw.

43 C. crassifòlium (R. Br. l. c.) twining; leaves ovate, subcordate, obtuse, with a mucrone, fleshy, and are, as well as the calyxes, glabrous; umbels drooping, on short peduncles; corona 10-cleft, length of corolla; stigma terminated by a bifid point. ♄. ⌒. G. Native of the Cape of Good Hope, in woods. C. obtusifòlium, Lin. suppl. 169? Thunb. prod. 1. p. 46. fl. cap. 2. p. 159. Flowers green?

Thick-leaved Cynanchum. Fl.? Clt. 1818. Shrub tw.

44 C. Cape'nse (R. Br. l. c.) twining; leaves ovate-cordate, obtuse, with a mucrone, and are, as well as the stems, glabrous; calyxes downy; corona 5-cleft, twice shorter than the corolla; stigma terminated by a bifid point. ♄. ⌒. G. Native of the Cape of Good Hope. C. Capénse, Lin. suppl. 168.? Thunb. prod. 1. p. 47. fl. cap. 2. p. 159. Flowers white.?

Cape Cynanchum. Fl. July. Clt. 1820. Shrub tw.

45 C. fœ'tidum (H. B. et Kunth, nov. gen. amer. 3. p. 202.) twining, shrubby; leaves ovate, acuminated, cordate, glabrous; racemes pedunculate, equal in length to the leaves; calyx downy; corolla campanulately rotate: segments oblique, obtuse; corona 5-parted, with 3-lobed segments: the middle lobe elongated, longer than the gynostegium; pollen masses fixed beneath their apices by short stipes; stigma naked, convex. ♄. ⌒. G. Native of Mexico, near Queretaro. Asclèpias fœ'tida, Cav. icon. 2. p. 45. t. 158. descript. p. 135. Flowers greenish yellow, or white, fetid. Branchlets puberulous.

Fetid Cynanchum. Fl. July, Aug. Clt. 1820. Shrub tw.

46 C. fimbria'tum (H. B. et Kunth, nov. gen. amer. 3. p. 203. t. 234.) twining, shrubby, pilose; leaves ovate-cordate, sub-acuminated, pilose above, and puberulous beneath; umbels sessile; calyx pilose; corolla sub-campanulate: with oblong, obtuse segments; corolla 5-cleft, ciliately fringed in the sinuses: with bidentate segments, short; stigma terminated by capitate point, and densely beset with minute, clavate caruncles, equal to the corona in length; pollen masses fixed beneath their apices. ♄. ⌒. S. Native in shady places near Cumana. Metapléxis fimbriàta, Spreng. syst. 1. p. 854. Leaves membranous, on long petioles. Calycine segments oblong, acute. Corollas white, glabrous, with a red throat. Perhaps a distinct genus.

Fringed-crowned Cynanchum. Fl. July, Aug. Clt. 1826. Shrub tw.

47 C.? læ've (Nutt. gen. amer. 1. p. 164.) stem erect, somewhat sarmentose, marked with an alternating downy line; leaves smooth, subcordate-ovate, acuminated: having the recess at the base nearly closed; margins and nerves minutely downy beneath; petioles very short; umbels interrupted, compound, on long peduncles; segments of corolla ovate-oblong, obtuse; corona cylindrical, retusely 5-toothed, nearly entire. ♃. H. Native of North America. Gonólobus læ'vis, Michx. fl. bor. amer. 1. p. 119. Habit of *C. vincetóxicum*. Flowers small, greenish white.

Smooth Cynanchum. Pl. erect.

48 C. angustifòlium (Nutt. gen. amer. 1. p. 164.) twining, smooth; leaves narrow-linear, thickish; umbels on long peduncles; segments of corolla lanceolate; corona cylindrical, bluntly 5-toothed. ♃. ⌒. H. Native from Carolina to Florida, in marshes. Ceropègia palústris, Pursh 1. p. 184. Flowers small and greenish. Follicles unknown.

Narrow-leaved Cynanchum. Pl. tw.

49 C. Humboldtia'num (Schultes, syst. 6. p. 105.) twining, shrubby; branches furnished with 2 rows of down; leaves oblong, acute at both ends, somewhat mucronate, glabrous; umbels sessile; calyx rather downy; corolla campanulate: with oblong acutish segments; corona 5-parted, with linear segments, rather longer than the gynostegium, and about equal to the corolla in length; stigma convex. ♄. ⌒. S. Native near Cumana. C. suberòsum, H. B, et Kunth, nov. gen. amer. 3. p. 205. Bark of stems corky, white. Calycine segments oblong, acutish.

Humboldt's Cynanchum. Shrub twining.

† *Doubtful species; the greater number of which do not probably belong to the genus.*

* *Species natives of South America.*

50 C. tene'llum (Lin. suppl. p. 168. Willd. spec. 1. p. 1253.) stems sub-herbaceous, twining; leaves ovate-oblong, smooth, small; umbels irregular, lateral, sessile, shorter than the leaves; follicles subulate, length of a finger. ♃. ⌒. S. Native of New Granada, Mutis. Leaves about the size of chickweed. Flowers about the size of a *Gàlium*. Stem filiform. Branches alternate.

Slender Cynanchum. Pl. twining.

51 C. funa'le (Poir. suppl. 2. p. 427.) stems filiform, twin-

ing, branched; leaves very narrow, wedge-shaped, retuse; flowers small, lateral, umbellate; umbels sessile. ♄. ⌒. S. Native of St. Domingo, Poiteau. Leaves small, hardly petiolate, 5-6 lines long. Follicles compressed, an inch long.

Rope Cynanchum. Shrub twining.

52 C. pedunculà're (Lam. dict. 2. p. 236.) stem twining; leaves ovate, glabrous on both surfaces; umbels solitary, axillary, on long peduncles. ♄. ⌒. S. Native of Guiana. Apócynum scándens, &c. Plum. cat. 2. Burm. amer. t. 27. f. 2, Aubl. guian. p. 273. Peduncles a foot long, bearing each an umbel of white flowers at the apex.

Long-peduncled Cynanchum. Shrub twining.

53 C. tomentòsum (Lam. dict. 2. p. 236.) twining, villous; leaves oval, sub-cordate, mucronate, clothed with white tomentum beneath; umbels few-flowered. ♄. ⌒. S. Native of the East Indies.

Tomentose Cynanchum. Shrub twining.

54 C. denticula'tum (Vahl, eclog. 2. p. 23.) stems twining, beset with retrograde hairs; leaves cordate, oblong, acuminated, denticulated, ciliated, smoothish, except on the ribs and veins, paler beneath; peduncles axillary, solitary, 3-flowered; petals lanceolate, flat. ♄. ⌒. S. Native of Guiana. Leaves ½ inch long. Pedicels longer than the peduncles. Corolla rotate, greenish yellow, ciliated. Very like *Gonólobus rostràtus*.

Denticulated-leaved Cynanchum.

55 C. hirsu'tum (Vahl, eclog. 2. p. 24.) every part of the plant clothed with yellow hairs, except the corolla; leaves cordate-oblong, short-acuminated; corolla rotate, glabrous, with roundish segments. ♄. ⌒. S. Native of Trinidad. Calycine segments acute, a little longer than the corolla. Leaves 3-4 inches long, petiolate.

Hairy Cynanchum. Fl.? Clt. 1825. Shrub twining.

56 C. pictum (Vahl, eclog. 2. p. 24.) twining, glabrous; leaves oblong, shining; umbels axillary, pedunculate; segments of corolla villous inside, at the apex. ♄. ⌒. S. Native of Cayenne. Leaves 1½ inches long, obscurely nerved above, veinless, very obtuse at the base; pale green beneath, and simply veined; nerves and veins purplish, as well as the petioles. Peduncles longer than the petioles. Pedicels longer than the peduncle. Calycine segments ovate, obtuse; of the corolla, ovate, acute.

Painted-leaved Cynanchum. Shrub twining.

57 C. acumina'tum (Humb. et Bonp. in Willd. rel. mss. ex Schultes, syst. 6. p. 111.) leaves oblong, much acuminated, downy beneath; umbels pedunculate; stems twining. ♄. ⌒. S. Native of New Spain, on the banks of the river Atabapo.

Acuminated-leaved Cynanchum. Shrub twining.

58 C. angustifòlium (Pers. ench. 1. p. 274.) stems twining; leaves linear-narrow; umbels on long peduncles. ♃. ⌒. G. Native of Carolina.

Narrow-leaved Cynanchum. Pl. twining.

* * *Species natives of Africa.*

59 C. crìspum (Thunb. prod. 1. p. 46. fl. cap. 2. p. 158.) stem erect, downy, simple; leaves lanceolate, curled; flowers lateral. ♄. G. Native of the Cape of Good Hope, in Karro. Leaves pilose, tapering into the petioles. Flowers axillary, few or many; peduncles pilose capillary. Corolla whitish yellow, sub-campanulate, 5-parted; segments ovate, drawn out into long, purple, filiform points. Corona many-toothed, tubular. In the description of this plant, given in Jacq. fragm. p. 31. t. 36. f. 5, the root is said to be tuberous, fleshy, a foot long. The stems are said to be numerous, weak, branched, rather villous, 2 feet high. The leaves petiolate, stiff, shining, obtuse, with villous margins; the peduncles short, twin, 1-flowered; the flowers sweet-scented; the calyxes villous, with ovate, acute segments; the corolla green, with a white campanulate corona, and linear-obtuse segments.

Curled-leaved Cynanchum. Shrub 1 to 2 feet.

60 C. filifórme (Lin. suppl. 169. Thunb. prod. 1. p. 46. fl. cap. 2. p. 157.) stem erect, simple, pilose; leaves sessile, flat, linear, pilose; umbels hairy, ex Thunb.; flowers verticillate, ex Lin.; corona tubular, erect, shorter than the corolla. ♄. G. Native of the Cape of Good Hope, on hills at the foot of the mountains at Krum river. C. verticillàre, Lam. dict. 2. p. 237. Leaves an inch and more long, but still shorter than the internodes. Corona yellowish. Follicles linear oblong, glabrous, a finger long.

Filiform Cynanchum. Shrub 1 foot.

61 C. pe'ndulum (Poir. suppl. 2. p. 429.) stem twining, rough from stiff hairs; leaves ovate-cordate, almost glabrous; racemes axillary, very long, pendulous. ♄. ⌒. S. Native of Senegal. Leaves on long petioles, pendulous, 2 inches long, Calyx glabrous. Corolla white. Pedicels almost an inch long.

Pendulous-flowered Cynanchum. Shrub twining.

62 C. hasta'tum (Lam. dict. 1. p. 236.) stem twining, much branched; branches rather filiform; leaves hastately linear, acute, glabrous. ♄. ⌒. G. Cynánchum, H. R. ex Oriente, D'Andre.

Hastate-leaved Cynanchum. Shrub twining.

63 C. arbòreum (Forsk. ægypt. 53. no. 80. Lam. dict. 2. p. 237.) stem twining; leaves varying in the same plant, often ovate, linear-lanceolate or sub-hastate; corolla rotate. ♄. ⌒. G. Native of Arabia. A non-lactescent tree. Flowers green.

Tree Cynanchum. Shrub twining.

64 C. oleæfòlium (Nectoux, voy. en egypt. t. 3.) erect; leaves coriaceous, ovate-lanceolate, acute, and are, as well as the stem and calyxes, downy, ex Nectoux, glabrous, ex Delile; peduncles very long, bifid, 5-6-flowered; flowers small, umbellate, ex Nectoux; flowers axillary, cymose, ex Delile. ♄. G. Native of Upper Egypt. C. A'rghel, Delile, mem. sur egypt. descrip. de l'egypt. t. 2. f. 20. Leaves white, glaucous beneath, ex Delile. Calycine segments lanceolate. Corolla white, a little longer than the calyx. The follicles are used like senna.

Olive-leaved Cynanchum. Shrub erect.

65 C. ra'dians (Lam. dict. 1. p. 236.) stem erect; leaves cordate, acute, undulated, villous on both surfaces, but most so beneath; umbels terminal; calyx rusty, villous; corona cylindrical, white, longer than the calyx: having 5 linear, obtuse, flat, horizontal teeth, radiating from the centre above the fructification; follicles ovate, villous. ♃. G. Native of Arabia Felix, in dry places, about Beit el Fakih, rare. Asclèpias ràdians, Forsk. ægypt. 49. no. 67. Leaves with white veins. Corolla with a rusty, violaceous, cylindrical tube, having 5 pits at the top, between the segments of the limb, which are shorter than the tube, compressed at the base, spirally twisted at the apex, linear-lanceolate, glabrous, violaceous outside, and of an obscure yellow inside.

Radiating-crowned Cynanchum. Pl. ½ foot.

* * * *Species natives of Asia.*

66 C. reticula'tum (Retz. obs. 2. p. 15. Willd. spec. 1. p. 1258.) stems twining, corky at bottom; leaves ovate, acuminated, glabrous, flat; umbels axillary; follicles ovate, smooth. ♄. ⌒. S. Native of the East Indies. Perhaps the same as *C. inodòrum*, Lour.

Reticulated-leaved Cynanchum. Shrub twining.

67 C. inodòrum (Lour. coch. p. 166.) stems twining, corky at bottom; leaves ovate, acuminated, glabrous; peduncles subdivided. ♄. ⌒. S. Native of Cochinchina.? Flowers small, yellow, scentless. Corolline segments linear, twisted, longer than the tube; corolla more salver-shaped than rotate. Co-

rona cylindrical, 5-cleft. Follicles oblong, acuminated, tomentose. Stigma sessile, ovate-oblong, large.

Scentless-flowered Cynanchum. Shrub twining.

68 C. fu'scum (Schultes, syst. 6. p. 111.) stem rooting at the base, and branched at the apex; leaves cordate-lanceolate, small, bearded at the base; umbels axillary, twin. 4. G. Native of Cochinchina, on old walls, and among ruins. Asclèpias fúsca, Lour. coch. p. 170. Leaves small. Flowers brownish purple, small; corona of 5 auricles, without horns. Follicles 2, small, subulate, ventricose outside, and flat inside. Seeds curved, comose.

Brown-flowered Cynanchum. Pl. creeping.

69 C. mucrona'tum (Andr. bot. rep. t. 515.) stems hairy; leaves subcordate, mucronate; umbels interpetiolar, axillary, compound; corollas rotate, greenish purple; segments acute, reflexed, twisted. ♄. ⌒. S. Native of Trinidad. Pollen masses pendulous.

Mucronate-leaved Cynanchum. Fl. July, Aug. Clt. 1804. Shrub tw.

70 C. versícolor (Bunge, in mem. acad. petersb. 2. p. 118.) corona simple, bluntly 5-lobed; segments of corolla ovate, acute, downy; umbels axillary, sessile; leaves oblong-ovate, or cordate, acute, downy; stem twining. ♄. ⌒. G. Native of China, on mountains, near Lun-zuan-ssy, and Zui-wey-skan. Corolla at first greenish, then brown. Nearly allied to *C. viridiflòrum*.

Parti-coloured-flowered Cynanchum. Pl. twining.

71 C. atra'tum (Bunge, l. c. p. 119.) corona simple, bluntly 5-lobed; corolline segments oblong, emarginate at the apex, downy outside; calyxes and pedicels tomentose; umbels axillary, sessile; leaves on short petioles, broad-ovate-oblong, acute, with undulated edges, densely downy above, tomentose beneath, as well as the stems. 4. ⌒. G. Native of China, near Ssi-juissy, and Tan-schan. Flowers dark brown.

Dark-flowered Cynanchum. Pl. 1 to 2 feet.

N.B.—What is C. cirrhòsum, Swartz, in cat. hort. Dorp. 1810, and Hort. Gorenk.

Cult. For the culture and propagation of the hardy species, see *Asclèpias*, p. 143.; and for that of the tender species see *Pergulària*, p. 133.

LXIII. METAPLE'XIS (from *μετα*, *meta*, with, and *πλεκω*, *pleco*, to fold; in reference to the cucullate leaflets of corona). R. Br. in wern. soc. mem. 1. p. 48.

Lin. syst. *Pentándria*, *Digýnia*. Corolla subrotate. Stamineous corona 5-leaved; leaflets small, cucullate, alternating with the anthers. Anthers terminated by a membrane; pollen masses ventricose, pendulous, fixed by their sides. Stigma furnished with an undivided elongated beak. Follicles unknown. —A twining glabrous subshrub. Leaves cordate, opposite. Racemes pedunculate, interpetiolar. Limb of corolla bearded.

1 M. Stauntònii (Rœm. et Schultes, syst. 6. p. 111.). ♄. ⌒. G. Native of China, in the province of Peckeley, Sir G. Staunton. The only certain species.

Staunton's Metaplexis. Shrub tw.

2 M.? mucrona'ta (Spreng. neuw. entd. 1. p. 269. syst. 1. p. 854.) leaves subcordate-oblong, mucronate, glaucous, glabrous; peduncles umbellately 6-flowered, shorter than the petioles. ♄. ⌒. S. Native of the Cape of Good Hope. Ascl. mucronàta, Thunb. Corolla urceolate, white inside; teeth alternating with the pollen masses, which are cream-coloured and oblong, united under the plicæ of the column into a fulvous heap.

Mucronate-leaved Metaplexis. Shrub tw.

Cult. See *Pergulària*, p. 133. for culture and propagation.

§ 3. *Gynostegium appendiculate. Corona compound, in 2-3 series; each series with a distinct insertion. Throat of corolla without scales.*

LXIV. DITA'SSA (from *δις*, *dis*, double, and *τασσω*, *tasso*, to dispose; in reference to the double corona). R. Br. in mem. wern. soc. 1. p. 49. Mart. nov. gen. bras. 1. p. 51.

Lin. syst. *Pentándria*, *Digýnia*. Corolla subrotate. Stamineous corona double: outer one 5-parted; the segments acuminated; inner one 5-leaved, shorter, opposite the exterior ones and anthers. Anthers terminated by a membrane; pollen masses ventricose, fixed beneath their apexes, pendulous. Stigma ending in an obtuse point. Follicles smooth?—Twining, glabrous shrubs, natives of Brazil. Leaves opposite, flat. Umbels interpetiolar.

1 Ba'nksii (Rœm. et Schultes, syst. 6. p. 112.) glabrous; leaves flat; flowers umbellate. ♄. ⌒. S. Native of Brazil, near Rio Janeiro, where it was collected by Sir Joseph Banks.

Banks's Ditassa. Shrub tw.

2 D. decussa'ta (Mart. nov. gen. bras. 1. p. 51. t. 31. f. 1.) shrubby, erect; leaves sessile, approximate, ovate-cordate, with reflexed sides, inversely navicular, wrinkled, hairy; peduncles many-flowered; flowers subcymose. ♄. S. Native of Brazil, in the diamond district of the province of Minas Geraes, in rugged mountainous places, at Lavras da Pindaiba. Stem villous. Corolla whitish green outside.

Decussate-leaved Ditassa. Shrub erect.

3 D. mucrona'ta (Mart. l. c. p. 52. t. 31. f. 2.) frutescent; stem twining; branches usually erect; leaves ovate-lanceolate, downy, on short petioles, bluntish, but mucronate, with reflexed edges; flowers umbellate, larger than those of the preceding species. ♄. ⌒. S. Native of Brazil, in the province of Minas Geraes, on hills at Morro de Villa Rica.

Mucronate-leaved Ditassa. Shrub tw.

4 D. passerinoìdes (Mart. l. c. p. 53.) frutescent, erect; leaves cordate at the base, ovate-lanceolate, acute, quite entire, almost sessile, approximate, with reflexed edges; umbels few-flowered. ♄. S. Native of Brazil, on the alps in the diamond district of the province of Minas Geraes. Very like *D. decussàta*, and probably only a variety of it.

Passerina-like Ditassa. Shrub erect.

5 D. aceròsa (Mart. l. c.) frutescent, erect; leaves linear, somewhat acerose, sometimes 3-4 in a whorl, villous; flowers umbellate. ♄. S. Native of Brazil, on mount Itambe da Villa do Principe.

Acerose-leaved Ditassa. Shrub erect.

6 D. læ'vis (Mart. l. c.) frutescent, nearly erect; branches loose; leaves on short petioles, linear-lanceolate, mucronate, flat, glabrous on both surfaces; umbels many-flowered; peduncles shorter than the flowers. ♄. S. Native of Brazil, on the ascent to mount Itambe, in the province of Minas Geraes.

Smooth Ditassa. Shrub erect.

7 D. linea'ris (Mart. l. c.) suffrutescent, twining; leaves on short petioles, linear, acute, mucronate, flat, glabrous on both surfaces; umbels few-flowered; pedicels equal to the flowers. ♄. ⌒. S. Native of Brazil, in Morro de Villa Rica. Flowers larger than any of its congeners.

Linear-leaved Ditassa. Shrub tw.

8 D. retu'sa (Mart. l. c.) frutescent, twining; leaves petiolate, obovate-lanceolate, retuse, mucronate, glabrous, with flat edges; flowers umbellate. ♄. ⌒. S. Native of Brazil, in the province of Minas Geraes, on the ascent to Serra do Caraca.

Retuse-leaved Ditassa. Shrub tw.

9 D. obcorda'ta (Mart. l. c.) frutescent, twining; leaves petiolate, ovate-roundish, reflexed, complicate, glabrous on both

surfaces; flowers umbellate. ♄. ◠. S. Native of Brazil, in the province of Minas Geraes, in grassy places of the diamond district.

Obcordate-leaved Ditassa. Shrub tw.

Cult. For culture and propagation see *Calótropis*, p. 147.

LXV. DÆ'MIA (altered from the Arabic name of *D. Forskæ'li*). R. Br. in wern. soc. mem. 1. p. 50.—Asclèpias species of authors.—Cynánchum species, Jacq.

Lin. syst. *Pentándria, Digýnia.* Corolla subrotate, with a short tube. Stamineous corona double: outer one short, 10-parted; the alternate segments short: inner one of 5 leaves; leaflets loose at the base, undulated at apex. Anthers terminated by a membrane; pollen masses compressed, fixed by their apexes, pendulous. Stigma mutic. Follicles ramentaceous. Seeds comose.—Stems twining. Leaves opposite, cordate. Flowers umbellate. Natives of the East Indies, and equinoctial Africa.

1 D. exte'nsa (R. Br. in mem. wern. soc. 1. p. 50. Wight and Arnott, contrib. ind. bot. p. 59.) shrubby, twining; leaves roundish-cordate, acuminated, acute, auricled at the base, downy, glaucous beneath; peduncles and pedicels elongated, filiform; margins of corolla ciliated. ♄. ◠. S. Native of the East Indies, in various parts, as well as on the banks of the Ganges; and at Sumbata, in the Himalaiah. Cynánchium cordifòlium, Retz. obs. 2. p. 15. Asclèpias echinàta, Roxb. fl. ind. 2. p. 44. mus. ind. or. cent. t. 616. Cynánchum exténsum, Jacq. icon. rar. t. 54. Ait. hort. kew. ed. 1. vol. 1. p. 303. Cynánchum bícolor, Andr. bot. rep. 562. Flowers white.

Extended Dæmia. Fl. July, Aug. Clt. 1777. Shrub tw.

2 D. corda'ta (R. Br. l. c.) shrubby, twining; leaves reniformly cordate, acute, villously tomentose, as well as the branches, &c.; umbels corymbose; pedicels hairy, ½ inch long. ♄. ◠. S. Native of Arabia Felix, and in the deserts about Cairo, and on arid hills in Barbary, about Kerouan, Asclèpias cordàta, Forsk. arab. p. 49. but not of Burm. fl. zeyl. p. 72. which is *Pergulària odoratíssima*. Pergulària tomentòsa, Lin. mant. p. 53. Vahl. symb. 1. p. 23. Desf. fl. atl. 1. p. 209. Corolla livid or rusty green, 4 times longer than the calyx. Corona white.

Cordate-leaved Dæmia. Fl. July, Aug. Clt. 1824. Sh. tw.

3 D. Guinee'nsis; shrubby, twining, hairy; leaves cordate; lobes rounded behind; petioles long: umbels racemose, downy. ♄. ◠. S. Native of Guinea, in various parts. Asclèpias scándens, Beauv. fl. d'owar. 1. p. 92. t. 56. Dæ'mia scándens, G. Don, in Loud. hort. brit. p. 94. Flowers white, in crowded umbels.

Guinea Dæmia. Fl. July, Aug. Clt. 1824. Shrub tw.

4 D. Forskœ'li (Schultes, syst. 6. p. 113.) shrubby, twining; leaves cordate, acute. ♄. ◠. S. Native of Arabia Felix. Asclèpias Dæ'mia, Forsk. ægypt. 51. no. 72. Flowers white. Follicles terete, subulate, 2 inches long, a little incurved, green, hispid from bent bristles. Perhaps distinct from Asclèpias (Gonólobus) setòsus.

Forskœl's Dæmia. Shrub tw.

5 D. gla'bra (Schultes, syst. 6. p. 113.) shrubby, twining; leaves ovate, acuminated, flat, quite glabrous; flowers umbellate, white. ♄. ◠. S. Native of Arabia Felix, at Taaes. Asclèpias glàbra, Forsk. ægypt. 51. no. 74. Probably distinct from the preceding.

Glabrous Dæmia. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXVI. SARCOSTE'MMA (from σαρξ σαρκος, *sarx sarcos*, flesh, and στεμμα, *stemma*, a crown; in reference to the leaflets of the inner corona being fleshy). R. Br. in mem. wern. soc. 1. p. 50. Wight and Arnott, contrib. ind. bot. 59.—Asclèpias species of Lin. and others.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate. Stamineous corona double; outer one cup-shaped or annular, crenated: inner one 5-leaved, higher than the outer one; leaflets fleshy. Anthers terminated by a membrane; pollen masses fixed by their apexes, pendulous. Stigma mutic or apiculated. Follicles slender, smooth. Seeds comose. Stems twining or decumbent, leafless, articulated; or with distant opposite leaves. Flowers umbellate, lateral, or terminal. Natives of the East Indies and New Holland, as well as of South America.

* *Species natives of the East Indies.*

1 S. vimina'le (R. Br. in mem. wern. soc. 1. p. 51. Wight and Arnott, contrib. ind. bot. p. 59.) twining, leafless; umbels terminal; calyxes and pedicels canescent; outer corona 10-plicate, 10-toothed: teeth nearly equal: leaflets of the inner corona flattish, exceeding the anthers; stigma apiculated, bifid. ♄. ◠. S. Native of the East Indies. Wall. ascl. no. 99. c. Wight, cat. no. 1556. Cynánchum viminàle, Lin. syst. p. 257. Willd. spec. 1. p. 1252. Lam. dict. 2. p. 233.? Euphórbia viminàle, Lin. spec. 2. p. 649. Mill. dict. no. 15. Apócynum viminàle, Bass. act. bonn. Telfel-Tavil, Alpin. ægypt. 190.? Flowers white, sweet-scented.

Twiggy Sarcostemma. Fl. July. Clt. 1731. Shrub tw.

2 S. Brunonia'na (Wight and Arnott, contrib. ind. bot. p. 59.) twining, leafless; umbels lateral, sessile; calyx and pedicels canescent; outer corona subplicate, with a 10-crenated border: the alternate crenæ almost obsolete; inner corona shorter than the anthers; stigma apiculated, nearly entire. ♄. ◠. S. Native of the south of Coromandel.

Brown's Sarcostemma. Shrub tw.

3 S. brevistígma (Wight and Arnott, l. c.) twining, leafless; umbels terminal, or terminating the short lateral branches; calyx and pedicels glabrous; outer corona 10-plicate, 10-crenate; leaflets of inner corona gibbous on the back, equal to the gynostegium; stigma mutic. ♄. ◠. S. Native of Coromandel. Wight, cat. no. 1558. S. viminàle, Wall. ascl. no. 99. b. Asclèpias ácida, Roxb. fl. ind. 2. p. 31. Asclèpias aphýlla, Roxb. in mus. ind. orient. t. 607.

Short-stigmaed Sarcostemma. Shrub tw.

** *Species Natives of New Holland.*

4 S. austra'le (R. Br. prod. p. 463.) leafless, articulated, decumbent, sometimes twining; umbels lateral or terminal, having the stem drawn out beyond the umbel in the same direction; common receptacle of pedicels convex, excentric. ♄. ◠. S. Native of New Holland, on the south shore and within the tropic. Very nearly allied to *S. viminàle*. According to Wight and Arnott, in contrib. ind. bot. p. 59. the character given to this species is applicable to them all, and perhaps even it contains two species, one with lateral and the other with terminal inflorescence.

Southern Sarcostemma. Shrub tw. or decumbent.

*** *Species natives of Africa.*

5 S. Thunbe'rgii; leafless, erect, branched; geniculately flexuous; flowers solitary, pedunculate. ♄. G. Native of the Cape of Good Hope, in Karro, beyond the Hartequas Kloof, near Hexrivier. S. aphýllum, Schultes, syst. 6. p. 116. Asclèpias aphýlla, Thunb. prod. 1. p. 47. fl. cap. 2. p. 153. Branches alternate. Follicles lanceolate, a hand long.

Thunberg's Sarcostemma. Shrub erect.

6 S. pyrote'chnicum (R. Br. in mem. wern. soc. 1. p. 51.) leafless, erect, branched, glabrous; peduncles axillary, tubercled, solitary, twin or tern, bearing each a capitate head of flowers

at top; exterior corona cup-shaped. ♄. G. Native of Arabia. Cynánchum pyrotéchnicum, Forsk. ægypt. p. 53. no. 79. Lam. dict. 2. p. 236. Microlòma pyrotéchnicum, Spreng. syst. 1. p. 855. Branches and stem green. Pedicels filiform, yellowish. Calyx campanulate, 5-cleft. Segments of corolla yellow above, green beneath and at the base, lanceolate, with reflexed edges. Follicles terete, curved, attenuated at the base. In Arabia the medulla of the plant is used as tinder.

Tinder Sarcostemma. Shrub.

7 S. stipita'ceum (Rœm. et Schultes, syst. 6. p. 116.) leafless, branched, diffuse, articulated, rather mealy; umbels terminating the short opposite branches, or at the tops and sides of the main branches; outer corona membranous, cup-shaped, pentagonal; leaflets of inner corona thick, incurved, longer than the gynostegium. ♄. G. Native of Arabia Felix, at Yemen, in woods. Asclèpias stipitàcea, Forsk. arab. 50. no. 69. Lam. dict. 1. p. 285. Stems of an obscure blue colour; joints 3 inches long. Pedicels filiform, about 12 in an umbel. Calyx small, 5-parted. Corolla with green segments; having reflexed edges, and a white corona. Follicles slender, flat on one side and convex on the other, 3 inches long.

Stipitate Sarcostemma. Shrub 3 feet.

8 S. Forskœlia'num (Rœm. et Schultes, l. c. p. 117.) leafless, twining, glabrous, green, articulated, branched; corymbs or umbels twin, on short branches, forming corymbs at the joints of the stems. ♄. ◠. S. Native of Arabia Felix, and in woods near mount Melhan. Asclèpias aphýlla, Forsk. ægypt. p. 5. no. 68. Lam. dict. 1. p. 285. Stems fleshy, green. Joints a span long. Peduncles twin, on short branches, and corymbose at the joints. Flowers pedicellate, white, crowded into a globose corymb. Corona as in *Calótropis gigantèa*, ex Forsk. Perhaps not distinct from *S. viminàle*.

Forskœl's Sarcostemma. Shrub cl. or tw.

* * * * *Species natives of tropical America. Umbels interpetiolar. Those species contained in this section differ materially in habit from the other species; and may probably form hereafter a distinct genus.*

9 S. glau'cum (H. B. et Kunth, nov. gen. amer. 3. p. 194. t. 229.) twining; branches terete, and are as well as the peduncles and leaves glabrous; leaves lanceolate, acuminated, acute at the base, glabrous beneath; calyx ciliated; umbels interpetiolar, on long peduncles; segments of corolla fringed, acute; outer corona undulated, annular, fleshy, 5-parted: lobes fringed; leaflets of the inner corona ovate-oblong, obtuse, fleshy, higher than the anthers. ↄ. ◠. S. Native of La Guayra, Mayqueties, and Cabo Blanco, by the sea side. Cynánchum pedunculàre, Lam. dict. 2. p. 236. Leaves membranous, revolute, green above. Flowers size of those of *Asclèpias Syrìaca*, white. Gynostegium twice as long as the tube of the corolla. Pollen masses subclavate, yellow, angular at the base, and geniculately inflexed. Stigma terminated by a subconical, 2-lobed point.

Glaucous-leaved Sarcostemma. Shrub tw.

10 S. pube'scens (H. B. et Kunth, l. c. p. 195.) twining; branches, peduncles, and calyxes clothed with silky down; leaves lanceolate, acuminated, rounded at the base, membranous, having the margins and middle nerves downy; segments of corolla ciliated, downy outside, many-nerved; outer corona narrow; leaflets of inner corona ovate-oblong, obtuse, fleshy, flat, equal in height to the gynostegium, but three times shorter than the corolla, green. ↄ. ◠. S. Native along with *S. glaúcum*. Flowers size of those of *S. glaúcum*. Pollen masses linear-oblong, obtuse, the rest as in *S. glaúcum*. Leaves nearly 2 inches long and ½ an inch broad. Stigma terminated by a conical, 2-lobed point.

Downy Sarcostemma. Pl. tw.

11 S. Cumane'nse (H. B. et Kunth, l. c.) twining; branches and peduncles glabrous; leaves linear-lanceolate, acuminated, obtuse at the base, membranous, puberulous; calyxes downy; outer corona narrow, undulated; segments of corolla ovate, acute; leaflets of inner corona oblong, obtuse, fleshy; gynostegium as in the preceding. ↄ. ? ◠. S. Native near Cumana, in sandy places. Leaves 2 inches long and 2½-3 lines broad. Corolla white.

Cumana Sarcostemma. Pl. tw.

12 S. Brównii (Meyer. prim. esseq. p. 139.) twining, glabrous; leaves lanceolate, acuminated, glabrous; umbels interpetiolar; pedicels, calyxes, and corolla downy; segments of corolla ovate, bluntish, concave, glabrous inside; outer corona an entire, narrow ring; leaflets of inner corona ovate, bluntish, glabrous, a little higher than the gynostegium. ♄. ? ◠. S. Native of Carthagena, Jacq.; island of Arowabish, in hedges, ex Meyer. S. claúsum, Rœm. et Schultes, syst. 6. p. 114. Cynánchum claúsum, Jacq. amer. 1. p. 87. t. 60. f. 2. ed. pict. t. 87. Asclèpias viminàlis, Willd. spec. 1. p. 1270. ?—Plum. icon. t. 27. f. 2. ? Lower leaves larger and broadish ovate-oblong; the upper ones becoming gradually narrower, with revolute edges: painted with white on the nerves, and greenish blue on the veins. Calyx small. Pollen masses oblong, a little curved, hairy, hanging by short pedicels rising from blackish glands. Pedicels furnished with minute villous bracteas at the base.

Browne's Sarcostemma. Shrub tw.

13 S. Swartzia'num (Rœm. et Schultes, syst. 6. p. 115.) twining, filiform, glabrous; leaves lanceolate, glabrous; umbels interpetiolar, many-flowered; segments of corolla ovate, acute, concave, ciliated; outer corona? leaflets of inner corona sessile, ovate-conical. ♄. ◠. S. Native of the south of Jamaica, in sandy arid places, among bushes by the sides of rivulets. Asclèpias viminàlis, Swartz, prod. p. 53. fl. ind. occ. 1. p. 539. Willd. spec. 1. p. 1270. ? Asclèpias scándens, Mill.—Sloan. jam. 89. hist. 1. p. 207. t. 131. f. 1. Plum. icon. 27. f. 2. Pedicels naked. Corolla white. Follicles oblong, acuminated, compressed at the base, downy, hoary.

Swartz's Sarcostemma. Clt. 1820. Shrub tw.

14 S. linea're (Spreng. syst. 1. p. 853.) plant erectish, herbaceous; leaves almost sessile, linear, glabrous; umbels axillary, many-flowered. ↄ. S. Native of Cumana.

Linear-leaved Sarcostemma. Pl. erect.

Cult. For culture and propagation see *Ceropègia*, p. 112.

LXVII. PHILIBE'RTIA (named after J. C. Philibert, who has written some works on elementary botany). H. B. et Kunth, nov. gen. amer. 3. p. 195.

Lin. syst. *Pentándria, Digýnia.* Corolla urceolately rotate, sinuately 5-lobed; lobes acute, intersected by as many teeth. Corona double; outer one ring-formed, in the bottom of the corolla, entire, fleshy, undulated; inner one inserted higher up with the tube of the filaments, 5-leaved: leaflets entire. Anthers terminated by a membrane; pollen masses clavately cylindrical, fixed beneath their apexes, pendulous. Stigma biapiculated. Follicles unknown.—A twining shrub. Leaves opposite, cordate, soft, tomentose. Umbels interpetiolar, involucrated.—This genus is very nearly allied to *Sarcostémma*, from which it principally differs in the urceolate, sinuately 5-lobed corolla.

1 P. solanoides (H. B. et Kunth, l. c. p. 196. t. 230.) ♄. ◠. S. Native on the banks of the river Amazon, near Tomependa. Leaves green above and hoary beneath, 1 inch and more long, 4-5 lines broad. Umbels 8-10-flowered, about equal in length to the leaves. Corollas large, downy outside.

Solanum-like Philibertia. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXVIII. EUSTE'GIA (from *ευ, eu,* well, and *στεγω, stego,* to cover; in reference to the triple corona). R. Br. in mem. wern. soc. 1. p. 51.—Apócynum species of Thunb.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate. Corona triple, each composed of 5 leaves; outer one inserted in the throat of the corolla, having its leaflets opposite the segments of the limb; the leaflets of the rest alternating with those of the outer, but opposite the anthers; leaflets of the middle corona tripartite, of the inner one undivided. Anthers terminated by a membrane; pollen masses fixed by their tapering apexes, pendulous. Stigma submutic. Follicles unknown.—Dwarf decumbent herbs. Leaves opposite, hastate. Flowers subumbellate. Umbels interpetiolar.

1 E. hasta'ta (Rœm. et Schultes, syst. 6. p. 119.) branches decumbent; leaves hastate, ciliated. ♃. G. Native of the Cape of Good Hope. Spreng. neue. entd. p. 268. t. 5. f. 5-10. Apócynum hastàtum, Thunb. prod. 1. p. 47. fl. cap. 2. p. 164. act. nov. petrop. 14. p. 514. t. 9. f. 6. A. minùtum, Lin. suppl. p. 169. Branches and peduncles downy. Leaves glabrous.

Hastate-leaved Eustegia. Fl. June, July. Clt. 1816. Pl. dec.

2 E. filifórmis (Rœm. et Schultes, syst. 6. p. 120.) stems decumbent; leaves linear-filiform. ♃. G. Native of the Cape of Good Hope, in sandy fields at Swartland. Apócynum filifórme, Thunb. prod. 1. p. 47. fl. cap. 2. p. 160. Stems, peduncles, and pedicels downy. Leaves glabrous.

Filiform-leaved Eustegia. Pl. dec.

Cult. For culture and propagation see *Ceropègia*, p. 112.

§ 4. *Stamineous tube or gynostegium naked. Corona wanting.*

LXIX. METASTE'LMA (from *μετα, meta,* instead, and *στελμα, stelma,* a crown; the throat is crowned by 5 exserted teeth instead of a corona). R. Br. in mem. wern. soc. 1. p. 52.—Cynánchum species of authors.

Lin. syst. *Pentándria, Digýnia.* Corolla subcampanulate; throat crowned by 5 exserted teeth, which are opposite the recesses between the segments, and running down the tube inside. Stamineous corona wanting. Anthers terminated by a membrane; pollen masses compressed, fixed by their attenuated apexes, pendulous. Stigma mutic. Follicles unknown.—A perennial, twining, glabrous plant. Leaves opposite, membranous. Umbels interpetiolar, almost sessile. Flowers small.

1 M. parviflòrum (R. Br. l. c.). ♃.? ◠. S. Native of the West Indies, among bushes on the mountains. Cynánchum parviflòrum, Swartz, prod. p. 53. fl. ind. occ. 1. p. 537.—Plum. icon. 215. f. 1. Leaves ovate, subulate at top. Stems bluntly tetragonal. Flowers small, whitish green.

Small-flowered Metastelma. Pl. tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXX. MICROLO'MA (from *μικρος, micros,* small, and *λωμα, loma,* a fringe; in reference to the fascicles of hairs in the tube of the corolla). R. Br. in mem. wern. soc. 1. p. 53.—Ceropègia species, Lin. and Thunb. Lam. ill. t. 179.

Lin. syst. *Pentándria, Digýnia.* Corolla urceolate, with a ventricose angular tube, a naked throat, and a short limb. Scales 5, inclosed, inserted in the middle of the tube under the recesses, alternating with as many fascicles of hairs. Stamineous corona none. Anthers sagittate, terminated by a membrane; pollen masses compressed, fixed by their apexes, pendulous. Stigma apiculated. Follicles unknown.—Twining subshrubs. Leaves opposite. Umbels interpetiolar.

1 M. sagitta'tum (R. Br. l. c.) leaves sagittate, downy; limb of corolla acutish. ♄. ◠. G. Native of the Cape of Good Hope, on sandy hills. Ceropègia sagittàta, Lin. mant. 215. Thunb. prod. 1. p. 37. fl. cap. 2. p. 148. nov. act. petrop. t. 14. Jacq. hort. schœnbr. 1. p. 17. t. 38.—Burm. afr. 36. t. 15. Stems villous or tomentose. Corolla scarlet, ex Lin.; purple, but green at the base and apex, ex Thunb.

Sagittate-leaved Microloma. Fl. July, Aug. Clt. 1775. Shrub tw.

2 M. linea're (R. Br. l. c.) leaves linear, glabrous; limb of corolla very blunt. ♄. ◠. G. Native of the Cape of Good Hope, on hills. Ceropègia tenuiflòra, Lin. syst. 211. Thunb. prod. 1. p. 37. fl. cap. 2. p. 147. Periploca tenuiflòra, Lin. spec. p. 310. Ceropègia tenuifòlia, Pers. ench. 1. p. 277.—Burm. afr. 37. t. 16. f. 1.?—Plukn. mant. 17. t. 335. f. 5. Stems glabrous. Corollas blood-coloured, ex Thunb.

Linear-leaved Microloma. Fl. July, Aug. Clt. 1823. Sh. twining.

Cult. For culture and propagation see *Ceropègia*, p. 112.

LXXI. ASTE'PHANUS (from *α* priv. and *στεφανος, stephanos,* a corona; corona none). R. Br. in mem. wern. soc. 1. p. 54.—Apócynum species, Lin. fil. and Thunb.

Lin. syst. *Pentándria, Digýnia.* Corolla subcampanulate, having the throat and tube without scales. Stamineous corona wanting. Anthers terminated by a membrane; pollen masses pendulous. Stigma cordate or mutic. Follicles unknown.—Perennial, usually twining plants. Leaves opposite. Umbels interpetiolar. Flowers small. This genus differs chiefly from *Microlòma* in the want of scales within the tube of the corolla.

1 A. triflòrus (R. Br. l. c. Schultes, syst. 6. p. 122.) stems twining, pilose; leaves lanceolate, villous beneath; umbels generally 3-flowered. ♄. ◠. G. Native of the Cape of Good Hope. Cynánchum triflòrum, Lin. fil. suppl. 169. Thunb. prod. 1. p. 47. fl. cap. 2. p. 161. Corollas white. Filaments and anthers connate.

Three-flowered Astephanus. Fl. July, Aug. Clt. 1816. Shrub tw.

2 A. linea'ris (R. Br. l. c. Schultes, syst. 6. p. 123.) stems twining, glabrous; leaves linear-lanceolate; umbels trichotomous, lateral, and terminal. ♄. ◠. G. Native of the Cape of Good Hope, in Swartland. Cynánchum lineàre, Lin. fil. suppl. 169. Thunb. prod. 1. p. 47. fl. cap. 2. p. 160. Leaves an inch long. Corollas white.

Linear-leaved Astephanus. Fl. July, Aug. Clt. 1816. Shrub tw.

3 A. lanceola'tus (R. Br. l. c. Schultes, l. c.) stems twining, glabrous; leaves lanceolate, glabrous; umbels usually 3-flowered. ♄. ◠. G. Native of the Cape of Good Hope. Apócynum lanceolàtum, Thunb. prod. 1. p. 47. fl. cap. 2. p. 162. Corollas white. Leaves rounded at the base.

Lanceolate-leaved Astephanus. Shrub tw.

4 A.? corda'tus (R. Br. l. c. Schultes, l. c.) stems twining, hairy; leaves ovate, rounded at the base, villous beneath and glabrous above; umbels interpetiolar. ♄. ◠. G. Native of the Cape of Good Hope, in woods. Apócynum cordàtum, Thunb. prod. 1. p. 47. fl. cap. 2. p. 163. Leaves more than an inch long. Calycine segments laciniated, acute. Corolla greenish, 5-parted to the base; segments ovate, concave, obtuse. Filaments distinct; anthers combined; stigmas obtuse. Follicles 2, oblong. Styles 2, filiform.

Cordate-leaved Astephanus. Shrub tw.

5 A. Massònii (Schultes, syst. 6. p. 124. ex R. Br. l. c.) shrubby; branches spinescent; leaves small, opposite, distant, cordate; corolla more urceolate than campanulate, the orifice of the tube furnished with deflexed hairs. ♄. G. Native of the Cape of Good Hope, where it was detected by Masson. The pollen masses are fixed by their attenuated apexes. The follicles are nearly cylindrical, and smooth, with the seeds of the usual structure.

Masson's Astephanus. Shrub.

6 A. Cube'nsis (H. B. et Kunth, nov. gen. amer. 3. p. 206. t. 237.) stems twining, glabrous, or beset with recurved pili; leaves lanceolate, a little acuminated, glabrous, ciliated; umbels many-flowered; corollas bearded inside. ♄. ⌒. S. Native of Cuba, near Regla. Períploca parviflòra, Willd. herb. P. Humboldtiàna, Schultes, syst. 6. p. 129. Leaves 12-14 lines long. Petioles 2 lines long, slender. Umbels furnished with many oblong-ovate bracteas, shorter than the leaves. Corolla 5-cleft, white; with an inflated globose tube; ovate, lanceolate segments, which are narrow linear at top, fleshy and connivent. Column short. Pollen masses clavate, yellow. Stigma conical. Perhaps a separate genus.

Cuba Astephanus. Shrub tw.

7 A. Berte'rii (Spreng. syst. 1. p. 855.) twining, glabrous; leaves cordate-oblong, acute; peduncles usually 1-flowered; corolla rotate, glabrous, 5-parted. ♄. ⌒. S. Native of New Granada, Bertero.

Bertero's Astephanus. Shrub tw.

Cult. For culture and propagation see *Ceropègia*, p. 112.

LXXII. PENTASA'CME (from πεντε, *pente*, five, and ακμη, *akme*, a point; in reference to the 5 scales in the throat of the corolla). Wall. ascl. no. 74. Wight et Arnott, contrib. ind. bot. p. 60.

Lin. syst. *Pentándria*, *Digýnia*. Corolla subrotate, 5-cleft; throat crowned by 5 scales, which alternate with the segments; æstivation valvate. Stamineous corona wanting. Anthers free, simple, or acuminated at the apex. Pollen masses pendulous, fixed above their middle, with coarctate pellucid tips. Stigma mutic or apiculated.—Slender, erect, much-branched herbs. Leaves opposite, flat, membranous. Umbels almost sessile, few-flowered. Segments of corolla 2-3 times longer than the tube, narrow-linear. This genus is allied, in many points, with *Leptadènia*, but is distinguished by the form of the corolla, by the pendulous pollen masses, and by the different habit.

1 P. cauda'tum (Wall. ascl. no. 75. Wight and Arnott, l. c.) leaves lanceolate, long-attenuated; segments of corolla subulate; scales in the throat largish, 4-cleft; anthers obtuse; stigma mutic. ♃. G. Native of Silhet, and the mountains of Lahore.

Tailed-leaved Pentasacme. Pl.

2 P. Wallíchii (Wight, contrib. ind. bot. p. 60.) leaves lanceolate, acuminated; umbels almost sessile, few-flowered; segments of corolla linear, obtuse; scales in the throat small, gland-formed; anthers acuminated; stigma beaked. ♃. G. Native of Silhet. Wall. ascl. no. 74. unnamed.

Wallich's Pentasacme. Pl.

Cult. For culture and propagation see *Calótropis*, p. 147.

LXXIII. HYBANTHE'RA (from ὑβος, *hybos*, a curve, and ανθηρα, *anthera*, an anther; anthers gibbous on the back). Endlicher, prod. ins. norf. fl. p. 59.

Lin. syst. *Pentándria*, *Digýnia*. Corolla rotate. Corona none. Anthers gibbous on the back, terminated by a membrane; pollen masses pendulous, fixed by their tips. Stigma mutic. Follicles unknown.—A twining shrub, with opposite leaves and interpetiolar umbels of flowers.

1 H. biglandulòsa (Endl. l. c. Bauer. pl. ins. norf. t. 162.) ♄. ⌒. G. Native of Norfolk Island. Leaves ovate-oblong, petiolate, cuspidately mucronate, 2 inches long, glabrous, shining above and pale beneath. Umbels interpetiolar, racemose, 4-8-flowered, a little longer than the petioles. Corollas pale green.

Biglandular Hybanthera. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

Tribe IV.

SECAMONE'Æ (this tribe contains genera agreeing with *Secamòne* in several particular characters). Pollen masses 20, smooth, fixed by fours to the top of each of the corpuscles of the stigma, which are exsulcate. Filaments connate, appendiculate outside.

LXXIV. SECAMO'NE (*Squamouna* is the Arabic name of *S. Ægyptìaca*). R. Br. in mem. wern. soc. 1. p. 55.—Períploca species of Lin. and others.

Lin. syst. *Pentándria*, *Digýnia*. Corolla rotate. Stamineous corona 5-leaved; leaflets laterally compressed, fixed lengthwise by their margins, averse, simple. Pollen masses erect. Stigma coarctate at top. Follicles smooth.—Erect or twining, glabrous shrubs. Leaves opposite. Cymes dichotomous, interpetiolar. Flowers minute.—Natives of Africa, the East Indies, and New Holland. From the extreme minuteness of the parts, no genus is more difficult to determine than this.

* *Species natives of the East Indies.*

1 S. eme'tica (R. Br. l. c. Schultes, syst. 6. p. 124. Wight and Arnott, contrib. ind. bot. p. 60.) twining, glabrous; leaves from elliptic to narrow-lanceolate; cymes shorter than the leaves; corolla glabrous; leaflets of corona cultriform, nearly one half shorter than the gynostegium; follicles slender, attenuated at the apex. ♄. ⌒. S. Native of the East Indies, at the roots of mountains, among other bushes. Wall. ascl. no. 102. Wight, cat. no. 1559. Períploca emética, Retz, obs. 2. p. 14. Willd. phyt. 1. p. 6. t. 5. f. 2. Períploca cymòsa, Roxb. Cynánchum vomitòrum, Lam. 2. p. 235. ex Poir.? ined. The other species mentioned by R. Br. l. c. is probably the *Toxocárpus Roxbúrghii*. The roots of this plant are used in place of ipecacuanha.

Emetic Secamone. Clt. 1816. Shrub tw.

2 S. Finlaysonia'na (Wight and Arnott, contrib. ind. bot. p. 61.) twining, glabrous; leaves oval, acuminated, almost sessile; cymes longer than the leaves, with flexuous branches; corolla glabrous; leaflets of corona about equal in length to the gynostegium. ♃. ⌒. S. Native of the East Indies, where it was collected by Dr. Finlayson.—Wall. ascl. no. 103. unnamed.

Finlayson's Secamone. Shrub tw.

3 S. marítima (Blum. bijdr. p. 1050.) flowers villous inside, disposed in dense cymes; leaves elliptic-oblong, acute at both ends, smoothish, veinless above; stem twining. ♄. ⌒. S. Native of the island of Nusæ Kambanga, by the sea side.

Sea side Secamone. Fl. Nov. Shrub tw.

4 S. auricula'ta (Blum. bijdr. p. 1051.) flowers glabrous, disposed in corymbose panicles; leaves oval, acutish, obsoletely biauriculate at the base, veiny, glabrous; stem twining. ♄. ⌒. S. Native of Java, on the Salak mountains.

Auricled-leaved Secamone. Fl. Oct. Nov. Shrub tw.

5 S. linea'ta (Blum. bijdr. p. 1051.) flowers glabrous, disposed in loose panicles; leaves elliptic-oblong, acuminated, rather emarginate at the base, glabrous, full of fine parallel veins; stem twining. ♄. ⌒. S. Native of Java, in shady places, on mount Salak, where it is called *Aroy kakawalan*.

Lined-leaved Secamone. Fl. June, Sept. Shrub tw.

6 S. lanceola'ta (Blum. bijdr. p. 1051.) flowers glabrous, subcorymbose; leaves lanceolate, acuminated, finely veined, glabrous, shining; stem twining; branches nodose at the insertion of the leaves. ♄. ⌒. S. Native of Java, in calcareous soil, frequent.

Lanceolate-leaved Secamone. Fl. May, June. Shrub tw.

7 S. villòsa (Blum. bijdr. p. 1050.) flowers disposed in dichotomous cymes; throat of corolla villous; leaves oval-oblong, acutish, veinless above, and rather villous beneath; stems twining, terete, clothed with fulvous tomentum. ♄. ⌒. S. Native of Java, among bushes, about Batavia.

Villous Secamone. Fl. year. Shrub tw.

8 S. macrophy'lla (Blum. bijdr. p. 1050.) flowers disposed in spicate panicles; corolla villous outside; leaves ovate, acutish, coriaceous, glabrous, veiny; stems twining, tetragonal. ♄. ⌒. S. Native of Java, in mountain woods.

Var. β, *fúlva* (Blum. l. c.) leaves acuminated, clothed with fulvous tomentum beneath, as well as the branches and peduncles. ♄. ⌒. S. Native of Java, in calcareous earth, about Kuripan.

Long-leaved Secamone. Fl. Jan. May. Shrub tw.

* * *Species natives of Africa.*

9 S. Ægypti'aca (R. Br. in hort. kew. 2. p. 75.) twining, glabrous: leaves elliptic-lanceolate, or oblong, acuminated, on very short petioles; cymes panicled, shorter than the leaves; corolla villous inside. ♄. ⌒. S. Native of Egypt, as well as the Cape of Good Hope, in woods. S. Alpínii, Schultes, syst. 6. p. 125. Perípoca Secamòne, Lin. mant. p. 216. Thunb. prod. 1. p. 45. fl. cap. 2. p. 153. Poir. encycl. 5. p. 189. Secamòne, Alp. ægypt. p. 135. t. 134. Leaves paler beneath and transversely veined. Flowers copious, minute. The Egyptian and Cape plants are probably distinct species, and even perhaps not of the same genus.

Egyptian Secamone. Fl. July. Clt. 1752. Shrub tw.

* * * *Species natives of New Holland.*

10 S. ellíptica (R. Br. prod. p. 464.) stem erect; leaves elliptic, acuminated, glabrous; peduncles and pedicels tomentose; corolla beardless. ♄. S. Native of New Holland, on the sea shore, within the tropic.

Elliptic-leaved Secamone. Clt. 1824. Shrub erect.

11 S. ova'ta (R. Br. l. c.) stem divaricate; leaves ovate, acute, glabrous; peduncles and pedicels smoothish; corollas beardless. ♄. S. Native of New Holland, within the tropic, on the sea shore.

Ovate-leaved Secamone. Shrub erect.

* * * * *A species native of the West Indies.*

12 S. occidenta'lis (Spreng. syst. 1. p. 837.) corollas downy; peduncles axillary, solitary; leaves oval, mucronulate, villous; stem twining. ♄. ⌒. S. Native of Hispaniola and Cuba.

Western Secamone. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXV. TOXOCA'RPUS (from τοξον, *toxon*, a bow, and καρπος, *karpos*, a fruit; in reference to the arched follicles). Wight and Arnott, contrib. ind. bot. p. 61.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate, 5-cleft. Stamineous corona 5-leaved; leaflets flattish on the back, furnished with a little segment inside each. Pollen masses 20, erect, fixed by fours to the tops of the corpuscles of the stigma, which are exsulcate. Stigma rostrate, rarely apiculated, undivided. Follicles smooth, divaricate. Seeds comose.—Twining shrubs. Corymbs interpetiolar, usually opposite, dichotomous, spreading, many-flowered.

1 T. Kle'inii (Wight and Arnott, l. c.) stems glabrous; young branches downy; leaves elliptic, acuminated; corymbs nearly sessile, with divaricate branches, longer than the leaves; flowers pedicellate; segments of corolla ligulate, glabrous; throat rather hairy; leaflets of corona ovate, bidentately truncate, bearing each on the inside at the apex, a flat, linear, much exserted segment, which exceeds the anthers, and is somewhat tridentate at the apex; stigma rostrate, bifid at apex, exceeding the tube of corolla a little; follicles arcuately reflexed. ♄. ⌒. S. Native of the East Indies, in hedges, at Vellangany, near Nepatam.—Wight, cat. no. 1560. Perípoca glàbra, Roxb. in herb. Banks. Echìtes racemòsa, Herb. madr. Wall. ascl. no. 113. unnamed.

Klein's Toxocarpus. Shrub tw.

2 T. Roxbu'rghii (Wight and Arnott, l. c.) branches clothed with rusty down; leaves broad, oval, acuminated; corymbs on short peduncles, with divaricate branches, about equal in length to the leaves; flowers almost sessile; throat of corolla hairy; segments ligulate, glabrous; leaflets of corona ovate, acutish, bearing each a short, thick, acute, hardly exserted segment inside, which is equal in length to the anthers; stigma beaked, twisted, equal to the tube of the corolla. ♄. ⌒. S. Native of the Circars. Wight, cat. no. 1561. Asclèpias longistígma, Roxb. fl. ind. 2. p. 46. mus. ind. orient. t. 619. Asclèpias micrántha, Roxb. in herb. Banks. Echìtes dichótoma, herb. Klein. et Rottler. Wall. ascl. no. 113. b. The flowers are much smaller than in the last species.

Roxburgh's Toxocarpus. Shrub tw.

3 T. crassifòlius (Wight, contrib. ind. bot. p. 61.) branches sparingly pubescent; leaves on short petioles, oval, acuminated, coriaceous, glabrous; corymbs panicle-formed, sessile, with elongated, slightly branched branches, and are, as well as the calyxes, clothed with fuscous down; flowers sessile, in fascicles, small; segments of corolla densely clothed with white villi; leaflets of corona reflexed at the sides, cohering at top, and forming a dorsal keel, having the inner segment acuminated and much exserted, equalling the stigma in length; stigma rostrate, higher than the gynostegium and tube of the corolla. ♄. ⌒. S. Native of Silhet. Secamòne crassifòlia, Wall. ascl. no. 101.

Thick-leaved Toxocarpus. Shrub tw.

4 T. laurifòlius (Wight, l. c.) glabrous; leaves oval, sometimes obtuse, but usually acuminated, coriaceous; corymbs sessile, divaricately and trichotomously branched; flowers small, very numerous; segments of corolla reflexed, bearded with white hairs inside; leaflets of corona rather fleshy, short, roundish-ovate, acutish: having the inner segments a little exserted, about equal to the gynostegium; tips of anthers large, broad, sub-aristate, obconically apiculated above the stigma, which is obtuse, inclosed, and incurved; follicles slender, diverging horizontally. ♄. ⌒. S. Native of Chittagong and Tipperah; and at Cawnpore, &c. Asclèpias laurifòlia, Roxb. fl. ind. 2. p. 49. mus. ind. orient. t. 1814. Wall. ascl. no. 100. A. micrántha, Roxb. in herb. Banks. fl. ind. 2. p. 50.

Laurel-leaved Toxocarpus. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXVI. GONIOSTE'MMA (from γωνια, *gonia*, an angle, and στεμμα, *stemma*, a crown; stamineous corona 5-angled). Wight, contrib. ind. bot. p. 62.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate, 5-parted. Stamineous corona tubular, 5-angled, 5-lobed, adhering to the gynostegium at the base. Pollen masses 20, erect, fixed by fours to each corpuscle of the stigma, which are exsulcate. Stigma rostrate. Follicles.?—A twining shrub, with warted bark. Leaves opposite, oblong-elliptic, acuminated at both ends, glabrous, shining above. Cymes interpetiolar, panicle-formed, loose, many-flowered. Segments of corolla ligulate, downy inside at the middle, glabrous above. Corona shorter than the gynostegium, fleshy; lobes naked inside. Stigma cylindrical,

about one half shorter than the corolla. This genus is allied to both *Secamòne* and *Toxocárpus*, but differs from both in the structure of the corona, as also in habit. Brown's character of *Secamòne* was probably intended to include all three genera.

1 G. acumina'tum (Wight, l. c.). ♄. ◠. S. Native of Silhet. Wall. ascl. no. 127. unnamed.

Acuminated-leaved Goniostemma. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

Tribe V.

PERIPLO'CEÆ (this tribe contains genera agreeing with *Períploca* in particular characters). R. Br. in mem. wern. soc. 1. p. 56. Wight and Arnott, contrib. ind. bot. p. 62. Pollen masses 5-20, granular, fixed singly, or by fours, to a dilated appendage, composed of 2 combined ones, which rises from the top of each corpuscle of the stigma, but are at length applied to it. Filaments partly or altogether distinct. Anthers conniving, in the manner of a cupola, over the stigma.—In all the genera of this tribe, examined by Wight and Arnott, (except perhaps *Cryptostègia*) the corpuscle is dilated at the base into a kind of gland, similar to those found at the base of the pollen masses of an *Orchis;* and in all, with the above exception, both the corpuscle and its appendage are at length readily detached from the stigma.

LXXVII. HEMIDE'SMUS (from ἡμισυς, *hemisus*, half, and δεσμος, *desmos*, a tie; filaments joined at base and free at apex). R. Br. in mem. wern. soc. 1. p. 56. Wight and Arnott, contrib. ind. bot. p. 62.—Períploca species, Lin.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate; having 5 mutic scales inserted under the recesses between the segments. Filaments connate at the base, distinct at top, inserted in the tube. Anthers cohering, free from the stigma, beardless, simple at top. Pollen masses 20, granular, applied by fours to the reniform, solitary, appendage of each corpuscle. Stigma flattish, peltate, mutic. Follicles cylindrical, divaricate, smooth. Seeds comose.—Twining shrubs. Leaves opposite, shining above. Cymes interpetiolar. Flowers small. Corollas between coriaceous and fleshy. The pollen masses are 4 to each anther; these remain for some time in their cells, but at length adhere to a viscid dilated corpuscular appendage.

1 H. I'ndicus (R. Br. in hort. kew. 2. p. 75.) glabrous; leaves from cordate-ovate, cuspidate, to narrow-linear, acute, usually oblong-lanceolate; cymes usually almost sessile, but sometimes pedunculate; scales of corolla adhering to the tube from the base to the apex; follicles slender, straight. ♄. ◠. S. Native every where in the peninsula of India, among bushes. Wall. ascl. no. 104. 105. Wight, cat. 1562. Períploca I'ndica, Willd. spec. 1. p. 1251. Roxb. mus. ind. orient. t. 212. Asclèpias pseudosársa, Roxb. fl. ind. 2. p. 39. exclusive of many synonymes.—Rheed. mal. 10. t. 34.—Burm. zeyl. p. 187. t. 83. f. 1.—Pluk. t. 359. f. 2. (with broad leaves) and t. 361. f. 1. (with narrow leaves). This is a very polymorphous plant, varying much in shape, and size of the leaves; and when the varieties are better known may hereafter form several species.

Indian Hemidesmus. Clt. 1796. Shrub. tw.

2 H. pube'scens (Wight and Arnott, contrib. ind. bot. p. 63.) branchlets slender, clothed with hairy pubescence; leaves lanceolate, acute, downy as well as the peduncles and calyxes; cymes sessile; scales of corolla fixed to the tube. ♄. ◠. S. Native of the East Indies, at Vandalore. Wall. ascl. no. 105. cl. unnamed. Wight, cat. no. 1563.

Downy Hemidesmus. Shrub tw.

3 H. Wallíchii (Wight, l. c.) glabrous; leaves narrow linear-lanceolate, acute; cymes few-flowered; scales of corolla subulate, free from the tube, but cohering with the base of the filaments. ♄. ◠. S. Native on hills, about Prome. Wall. cat no. 106. unnamed.

Wallich's Hemidesmus. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXVIII. BRACHY'LEPIS (from βραχυς, *brachys*, short, and λεπις, *lepis*, a scale; in reference to the 5 short truncate scales in the throat of the corolla). Wight and Arnott, contrib. ind. bot. p. 63.

Lin. syst. *Pentándria, Digýnia.* Corolla subrotate, 5-parted; segments spreading; scales in the throat 5, short, truncate, flat, mutic; tube short, fully clothed by a broad, fleshy, adnate ring inside. Filaments very short, broad, distinct, inserted in the upper part of the throat along with the scales; anthers glued by the base to the margin of the stigma, simple and cohering at top, the rest distinct and beardless. Pollen masses 20, granular, applied by fours to the dilated loose appendage of each corpuscle. Stigma mutic. Follicles divaricate, cylindrical, smooth.—A twining shrub; branches downy. Leaves opposite, oval, abruptly acuminated, rather downy while young, glabrous in the adult state, and shining above, parallelly nerved beneath. Cymes interpetiolar, small, tomentose, shorter than the leaves. Flowers small, crowded. Corolla hairy outside, glabrous inside, subrotate; segments spreading; or the corolla is subcampanulate.

1 B. nervòsa (Wight and Arnott, l. c.). ♄. ◠. G. Native of the Neelgherries.—Wight, cat. no. 1565. Streptocaúlon nervòsum, Wight, mss.—Wall. ascl. no. 107. unnamed.

Nerved-leaved Brachylepis. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXIX. STREPTOCAU'LON (from στρεπτος, *streptos*, twisted, and καυλος, *kaulos*, a stem; stems twisted). Wight and Arnott, contrib. ind. bot. p. 64.—Períploca species, Wall. ascl.

Lin. syst. *Pentándria, Digy'nia.* Corolla rotate, 5-parted; throat crowned by 5 short scales, which alternate with the segments, aristate; awns flexuously erect, filiform, straight at the apex. Filaments distinct, inserted in the tube; anthers adhering by the base to the margin of the stigma, free above, simple and beardless at the apex. Pollen masses granular, solitary (or composed of 4 confluent ones), applied to the dilated loose appendage of each corpuscle. Stigma mutic. Follicles cylindrical, divaricate, smooth. Seeds comose.—Twining, or rarely decumbent plants, usually downy or tomentose, rarely glabrous. Leaves opposite. Cymes interpetiolar, usually spreadiug, and much branched. Flowers small. This genus is intermediate between *Períploca*, as limited by Mr. Brown, and his *Gymnèma*. It differs from *Períploca* in the beardless anthers, which character is laid particular stress on by most authors. It differs from *Gymnanthèra* in several respects, by the stigma, pollen masses, and shape of corolla, and its scales. Perhaps most of Poiret's species of *Períploca* belong to this genus. What his *P. Mauritiàna* may be it is impossible to say, as the synonymes adduced are very different from each other; thus Plukn. t. 336. f. 7. is *Tylóphora asthmática;* and Rheed. mal. 9. t. 11. is *Cryptólepis Buchanàni*, Rœm. et Schultes.

1 S. tomentòsum (Wight, contrib. ind. bot. p. 64.) branches pubescent; leaves obovate-lanceolate, acuminated, somewhat cordate at the base, hispid above and tomentose beneath; cymes large, diffuse; flowers on short pedicels, crowded on the tops of the branches; calyx and pedicels densely clothed with down; filaments very short. ♄. ◠. S. Native of mount Taong Dong, near Ava; and of Cochinchina. Períploca tomentòsa, Wall. ascl. no. 125. and no. 126.

Tomentose Streptocaulon. Shrub tw.

2 S. Kleínii (Wight, and Arnott, l. c. p. 65.) branches downy; leaves almost sessile, cuneate-oblong or obovate, mucronate, cordate at the base, rather hispid above, but clothed with soft, white tomentum beneath; cymes diffuse, shorter than the leaves; calyxes and pedicels densely downy. ♄. ⌒. S. Native of the Peninsula of India, but the locality is not mentioned. Wight. cat. 1564. Wall. ascl no. 157, unnamed.

Klein's Streptocaulon. Shrub twining.

3 S. Wallíchii (Wight, l. c.) branches pubescent; leaves elliptic, attenuated at the base and apex, cuspidate, clothed with soft down above, and fuscous, velvety down beneath; cymes diffuse and branched, many-flowered, longer than the leaves: having the ultimate branches raceme-formed; pedicels filiform, and are, as well as the calyxes, glabrous, ♄. ⌒. S. Native of Penang and Singapore.—Wall. ascl. no. 124, unnamed.

Wallich's Streptocaulon. Shrub twining.

4 S. exte'nsum (Wight, l. c.) glabrous; leaves oval, acuminated; cymes panicle-formed, much longer than the leaves; flowers scattered, pedicellate; pedicels filiform, glabrous. ♄. ⌒. S. Native of Rangoon and Tavoy. Periploca exténsa, Wall. ascl. no. 128.

Extended Streptocaulon. Shrub twining.

5 S. sylve'stre (Wight, l. c.) procumbent, or twining a little; stems rather villous; leaves almost sessile, roundish-ovate, cuspidate, cordate at the base, rather velvety on both surfaces, but most so beneath; cymes few-flowered, shorter than the leaves; pedicels and calyxes pubescent. ♄. ⌒. S. Native of the East Indies, at Sanastrygota. Periploca? sylvéstris, Ham, herb. no. 763. Wall. ascl. no. 140.

Wild Streptocaulon. Shrub twining.

6 S. calophy'llum (Wight, l. c.) glabrous; leaves narrow-lanceolate, long attenuated, transversely-veined, with sub-undulated edges; cymes almost sessile, few-flowered; flowers on short pedicels; follicles slender, apiculated, about 6 inches long. ♄. ⌒. S. Native of Nipaul. Periploca? Wall. asclep. no. 123. This plant differs in habit from the other species, but the structure of the flowers is quite the same.

Beautiful-leaved Streptocaulon. Shrub twining.

† *Species not sufficiently known.*

7 S. Mauritia'num; glabrous; leaves ovate, long-acuminated, transversely veined, on short petioles; racemes axillary, composed of short divaricate branches; pedicels furnished with short, obtuse scales at the base; follicles sub-articulated, subulate. ♄. ⌒. S. Native of the Mauritius; and of the East Indies. Periploca Mauritiàna, Poir. encyc. 5. p. 188.—Cynánchum Mauritiànum, Lam. dict. 2. p. 236.—Funis papius, Rumph. amb. 5. p. 14. t. 10, and perhaps t. 11. Leaves like those of *P. Græ'ca;* but the flowers are much smaller, and disposed in short racemes.

Mauritian Streptocaulon. Shrub twining.

8 S. a'lbicans; glabrous; leaves ovate, sub-acuminated, small, on short petioles; cymes few-flowered; stems corky, white; tube of corolla hardly the length of the calycine teeth; segments oblong, nearly subulate, acute. ♄. ⌒. S. Native of the East Indies. Periploca álbicans, Poir. encyc. 5. p. 191. Leaves myrtle-formed. Flowers small, cream-coloured, nearly sessile, on the branches of the common peduncle.

Whitish Streptocaulon. Shrub twining.

9 S. parviflòrum; glabrous: leaves small, ovate, obtuse, mucronate; flowers small, twin or tern, almost sessile, on the tops of short, axillary peduncles; stems filiform, very tough. ♄. ⌒. S. Native of the East Indies. Periploca parviflòra, Poir. encycl. suppl. 5. p. 192. Leaves approximate. Flowers whitish.

Small-flowered Streptocaulon. Shrub twining.

10 S. virga'tum; glabrous; leaves lanceolate, obtuse; stems twiggy, furnished with many lateral branches, which bear the flowers along their tops, in small fascicles, disposed in the manner of a spike; flowers small. ♄. ⌒. S. Native of the East Indies. Periploca virgàta, Poir. suppl. 5. p. 192. Leaves small. Flowers white.

Twiggy Streptocaulon. Shrub twining.

11 S.? Cochinchine'nsis; arboreous; leaves fleshy, cordate-oblong, large, glabrous; racemes short, terminal. ♄. G. Native of Cochinchina. Periploca Cochinchinénsis, Lour. coch. 167. Wood flaccid. Branches spreading. Flowers pale blue. Segments of calyx lanceolate, expanded. Nectary girding the genitals, of 5 erect, filiform leaflets, which are curved at the base. Follicles 2, oblong. Seeds numerous. roundish.

Cochinchina Streptocaulon. Tree.

12 S.? Chine'nsis; twining; leaves ovate-oblong, obtuse, glabrous; peduncles many-flowered; segments of corolla glabrous, linear, elongated, twisted. ♄. ⌒. G. Native of China. Pergulària Sinénsis, Lour. coch. p. 169. Periploca Chinénsis, Spreng. syst. 1. p. 836. Corolla yellow. Corona of 5 arrow-shaped stipitate leaflets; stigma conical, 5-furrowed; follicles oblong; seeds naked.

China Streptocaulon. Shrub twining.

13 S. divarica'ta; shrubby, erect; branches short; leaves oblong-lanceolate, undulated; peduncles terminal, 2-flowered, divaricate; segments of corolla subulate, elongated. ♄. G. Native of China. Pergulària divaricàta, Lour. coch. p. 169. Periploca divaricàta, Spreng. syst. 1. p. 836. Flowers yellow, suffused with red. Corolla somewhat salver-shaped; furnished with 5 arrow-shaped scales at the mouth of the tube. Follicles oblong; seeds naked.

Divaricate-panicled Streptocaulon. Shrub.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXX. DECA'LEPIS (from δεκα, *deka*, ten; and λεπις, *lepis*, a scale; there are 10 scales, 5 in the throat, and 5 in the tube of the corolla.) Wight, and Arnott, contrib. ind. bot. p. 64.

Lin. syst. *Pentándria, Digýnia.* Corolla sub-rotate, 5-parted; throat crowned by 5 oblong-oval, flat, mutic scales, alternating with the segments; tube furnished with 5 linear-obtuse scales, opposite the segments. Filaments distinct, inserted in the upper part of the throat, along with the 5 upper scales, and cohering with them to the middle. Anthers glued by the base to the margin of the stigma, distinct at top, beardless, terminated by a sub-dilated appendage. Pollen masses granular, solitary (probably composed of 4 confluent ones), applied to the dilated, loose appendage of each corpuscle. Stigma mutic.—A twining,? smoothish shrub. Leaves opposite, oval, bluntly acuminated. Cymes small, on longish peduncles, and shorter than the leaves, composed of raceme-formed branches. Flowers small. Limb of corolla villous inside.

1 D. Hamiltònii (Wight, and Arnott, l. c.) ♄. ⌒.? S. Native of the East Indies, but the locality is unknown. Wight, cat. no. 1566. Streptocaúlon Hamiltònii, Wight, mss. Apócynum, reticulàtum, Herb. madr. Wall. ascl. no. 139. This plant belongs to the Madras herbarium, and not to Hamilton's, as Dr. Wight supposed, when he suggested the specific name.

Hamilton's Decalepis. Shrub twining.?

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXXI. FINLAYSO'NIA (named in memory of the late Dr. Finlayson, a surgeon in the service of the East India Company; who made many collections of objects of natural history during his residence in the East Indies.) Wall. pl. rar. asiat. 2. p. 48. t. 162. Wight, and Arnott, contrib. ind. bot. p. 65.

Lin. syst. *Pentándria, Digýnia.* Corolla rotate; throat

crowned by 5 awned tubercles, alternating with the segments; awns capillary, erect, hooked at the apex. Filaments distinct, inserted in the throat, within the tubercles. Anthers glued by the base to the middle of the stigma, beardless, terminated by a broad-ovate point; pollen masses 20, granular, at length applied, by fours, to the dilated appendiculus of each corpuscle, which is slender. Stigma large, ovate, tetragonal at the base. Follicles divaricate, ovate-ventricose, smooth, uncinately beaked at the apex. Seeds rather fleshy.—A twining, fleshy, lactescent, glabrous shrub. Leaves opposite, petiolate, obovate, very blunt, sometimes retuse, with a broad, acute point. Corymbs large, many-flowered, shorter than the leaves, much lengthened out while bearing the fruit. Flowers small. Corolla glabrous outside; segments roundish-ovate, naked on one side, inside, and clothed with white villi on the other.

1 F. obova'ta (Wall. l. c.) ♄. ⌒. S. Native at the mouth of the Ganges. Gurùa obovàta, Ham. herb. no. 757.

Obovate-leaved Finlaysonia. Shrub twining.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXXII. PERI'PLOCA (from *περιπλεκω*, *peripleco*, to wrap about; twining stems.) R. Br. in mem. wern. soc. 1. p. 57.—Perìploca species, Lin.

Lin. syst. *Pentándria*, *Digýnia*. Corolla rotate. Throat furnished with 5 awned scales, which alternate with the segments of the corolla. Filaments distinct; anthers cohering, bearded on the back; pollen masses applied to the dilated tops of the corpuscles of the stigma, solitary, or composed of 4 confluent ones. Stigma almost mutic. Follicles cylindrical, much divaricate, smooth. Seeds comose.—Twining, glabrous shrubs. Leaves opposite, shining. Flowers sub-corymbose, interpetiolar.

1 P. Græ'ca (Lin. spec. p. 309.) leaves from ovate to lanceolate; corymbs on long peduncles; flowers hairy inside. ♄. ⌒. H. Native of the south of France; of Bithynia, in hedges, about Bursa; and on mount Athos. Jacq. misc. 1. p. 11. t. 1. f. 2. Smith, fl. græc. t. 249. Ker, bot. reg. 803. Schkuhr, handb. t. 53. P. maculàta, Mœnch.—Schmidt, œst. baum. 1. t. 46. Jaume, St. Hil. livr. 8. t. 6. Duham, arb. 2. p. 104. t. 21. Hort. angl. t. 15. Branches brown. Segments of corolla linear, rounded at the apex, greenish outside, and brownish inside, and clothed with copious short hairs. Leaves deciduous, 3-4 inches long.

Grecian Periploca. Fl. July, Aug. Clt. 1597. Shrub tw.

2 P. læviga'ta (Ait. hort. kew. 1. p. 301.) leaves oblong-lanceolate, veiny, smooth, glabrous, permanent; cymes trichotomous; corolla glabrous: with linear-obtuse segments. ♄. H. Native of the Canary Islands, and the Cape of Good Hope.? P. punicæfòlia, Cav. icon. 3. p. 9. t. 217. Corolla greenish-yellow inside; segments marked each with a fulvous spot on the upper surface. Leaves much smaller than those of the preceding species.

Smooth Periploca. Fl.? Clt. 1779. Shrub tw.

3 P. angustifòlia (Labill. pl. syr. dec. 2. p. 13. t. 7.) leaves veinless, narrow-lanceolate, glabrous, evergreen; cymes trichotomous. ♄. H. Native of Tunis, on mount Schibel Jsekel; and of the island of Lampedosa, at the sea side, near Laodicea. P. rígida, Viv. P. lævigàta, Vahl. Flowers purplish inside, pale yellow beneath, and round the mouth, with a white spot in the middle. Leaves 1 inch long.

Narrow-leaved Periploca. Fl.? Clt. 1800. Shrub twining.

4 P. Afze'lii; leaves oblong, acuminated, glabrous, thick, deep green, rather cordate at the base, on short petioles; corymbs axillary. ♄. ⌒. S. Native of Sierra Leone, on the mountains. Corollas large, black. Perhaps *P. nigréscens*, Afz.

Afzelius's Periploca. Shrub twining.

† *The following species are not known, except by name; none of which are true species of Periploca.*

5 P. pube'scens (Humb. et Bonp. mss. in Willd. rel. ex Schultes, l. c.) leaves cordate, oblong, downy beneath; flowers racemose; calyx larger than the corolla. ♄. ⌒. S. Native of South America.

Downy Periploca. Shrub twining.

6 P. oblonga'ta (Humb. et Bonpl. in Willd. rel. ex Schultes, syst. 6. p. 129.) leaves oblong, acute, glabrous; umbels few-flowered, almost sessile; corollas glabrous. ♄. ⌒. S. Native of South America.

Oblong-leaved Periploca. Shrub twining.

7 P. mucrona'ta (Humb. et Bonpl. in Willd. rel. ex Schultes, syst. 6. p. 129.) leaves elliptic-obovate, mucronate; umbels axillary, few-flowered, almost sessile; corollas glabrous. ♄. ⌒. S. Native of South America.

Mucronate-leaved Periploca. Shrub twining.

8 P. tenuifo'lia (Humb. et Bonpl. in Willd. rel. ex Schultes, l. c.) leaves narrow-lanceolate, acute, glabrous; umbels few-flowered, almost sessile; corolla glabrous. ♄. ⌒. S. Native of South America.

Fine-leaved Periploca. Shrub twining.

9 P. se'pium (Bunge, in mem. acad. petersb. 2. p. 117.) plant rather scandent, shrubby; leaves oblong, or ovate-lanceolate, acuminated, glabrous; panicles dichotomous, few-flowered; segments of corolla oblong, very villous inside at the edges; follicles elongated, arched, cohering at top. ♄. ⌒. G. Native of China, on the mountains near Pekin, in hedges.

Hedge Periploca. Shrub climbing.

Cult. *P. Græca* and *P. angustifòlia* are handsome, hardy, twining shrubs, well fitted for covering bowers or trellis work, or for training against a wall; these grow freely in common garden soil, and are increased readily by layers or cuttings. The *P. lævigàta* will require protection in winter, either by being planted in a greenhouse, or against a south wall, in which latter situation it will require to be protected by mats in frosty weather, in winter.

LXXXIII. PHYLLANTHE'RA (from *φυλλον*, *phyllon*, a leaf; and *ανθηρα*, *anthera*, an anther; in reference to the anthers being dilated and foliaceous at the apex.) Blum. bijdr. p. 1048.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx small, 5-cleft. Corolla deeply 5-parted, fleshy, discoid inside at the base, without any corona; filaments 5, erect, distinct; anthers conniving, naked on the back, and dilatately foliaceous at the apex; pollen masses clavate, applied singly to the dilated tops of the corpuscles of the stigma. Ovarium didymous. Style one, bisulcate at the base; stigma capitate, mutic.—A twining shrub; with opposite, lanceolate, glabrous, transversely-veined leaves; and axillary, solitary, bifid peduncles. This genus is nearly allied to *Periploca*.

1 P. bífida (Blum. bijdr. p. 1048.) ♄. ⌒. S. Native of Java, on the top of the Salak mountains, where it is called *Aroy Krawatan* and *Willen Aroy*.

Bifid Phyllanthera. Fl. year. Shrub cl.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXXIV. LEPO'SMA (from *λεπος*, *lepos*, bark; and *οσμη*, *osme*, a smell; bark when stripped.) Blum. bijdr. p. 1049.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx turbinate, 5-toothed. Corolla rotate, having the tube inflated in the middle, and the limb 5-parted, and oblique. Corona none, unless the 5 fleshy scales which are inserted in the tube of the corolla, and lying above the genitals, be considered as such. Anthers 5, inclosed, inserted above the base, in the tube of the corolla, ovate,

downy on the back, lying upon the stigma; polliniferous pedicels 10, linear, horny, dehiscing outwardly, erect, propped by corpuscles at the base, and applied to the furrows of the stigma; pollen granular. Stigma 5-angled, and having 5 deep furrows. Ovarium didymous. Style one, thick —A twining shrub, with opposite, elliptic-oblong, acutish, veiny, glabrous leaves, which are paler beneath. Peduncles interpetiolar, bifid. This genus differs from *Periploca* in the anthers being sessile and inclosed, and from the number and singular form of the polliniferous pedicels.

1 L. Java'nicum (Blum. bijdr. 1049.) ♄. ⌒. S. Native of Java, about Kuripan.

Java Leposma. Fl. May, Ju. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXXV. GYMNANTHE'RA (from γυμνος, *gymnos*, naked; and ανθηρα, *anthera*, an anther; in reference to the anthers being beardless.) R. Br. in mem. wern. soc. 1. p. 58.

Lin. syst. *Pentándria, Digýnia.* Corolla salver-shaped. Corona faucis 5-leaved. Filaments distinct, inserted in the throat of the corolla; anthers beardless; pollen masses applied by fours to the dilated tops of the corpuscles of the stigma. Stigma apiculated, bifid. Follicles cylindrical, smooth, divaricate. Seeds comose.—A twining, glabrous shrub. Leaves opposite, shining. Peduncles lateral, sub-dichotomous. Flowers whitish green, beardless.

1 G. nítida (R. Br. prod. 464.) ♄. ⌒. S. Native of New Holland, within the tropic. Scales 5, cut, inserted inside the calyx, under its sinuses. Albumen none.

Shining-leaved Gymnanthera. Shrub twining.

Cult. For culture and propagation see *Pergulària*, p. 133.

LXXXVI. CRYPTOSTE'GIA (from κρυπτος, *cryptos*, concealed; and στεγω, *stego*, to cover; in reference to the scales in the throat covering the anthers.) R. Br. in bot. reg. 435. Wight, and Arnott, contrib. ind. bot. p. 65.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted; segments elongated, lanceolate, with undulated margins. Corolla campanulately funnel-shaped; tube furnished with 5 inclosed, narrow bipartite scales inside, which cover the anthers, being opposite them; segments of the scales subulate. Stamens inclosed. Filaments distinct, very short, inserted in the bottom of the tube; anthers inclosed, adhering by the base to the margin of the stigma; pollen masses solitary, composed of many free granules heaped together, glued at first, but at length applied to the spatulate appendicula of each corpuscle. Stigma globosely conical, obscurely bi-apiculate. Follicles divaricate, acutely triquetrous, with a bluntly-attenuated incurved apex. — A twining, glabrous, lactescent shrub. Leaves opposite, on short petioles, elliptic, bluntly-acuminated, shining on both surfaces, minutely-reticulated with brown beneath. Corymbs trichotomous, terminal. Flowers large, showy, reddish purple. Corolla twisted in æstivation.

1 C. grandiflòra (R. Br. l. c.) ♄. ⌒. S. Native of the East Indies, but the particular locality is unknown. Wall. cat. no. 1635. Wight, cat. no. 1660. Nèrium grandiflòrum, Roxb. fl. ind. 2. p. 10. mus. ind. orient. t. 1957.

Great-flowered Cryptostegia. Fl. July, Aug. Clt. 1824. Shrub tw.

Cult. For culture and propagation see *Pergulària*, p. 133.

Order CLIV. LOGANIA'CEÆ (this order only contains plants agreeing with the genus *Logània* in important characters). Loganièæ, R. Br. ex Mart. nov. gen. bras. 1. p. 203. Gentiàneæ, sect. III. Capsùla bipartíbilis, R. Br. prod. p. 455.

Flowers of equal parts. Calyx free, 5-parted. Limb of corolla equal or unequal, convolute in æstivation. Stamens 5 or 1, rising from the corolla; pollen vittately 3-lobed (in *Pagàmea*). Stigma simple. Fruit a 2-celled, bipartible capsule; having placenta adnate on both sides to the segment of the ventral suture, many-seeded; or a drupe, containing 1-2 1-2-seeded pyrenæ. Albumen fleshy or cartilaginous. Embryo straight.—Herbs, shrubs, or trees. Leaves opposite, quite entire, usually stipulate. Stipulas combined into intrapetiolar sheaths. Flowers racemose, corymbose, or solitary, usually white.

This order is distinguished from *Gentiàneæ* in the capsule being divisible into 2 1-celled parts or drupaceous, in the placentation of the seeds, in the æstivation of the corolla, in the stipulate leaves, and in the fleshy or cartilaginous albumen, &c.

Synopsis of the genera.

1 Loga'nia. Calyx 5-cleft. Corolla subcampanulate, with a villous throat. Stamens 5, shorter than the limb of the corolla. Stigma capitate. Capsule bipartible. Seeds peltate.

2 Geniósтoma. Calyx 5-parted. Corolla subcampanulate, with a bearded throat. Stamens 5, shorter than the limb. Stigma thick, obtuse or didymous. Capsule bipartible. Seeds angular.

3 Uste'ria. Calyx 4-cleft, one of the segments large. Corolla salver-shaped. Stamen 1. Capsule bipartible. Seeds with winged edges.

4 Paga'mea. Calyx 4-toothed. Corolla urceolate, villous inside. Anthers 4, nearly sessile, inclosed. Style bifid from the base. Drupe 2-celled; each cell containing a 2-celled, 2-seeded pyrenæ.

5 Gærtne'ra. Calyx 5-toothed. Corolla funnel-shaped. Stamens 5, inclosed. Style exserted, bifid. Berry drupaceous, containing 2 pyrenæ.

6 Labórdia. Calyx 5-cleft. Corolla funnel-shaped. Stamens 5, inclosed. Style inclosed, thick. Stigma conical, triangular. Fruit capsular, 3-celled.

7 Codona'nthus. Calyx 5-cleft, ciliated. Corolla campanulately urceolate. Stamens 5, inclosed. Style bifid. Stigmas round. Fruit unknown.

8 Anaba'ta. Calyx small, entire. Corolla campanulate. Anthers 5, sessile. Style exserted. Stigma simple. Fruit unknown.

I. LOGA'NIA (in memory of James Logan, author of Experimenta de Plantarum Generatione. 8vo. London, 1747.). R. Br. prod. 1. p. 455. Ray. steudt. 1. t. 2. gen. 1. p. 151.—Euósma, Andr. bot. rep. 520.—E'xacum, Labill. nov. holl. 1. t. 51.

Lin. syst. *Pentandria, Monogynia.* Calyx 5-parted. Corolla subcampanulate; with a rather villous throat; and a 5-parted limb. Stamens 5, shorter than the limb. Style 1, permanent; stigma clavately capitate. Capsule bipartible. Placenta adnate on both sides to the segment of the ventral suture, at length free, many-seeded. Seeds peltate.—Shrubs or herbs. Leaves quite entire, usually stipulate, sometimes exstipulate. Stipulas when present intrapetiolar or lateral, distinct, or combined into a sheath. Flowers terminal or axil-

lary, oppositely corymbose or racemose; sometimes solitary. Corollas white, sometimes veiny. Albumen fleshy.

Sect. I. Loga'niæ-ve'ræ (this section is considered to contain the legitimate species of the genus). R. Br. prod. 455. Calyx obtuse. Stamens inclosed, inserted in the middle of the tube. Stipulas combined into intrapetiolar sheaths.—Shrubs.

1 L. crassifòlia (R. Br. prod. p. 455.) leaves ovate or roundish, mucronate, thick, coriaceous: flowers corymbose: branches scabrous; stem diffuse. ♄. G. Native of New Holland, on the south coast. Flowers white.

Thick-leaved Logania. Shrub 3 to 4 feet.

2 L. latifòlia (R. Br. l. c.) leaves obovate, acutish at both ends; flowers corymbose; branchlets smooth; stem erect. ♄. G. Native of New Holland, on the south coast. E'xacum vaginàle, Labill. nov. holl. 1. p. 37. t. 51. Leaves coriaceous, 2-3 inches long. Flowers disposed in terminal panicles, composed of opposite, dichotomous, and trichotomous peduncles. Corollas white. Calycine segments ovate, a little ciliated. Segments of corolla nearly orbicular.

Broad-leaved Logania. Clt. 1816. Shrub 3 to 4 feet.

3 L. ova'ta (R. Br. l. c.) leaves ovate, nearly sessile, obtuse at the base; flowers corymbose; branchlets smooth; stem erect. ♄. G. Native of New Holland, on the south coast. Corollas white.

Ovate-leaved Logania. Shrub 2 to 3 feet.

4 L. ellíptica (R. Br. l. c.) leaves oval-elliptic, acutish at both ends, nearly sessile, shorter than an inch; flowers corymbose; branchlets smooth; stem erect. ♄. G. Native of New Holland, on the south coast. Corollas white.

Elliptic-leaved Logania. Shrub.

5 L. longifòlia (R. Br. prod. p. 456.) leaves lanceolate, acute, flat, from 1-2½ inches long; interpetiolar sheaths truncate: corymbs trichotomous; pedicels glabrous. ♄. G. Native of New Holland, on the south coast. Corollas white.

Long-leaved Logania. Shrub.

Sect. II. Euósma (from *ευ, eu*, well or good, and *οσμη, osme*, a smell; flowers sweet smelling). Andr. rep. t. 520. R. Br. prod. p. 456. Calyx obtuse. Stamens inclosed, inserted in the middle of the tube of the corolla. Stipulas setaceous, lateral, distinct, or wanting.—Shrubs.

6 L. floribu'nda (R. Br. l. c.) leaves lanceolate, attenuated at both ends, smooth; stipulas lateral, setaceous; racemes axillary, compound, shorter than the leaves; pedicels downy. ♄. G. Native of New South Wales. Euósma albiflòra, Andr. bot. rep. t. 520. Corollas white.

Bundle-flowered Logania. Fl. April, May. Clt. 1797. Shrub 2 to 3 feet.

7 L. revolu'ta (R. Br. l. c.) leaves linear, with recurved margins, rather scabrous above; racemes axillary, simple, shorter than the leaves; pedicels downy; stem erect. ♄. G. Native of New South Wales. Corollas white.

Revolute-leaved Logania. Fl. April, May. Clt. 1826. Sh. 2 to 3 feet.

8 L. fascicula'ta (R. Br. l. c.) leaves spatulate-linear, obtuse, flat, smooth; corymbs terminal, few-flowered; branchlets roughish; stem diffuse. ♄. G. Native of New Holland, on the south coast. Corollas white.

Fascicled-flowered Logania. Shrub diffuse.

9 L. angustifòlia (Sieb. ex Spreng. syst. add. p. 59.) leaves linear-lanceolate, cuspidate, tomentose beneath; stipulas obsolete; flowers axillary, corymbose. ♄. G. Native of New Holland.

Narrow-leaved Logania. Shrub.

Sect. III. Stoma'ndra (from *στομα, stoma*, a mouth, and *ανηρ ανδρος, aner andros*, a male; in reference to the stamens being inserted in the mouth of the corolla). R. Br. prod. p. 456. Calyx acute. Stamens inserted in the throat of the corolla, semi-exserted.—Herbs or sub-shrubs.

10 L. serpyllifòlia (R. Br. l. c.) suffruticose; leaves ovate; stipulas interpetiolar, and are, as well as the calyxes, ciliated; flowers terminal, subcorymbose. ♄. G. Native of New Holland, on the south coast. Corollas white.

Wild-thyme-leaved Logania. Shrub small.

11 L. pusílla (R. Br. l. c.) herbaceous; leaves elliptic; stipulas interpetiolar, triangular; flowers axillary, solitary. ♃. G. Native of New South Wales. Corolla white.

Least Logania. Pl. small.

12 L. campanula'ta (R. Br. l. c.) herbaceous; leaves linear, exstipulate; flowers terminal; peduncles and calyxes downy. ♃.? G. Native of New Holland, on the south coast. Corollas white.

Campanulate-flowered Logania. Pl.?

Cult. The species of this genus are all well worth cultivating, for the sake of their beauty when in blossom. A mixture of loam, peat, and sand is the best soil for them; and ripened cuttings of them will strike root if planted in sand, having a hand-glass placed over them.

II. GENIO'STOMA (from *γενειον, geneion*, a beard; and *στομα, stoma*, a mouth; mouth of corolla bearded). Forst. gen. p. 24. t. 12. Juss. gen. p. 460. Lam. ill. t. 133. f. 2. Spreng. gen. 1. p. 151. Anásser, Juss. gen. 150. Anássera, Rœm. et Schultes, syst. 4. p. xxi.

Lin. syst. *Pentándria, Monogýnia.* Calyx turbinate, 5-parted; with acute segments. Corolla tubularly-campanulate or urceolate, with a bearded throat; having the tube widening gradually into a 5-parted, spreading limb. Stamens 5, inserted in the throat of the corolla, with very short filaments, shorter than the limb. Style 1, permanent; stigma thick, cylindrical, obtuse, furrowed. Capsule bipartible; valves entire, with inflexed narrow margins, which cohere to the 2 placentas, and remain after the dehiscence of the valves. Seeds angular, peltate?—Trees, with opposite, entire leaves, interpetiolar stipular sheaths, and axillary and terminal corymbs or cymes. Corollas usually white, sometimes tinged with red.

1 G. rupe'stre (Forst. prod. p. 103.) branches angular; leaves oblong-lanceolate, attenuated at both ends, veiny, glabrous; cymes axillary, pedunculate. ♄. S. Native of the island of Tanna. Calycine segments spreading, subulate. Corolla reddish: with involute segments. Stigma capitate, furrowed. Pedicels furnished with twin, subulate bracteas in the middle. Leaves ½ an inch long.

Rock Geniostoma. Tree.

2 G. Brasilie'nse (Spreng. syst. 1. p. 588.) branches nodose; leaves oblong, attenuated at both ends, membranous; cymes pedunculate, terminal, bracteate. ♄. S. Native of Brazil, Sello. Corolla urceolately funnel-shaped. Style didymous.

Brazilian Geniostoma. Tree.

3 G. spine'scens (Spreng. l. c.) branches nodose, spinescent; leaves oblong, attenuated at both ends, rather coriaceous, of a different colour beneath, triple-nerved; corymbs terminal, pedunculate. ♄. S. Native of Brazil, Sello. Corolla urceolately funnel-shaped. Style didymous.

Spinescent Geniostoma. Tree.

4 G. febri'fugum (Spreng. l. c.) leaves ovate-oblong, bluntish, loosened at the base, nerved, coriaceous, villous beneath; panicles lateral. ♄. S. Native of Brazil. Anássera febrífuga, Mart. nov. reise, bras. p. 278. Stigma didymous.

Febrifugal Geniostoma. Tree.

5 G. Borbónicum (Spreng. l. c.) leaves ovate, bluntish, glabrous; corymbs lateral or axillary; corolla urceolate; stigma didymous. ♄. S. Native of the isle of Bourbon. Anássera Borbónica, Lam. ill. 2. p. 40. no. 2452. Anásser. Borbónicus, Gmel. syst. 1. p. 333. Jaum. St. Hil. exp. 1. p. 339. Lower leaves caducous.

Bourbon Geniostoma. Tree.

6 G. acumina'tum (Wall. ex Spreng. add. p. 59.). branches tetragonal, climbing a little; leaves oblong-lanceolate, acuminated, cuspidate, coriaceous, shining above, strigose beneath; umbels axillary, shorter than the leaves. ♄. S. Native of Malacca.

Acuminated-leaved *Genióstoma*. Shrub cl.

Cult. A mixture of loam, peat, and sand is a good soil for the species; and ripened cuttings strike root freely, if planted in sand, with a hand-glass placed over them, in heat.

III. USTE'RIA (named by Willdenow in honour of Paulus Usteri, author of Annalen der Botanik, 1791-1793). Afz. gen. pl. guin. ups. 1804. with a figure of the fruit. Willd. in beob. der berl. naturf. t. 2. Kœn. in ann. bot. 1. p. 364. t. 7. f. 3. Rœm. et Schultes, syst. 1. p. 5. Spreng. gen. 1. p. 9. Monodynàmis, Gmel. syst. p. 10.

Lin. syst. *Monándria, Monogy'nia.* Calyx 4-cleft; the fourth or outer segment very large and petal-formed. Corolla salver-shaped, 4-parted. Stamen 1. Capsule oblong, 2-celled, divisible into 2 valves, which open inside, with a fleshy placenta in each division. Seeds numerous, imbricate, with winged margins, fixed to the placentas. Albumen thin. Embryo with roundish, foliaceous cotyledons.—A glabrous shrub, with opposite purplish branches. Leaves opposite, roundish ovate, entire, 2 inches long. Flowers disposed in terminal corymbs. Stipular sheath an obsolete margin.

1 U. Guinee'nsis (Willd. l. c. Vahl, enum. 1. p. 5.). ♄. S. Native of Guinea, where it was collected by Isert. Monodynàmis Isérti, Gmel. syst. p. 10.

Guinea Usteria. Shrub.

Cult. For culture and propagation see *Genióstoma* above.

IV. PAGA'MEA (Aublet does not give the derivation of this word). Aubl. guian. 1. p. 112. t. 44. Juss. gen. p. 232. Lam. ill. t. 88. Spreng. gen. 1. p. 114.

Lin. syst. *Tetrándria, Digy'nia.* Calyx turbinate, 4-toothed. Corolla urceolate, 4-cleft, villous inside. Anthers 4 nearly sessile, in the tube of the corolla, inclosed. Style bifid from the base, capillary. Drupe half inferior, 2-celled; cells containing two 2-seeded, 2-celled nuts; one of the seeds usually abortive.—A glabrous shrub. Leaves opposite, attenuated at both ends, oblong, quite entire; stipulas interpetiolar, sheathing. Flowers disposed in loose, axillary, and terminal racemes, white.

1 P. Guiane'nsis (Aubl. l. c.). ♄. S. Native of Guiana, and the north of Brazil, as of Maranham and Para, &c.

Guiana Pagamea. Shrub, 7-8 feet.

Cult. For culture and propagation see *Genióstoma* above.

V. GÆRTNE'RA (named in honour of the celebrated botanist Joseph Gærtner, author of De Fructibus et Seminibus Plantarum, 2 vols. 4to. Leipsic. 1788-1791.; his son, Charles Frederick Gærtner, published Supplementum Carpologiæ, in 1 vol. 4to, which is generally called the third volume of his father's work). Lam. ill. t. 167. Gærtn. fruct. 1. t. 191. Spreng. gen. 1. p. 131.—Andersònia, Willd. herb.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, 5-toothed, propped by 2 bracteas at the base. Corolla funnel-shaped; with a 5-parted limb. Stamens 5, inclosed, inserted in the tube; with very short filaments, and oblong erect anthers. Style exserted, bifid at apex. Berry drupaceous, containing 2 1-seeded pyrenæ.—A glabrous tree. Leaves opposite, oblong, tapering to both ends, coriaceous. Stipulas sheathed, interpetiolar, truncate, ending in bristles. Panicles terminal, strict. Bracteas connate. Flowers white.?

1 G. vagina'ta (Lam. l. c.). ♄. S. Native of the island of Mascaren. Andersònia vaginàta, Willd. herb.

Sheathing-stipuled Gærtnera. Tree.

Cult. For culture and propagation see *Genióstoma* above.

VI. LABO'RDIA (named by Gaudichand after M. Labord, one of the officers under Freycenet, who died on a voyage to the Isle of France). Gaud. in Freyc. voy. pt. bot. p. 449.

Lin. syst. *Pentándria, Monogy'nia.* Calyx campanulate, 5-cleft; segments lanceolate, nearly equal. Corolla tubularly funnel-shaped, hypogynous, 5-cleft, regular, ventricose at the base; segments lanceolate, spreading, rather villous in the throat inside. Stamens 5, inserted in the throat, alternating with the segments of the corolla; filaments short; anthers ovate-oblong, obtuse, cordate, inclosed, 2-celled, dehiscing lengthwise inside. Ovarium free, sessile, ovate, trigonal, 3-celled; with 1 placenta in each cell, which are fixed to the inner angles, oblong, fleshy, beset with ovula on all sides. Ovula minute. Style short, thick, triangular, continuous with the ovarium: stigma conical, triangular, downy. Fruit capsular?, 3-celled, many-seeded.—A glabrous shrub: with opposite, terete branches. Leaves opposite, entire. Stipulas opposite, adnate by the back to the base of the petioles. Flowers terminal, pedunculate, umbellate, whitish-yellow. Pedicels bibracteate in the middle. Bracteas linear. Calyx greenish yellow.

1 L. fagræoi'dea (Gaud. l. c. p. 450. t. 60.). ♄. S. Native of the Sandwich Islands.

Fagræa-like Labordia. Shrub.

Cult. For culture and propagation see *Genióstoma* above.

VII. CODONA'NTHUS (from *κωδων, kodon,* a bell, and *ανθος, anthos,* a flower; flowers bell-shaped.)

Lin. syst. *Pentándria, Digy'nia.* Calyx 5-cleft; segments ovate, acute, ciliated. Corolla campanulately urceolate, oblong-ventricose; with a 5-cleft erect limb. Stamens 5, inserted in the tube of the corolla. Style bifid; stigmas 2, rounded. Ovarium ovate. Fruit unknown.—A middle-sized branched tree. Leaves opposite, oblong-lanceolate, entire, undulated, on short petioles; flowers axillary, 2-3 together, pedicellate, pendulous, white. Bracteas subsagittate.

1 C. Africa'na. ♄. S. Native of Sierra Leone, on the mountains, but rare.

African Codonanthus. Tree 20 to 30 feet.

Cult. For culture and propagation see *Genióstoma* above.

VIII. ANABA'TA (meaning unknown to us). Willd. rel. ex Rœm. et Schultes, syst. 4. p. lx. Sulzèria, Rœm. et Schultes, l. c.

Lin. syst. *Pentándria, Monogy'nia.* Calyx small, campanulate, entire. Corolla campanulate; with a 5-parted limb; segments lanceolate, acuminated, spreading. Anthers sessile, inserted in the tube of the corolla. Style exserted; stigma simple. Fruit unknown.—A climbing shrub, with white flowers, smelling like jasmine.

1 A. odora'ta (Willd. l. c.). ♄. ◡. S. Native on the banks of the Orinoco, near Esmeralda. Sulzèria odoràta, Rœm. et Schultes, syst. 4. p. 707.

Sweet-scented-flowered Anabata. Shrub cl.

Cult. For culture and propagation see *Genióstoma* above.

ORDER CLV. MENYANTHA`CEÆ (this order contains plants agreeing with *Menyánthes* in important characters). Genera Gentianeis affinia, R. Br. prod. 456. Menyánthes, Lin. and others.

Calyx 5-parted. Corolla subrotate; with a 5-parted, spreading limb; segments with a flat disk, which is bearded or squammulose at the base, or bearded lengthwise; having ascending or simple margins, inflexed in æstivation. Stamens 5, alternating with the segments of the corolla. Style 1. Stigma 2-lobed: lobes toothed. Hypogynous glands 5, alternating with the stamens. Capsule 1-celled, many-seeded, 2-valved, but in aquatic species valveless; axils of valves seminiferous; that is, the seeds are attached to parietal placentas on the edges of the valves. Floating aquatic or marsh herbs. Leaves simple or trifoliate, alternate, rarely opposite, entire, or toothed in most of the species, dotted: having the petioles dilated and sheathing a little at the base. Flowers subumbellate, axillary, sometimes seated on the petioles, or panicled and terminal. Corolla yellow, white, or reddish; having the margins of the segments entire or fringed. This order agrees with *Gentiàneæ* in the parietal seeds, and in their internal structure; and moreover, the cotyledons are half discrete, as in *Astèrias lùtea*, and finally, there are scales in the throat of the corollas, as in *Swértia;* but it differs particularly from *Gentiàneæ* in the leaves being alternate, and often toothed or divided. In the true *Gentiàneæ*, as in *Apocýneæ* and *Rubiàceæ*, the leaves are always entire and opposite, and verticillate, with very few exceptions. Like *Gentiàneæ*, the properties of this order are tonic, stomachic, and febrifugal; their bitterness being extreme.

Synopsis of the genera.

1 MENYA'NTHES. Segments of corolla bearded lengthwise, with simple margins. Leaves trifoliate.

2 VILLA'RSIA. Segments of corolla bearded or scaly at the base; with ascending margins.—Leaves simple.

I. MENYA'NTHES (*μενυανθες, menyanthes*, is reckoned by Theophrastus and Dioscorides, and *Minyanthes* by Pliny, among coronary trefoils. Linnæus derives the name from *μην, men*, a month, and *ανθος, anthos*, a flower; because the flowers continue open about that time). Tourn. inst. t. 15. Gærtn. fruct. 2. p. 158. t. 114. R. Br. prod. p. 457. Rœm. et Schultes, syst. 4. p. XVII. Menyánthes species, Lin. gen. 202. Juss. gen. p. 98. &c. Acòpa, Mor. hist.

LIN. SYST. *Pentándria, Monogy'nia.* Calyx 5-parted. Corolla funnel-shaped; with a spreading equal limb: segments bearded or crested lengthwise, with flat margins. Stigma capitate, 2-lobed, bearded. Capsule 1-celled, 2-valved; valves placentiferous at the axis. Seeds numerous, ovate or obovate, surrounded with a membranous ciliated margin, fixed on each side of the valves in a double row, parietal.—Aquatic glabrous herbs. Stems green, rooting. Leaves alternate, trifoliate. Flowers white inside and reddish outside, disposed in an axillary pedunculate thyrse. Segments with finely ciliated edges.

* *Leaves trifoliate. Flowers white.*

1 M. TRIFOLIA`TA (Lin. spec. 208.) leaves trifoliate; racemes thyrsoid, axillary; segments of corolla bearded lengthwise. ♃. W. H. Native throughout Europe and Siberia, near Salair, and Bernaoul, in ponds and lakes; plentiful in Britain. Woodv. med. bot. 5. t. 2. Curt. lond. 4. t. 17. Oed. fl. dan. t. 541. Smith, engl. bot. 495. Stev. et Church, med. bot. t. 46. Bulliard, herb. f. 131. Sabb. hort. 1. t. 88. Zorn. icon. 13. Bieb. cauc. 1. p. 141. Bess. vohl. p. 10. Trifòlium màjus, Tabern. icon. t. 520. f. 2. Trifòlium palústre, Bauh. pin. 327. Blackw. t. 474. Trifòlium paludòsum, Ger. emac. 1194. Acòpa Dioscóridis, Mor. hist. 3. p. 604. sect. 15. t. 2.—Gmel. sib. 4. p. 97. no. 55. Roots creeping, jointed. Stem procumbent, covered by the sheaths of the leaves. Leaflets ovate, obtuse. Peduncles axillary, terminating in a thyrse of white bearded flowers, which are rose-coloured outwardly. Anthers purplish, with the tips curved inwards. This plant was formerly called *Marsh Trefoil*, and *Marsh Claver* or *Clover*. It is now generally called *Buck-bean*, or *Bog-bean*, from the German *Bocshohne*, or *Bitterklee*, and the Danish *Bukkeblade*. The whole plant, and particularly the root, has an intensely bitter taste, which resides chiefly in an extractive matter, soluble in water and spirit. Given in small doses, of about 10 grains, imparts vigour to the stomach, and strengthens digestion. Its virtues were formerly properly estimated; and strange it is that so excellent and cheap a tonic should be so little employed. It gives out its virtues to boiling water, and a tincture may be made from it quite equal in its effects to that of gentian. Large doses, either in substance or decoction, produce vomiting, like many other vegetable bitters. Boerhaave was relieved from gout from drinking the juice of the plant, mixed with whey. An infusion of the leaves are extremely bitter, and of late years has been in common use as an alterative and aperient. A drachm of the powder is aperient and emetic; and it is sometimes used as an anthelmintic. As an active and eccophrotic bitter, it seems not ill adapted to supply the want of bile; and thus may be of use in protracted jaundice and other biliary obstructions. Cullen mentions several instances of its good effects in some cutaneous diseases of the herpetic and seemingly cancerous kind. In a scarcity of hops this plant is used, in the north of Europe, to give a bitter to the beer: 2 ounces will supply the place of a pound of hops. The powdered roots are sometimes used, in Lapland, instead of bread, but they are unpalatable. Some say that sheep will eat it, and that it cures them of the rot.

Var. β, Americàna (G. Don, in Loud. hort. brit. p. 58.) plant much more robust, but not otherwise distinct. ♃. W. H. Native of North America. Menyánthes trifoliàta, Pursh, fl. amer. sept. 1. p. 139. Native of New Jersey, Virginia, and Canada, and of the island of Sitcha, in bogs and stagnant waters. This is a much more robust plant than the European species. The flowers are pale red and very handsome.

Trifoliate Menyanthes, Buck-bean, or Bean-trefoil. Fl. May. Britain. Pl. aquatic.

** *Leaves simple.*

2 M. CRÍSTA-GA'LLI (Menzies, mss. ex Hook. bot. misc. 1. p. 45. t. 24.) leaves radical, on long petioles, reniform, crenated; scapes or peduncles corymbose; segments of corolla undulated, and crested lengthwise. ♃. B. H. Native of the north-west coast of America, in marshy mountain pastures, at Prince William's Sound, and about Cape Edgecombe; and of the island of Sitcha. Bongard. in mem. acad. petersb. 2. p. 156. Roots or rhizoma horizontal. Scapes a foot high, reddish at top. Corollas white. The crests on the segments of the corolla are exactly similar to those of *M. cristàta*, Roxb. which has also white flowers; but with the habit and mode of growth of *Villársia*.

Cockscomb Buckbean. Pl. 1 foot.

3 M. crista'ta (Roxb. cor. 2. p. 3. t. 105.) leaves radical, petiolate, cordate, undulately crenulated on the edges; petioles viviparous and floriferous below the leaves; pedicels several together, umbellate; segments of corolla undulately jagged, crested lengthwise. ♃. W. S. Native of the East Indies, floating in pools of sweet water, in which the roots often do not reach the bottom. Cumùda, Roxb. asiat. res. 4. p. 254. Tsjeroea Citámbel, Rheed. mal. 11. p. 57. t. 29. It is called by the Bengalese *Chooli*, and by the Telingas *Antara-Tamara*. Leaves variable in size, purplish green on the upper side. Petioles various in length, and on the upper side about 2 inches below the leaf, there is a viviparous tuberosity, which produces the flowers as well as other leaves and roots; the old leaf and the parent petiole decaying, leave this a new plant, each petiole in succession doing the same. Pedicels many, 1-flowered from the above-mentioned tuberosity, sufficiently long to raise the flowers above the water, afterwards they drop into the water, and there ripen their seeds. Flowers pure white, about an inch in diameter. Corona triple: the exterior one consisting of white ramose filaments, crowning the mouth of the tube, as in *Nèrium*; the middle one of 5 beautiful yellow glandular bodies, which nearly fill the mouth of the tube, standing alternately with the filaments; and the interior one of 5 hairy yellow bodies, surrounding the base of the ovarium. Seeds compressed, scabrous.

Crested-flowered Buckbean. Pl. floating.

Cult. The species are all elegant aquatic plants. The first species is of the most easy culture, requiring only to be planted or thrown into a pond, where it will grow freely; the second, being only a bog plant, will require to be grown in a pot filled with peat earth, and the pot placed in a deep pan of water: it will require protection from severe frost in winter, by placing it in a greenhouse or frame; but should it become plentiful, it may be planted in a natural or artificial bog in the open air, where it will probably endure our winters. The third species, being a native of a warm country, will require to be kept in a cistern or tub of water in a stove.

II. VILLA'RSIA (named in honour of D. Villars, a celebrated French botanist; author of Histoire des Plantes du Dauphiné, 3 vols. 8vo. Grenoble, 1786-1788, &c.) Vent. choix. no. 9. p. 2. R. Br. prod. p. 456. H. B. et Kunth, nov. gen. amer. 3. p. 187. Waldschmídia, Wigg. Nymphoìdes, Tourn. hist. t. 67. Menyánthes species, Lin. and others. Lam. ill. t. 100. f. 2.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla subrotate; with a spreading limb; segments with a flat disk, bearded or squamulose at the base, with ascending margins. Stigma 2-lobed; lobes toothed. Hypogynous glands 5. Capsule 1-celled, 2-valved, or valveless. Seeds girded by a membranous margin, or naked, fixed to the edges of the valves in a double row.—Floating aquatic plants or marsh herbs. Leaves alternate, rarely opposite, entire, or toothed, usually dotted beneath. Flowers axillary, or seated on the petioles, subumbellate, or in terminal panicles. Corolla usually yellow; margins of segments fringed or entire.

Sect. I. Aqua'ticæ. *Capsule valveless. Floating water plants.*

§ 1. *Flowers terminal.*

1 V. nymphoìdes (Vent. choix. no. 9. p. 2.) natant; leaves opposite, cordate-orbicular, or orbicularly reniform, repand; umbels sessile, terminal, or in the forks of the stem; segments of corolla ciliated. ♃. W. H. Native of Europe, as of Denmark, Holland, Sweden, Germany, Piedmont; and of Siberia, in ditches and slow running streams. In England, as in the Thames, particularly in little recesses of the shores near Walton Bridge, near Botley Bridge, Godstowbridge, and Hinksey Ferry; and in the fens near Ely, frequent, &c. Menyánthes nymphoìdes, Lin. spec. 207. syst. 194. Smith, engl. bot. t. 217. Oed. fl. dan. 337. Sabb. hort. 2. p. 67. Smith, fl. græc. 1. p. 128. t. 446. Jaume, St. Hil. 12. livr. t. 6. Limnánthemum peltàtum, Gmel. act. petrop 1769. 14. p. 567. t. 17. f. 2. Meynánthes nàtans, Lam. fl. fr. 2. p. 203. Waldschmídia nymphoìdes, Wigg. prim. p. 20. Drev. et Hayne, abb. zergl. 1. p 33. t. 6. Schweyckhérta nymphoìdes, Gmel. 1. p. 447.—Dalech. hist. 1010. f. 1. Petiv. brit. t. 71. f. 4. Stem dichotomous, creeping under water. Leaves of a livid colour beneath, and dotted. Corolla yellow; segments bearded at bottom. Seeds ciliated.

Nymphæa-like Villarsia. Fl. June, July. Britain. Pl. fl.

2 V. ova'ta (Vent. choix. t. 9.) erect; leaves ovate, erect; flowers racemosely panicled; segments of corolla ciliated. ♃. B. G. Native of the Cape of Good Hope, in boggy watery places. Sims, bot. mag. 1909. Menyánthes ovàta, Lin. syst. 194. suppl. 133. Pers. ench. 1. p. 171. Menyánthes Capénsis, Thunb. prod. p. 34. Reneálmia Capénsis, Houtt. pfl. syst. 4. p. 319. t. 47. f. 1.? Leaves elliptic, obtuse, from the neck of the root, full of pellucid dots, with subundulated edges, and obscure glands. Stem longer than the leaves, furnished with 2-3 leaves at base, but naked and panicled at top. Corollas of an orange yellow colour. Perhaps belonging to the section *Paludòsæ*.

Ovate-leaved Villarsia. Fl. May, July. Clt. 1786. Pl. 1-2 feet.

§ 2. *Petioles bearing the flowers below the leaves.*

3 V. pelta'ta (Rœm. et Schultes, syst. 4. p. 178.) floating; leaves peltate; petioles bearing the flowers beneath the leaves. ♃. W. H. Native of Japan, floating in water. Menyánthes peltàta, Thunb. nov. act. ups. 7. p. 142. t. 4. f. 2. Menyánthes nymphoìdes, Thunb. fl. jap. p. 82. Leaves nearly orbicular, thin, glabrous, broader than long.

Peltate-leaved Villarsia. Pl. floating.

4 V. I'ndica (Vent. choix. p. 9. Hook. bot. misc. 3. p. 97. t. 30.) floating; leaves reniformly orbicular, coriaceous, repand, 3-nerved, or many-nerved, scabrous from scrobicles beneath; pedicels elongated, umbellate from the tops of the petioles, scabrous; segments of corolla hairy at top; capsule round, crustaceous; seeds globose, echinated, ex Hook.; roundish, compressed, size of millet, with a shining crustaceous testa, ex D. Don. ♃. W. S. Native of the East Indies, and the Cape of Good Hope, floating in sweet water lakes. Menyánthes I'ndica, Lin. fl. zeyl. spec. 207. Roxb. fl. ind. 2. p. 31. M. macrophýlla, Roth. nov. spec. p. 105. Thunb. fl. cap. 167. Cumada or Cumud, Jones, in asiat. res. 4. p. 254. no. 30. Nedel-Ambel, Rheed. mal. 10. p. 55. t. 28. Nymphæ'a Cerámica, Rumph. amb. 6. p. 173. t. 72. f. 3. Corolla with a yellow tube, and white segments. Petioles floriferous and viviparous, as in *Meynánthes cristàta*. Segments of corolla lanceolate, the upper side clothed with long white hairs their whole length. Stigma 3-lobed, curled. *Antara-Tamara* is the Telinga name of the plant, and *Bura-chooli* is the Bengalee name. Leaves very variable in size; having the hind lobes connivent.

Indian Villarsia. Fl. May, Aug. Clt. 1792. Pl. floating.

5 V. mìnor (D. Don, mss.) natant; leaves reniformly orbicular, smooth beneath: having the hind lobes divaricate; peduncles smooth, short; capsule globose, crustaceous. ♃. W. S. Native of the Himalaiah. Plant 4 times smaller in every part than *V. I'ndica*.

Smaller Villarsia. Pl. floating.

6 V. Símsii; natant; leaves reniformly cordate, subcrenated: hind lobes rounded, divaricate; pedicels elongated, umbellate, rising from the tops of the petioles; calycine segments lanceolate; segments of corolla bearded their whole length. ♃. W. S. Native of Nipaul. Menyánthes I'ndica, Sims, bot. mag. t. 658. Flowers yellow. Wallich states this plant to be a native of Nipaul, and that the young stalks are there employed in making curries. Sir James Smith describes his *V. I'ndica* as having yellow flowers, and as being a native of the Cape of Good Hope; it is probably the same as the present plant, or a new species.

Sims's Villarsia. Fl. May, Aug. Clt. 1792. Pl. floating.

7 V. Swa'rtzii; natant; leaves orbicular, deeply cordate, subcrenated; petioles floriferous; flowers fasciculate; segments of corolla bearded lengthwise inside. ♃. W. S. Native of the West Indies, floating in sweet water. Menyánthes I'ndica, Swartz, obs. 78. Meyer, ess. p. 94. Rodsch. obs. p. 73.—Browne, jam. 151.—Sloan. jam. t. 251. Corolla white, pilose inside, with a yellow base. Anthers reddish brown.

Swartz's Villarsia. Fl. May, Aug. Clt.? Pl. floating.

8 V. Humboldtia'na (H. B. et Kunth, nov. gen. amer. 3. p. 187.) natant; leaves deeply cordate, quite entire; umbels seated on the petioles; capsule valveless, shorter than the calyx; seeds lenticular, smooth, with naked edges; segments of corolla bearded inside lengthwise, fringed on the edges. ♃. W. S. Native of New Granada, near Guaduas, in marshes, floating amongst *Jussiæ'a*. Hind lobes of leaves spreading. Leaves red beneath and dotted. Umbels sessile. Corolla funnel-shaped, with a short, cylindrical yellow tube, and white recurved limb. Seeds lenticular.

Humboldt's Villarsia. Pl. floating.

9 V. Senegale'nsis; natant; leaves peltate; segments of corolla ciliated on the margins; petioles viviparous and floriferous. ♃. W. S. Native of Senegal, floating in water. Menyánthes I'ndica β, Desrous. in Lam. dict. 4. p. 90. Flowers yellow.?

Senegal Villarsia. Pl. floating.

10 V. lacunòsa (Vent choix. p. 10.) floating; leaves reniform, peltate, lacunose beneath; petioles floriferous and viviparous; corollas glabrous. ♃. W. H. Native from New Jersey to Carolina, floating in ponds and lakes. V. aquática, Gmel. syst. 447. V. cordàta, Ell. sketch. Menyánthes trachyspérma, Michx. fl. bor. amer. 1. p. 126. Anónymos aquática, Walt. fl. car. p. 109. Capsule scabrous. Flowers white. Appendages of the tube of the corolla prominent. This plant is dioecious and polygamous.

Pitted-leaved Villarsia. Fl. June, July. Clt. 1812. Pl. fl.

11 V. parviflòra (Wall. cat. no. 4351.) creeping; radical leaves sagittately cordate, obtuse, on thick, flattened petioles; floriferous leaves reniformly cordate, entire, on long slender petioles, which bear sessile umbels of flowers at the tops below the leaves: with the hind lobes divaricate, obtuse; seeds brown, a little flattened, with a smooth glossy testa. ♃. B. S. Native of Tavoy, in bogs. Flowers small. Capsule oblong-obovate, mucronate by the style.

Small-flowered Villarsia. Pl. creeping.

§ 3. *Runners creeping. Peduncles racemose or panicled, opposite the leaves.*

12 V. gemina'ta (R. Br. prod. p. 457.) creeping; leaves broadly cordate, entire; racemes opposite the leaves; pedicels twin; capsule equal in length to the calyx; seeds with naked margins. ♃. W. G.

Var. α; leaves rather coriaceous, often discoloured beneath, 2 inches in diameter. ♃. W. G. Native of New South Wales.

Var. β; leaves membranous, of the same colour on both surfaces, 6-10 lines in diameter. ♃. W. S. Native of New Holland, within the tropic. Perhaps distinct, sometimes stemless.

Twin-pedicelled Villarsia. Pl. floating.

13 V. sarmentòsa (Rœm. et Schultes, syst. 4. p. 180.) runners creeping; leaves cordate-orbicular, repand, dotted beneath; panicles opposite the leaves; seeds glabrous. ♃. W. G. Native of New Holland, floating in water. Menyánthes sarmentòsa, Sims, bot. mag. 1328. Corollas yellow; segments obtuse, sinuated and crenulated.

Sarmentose Villarsia. Fl. July. Clt. 1806. Pl. creeping.

Sect. II. Paludòsæ. *Capsule valvate.*

14 V. renifórmis (R. Br. prod. 457.) leaves radical, reniform, entire; stem elongated, nearly naked; flowers panicled. ♃. B. G. Native of New South Wales, in marshes about Port Jackson; and of Van Diemen's Land. Lindl. bot. reg. 1533. Flowers yellow. Nearly allied to *V. parnassifòlia.*

Kidney-shaped-leaved Villarsia. Pl. 1 foot.

15 V. parnassifòlia (R. Br. l. c.) leaves radical, ovate-cordate, repandly toothed; stem elongated, nearly naked; flowers panicled; segments of corolla with entire margins; capsule exceeding the calyx; valves bifid; seeds rather scabrous. ♃. B. G. Native of New South Wales; south coast of New Holland, Van Diemen's Land, in bogs. Swértia parnassiæfòlia, Labill. nov. holl. 1. p. 72. t. 97. This is a very polymorphous plant, from 1-3 feet high. Leaves toothed or entire, and sometimes angular. Flowers yellow.

Parnassia-leaved Villarsia. Fl. June, Oct. Clt. 1805. Pl. 1 to 3 feet.

16 V. exalta'ta; leaves radical, orbicularly cordate, subcrenated; stem panicled, almost leafless; segments of corolla toothed. ♃. B. G. Native of New South Wales. Menyánthes exaltàta. Sol. mss. Sims. bot. mag. t. 1029. Flowers yellow.

Exalted Villarsia. Fl. May, June. Clt.? Pl. 2-3 feet.

† *Doubtful species.*

17 V. orbicula'ta (Lam. ill. no. 1966.) leaves orbicular, crenated, peltate, bearing crowded, nearly sessile flowers in the centre. ♄. G. Native of Africa. Leaves bearing flowers in the manner of *Claytònia perfoliàta.*

Orbicular-leaved Villarsia. Pl. floating.?

18 V. hydrophy'llum (Rœm. et Schultes, syst. 4. p. 181.) stems filiform, creeping; leaves cordate, quite entire; flowers crowded, axillary, nectariferous. ♃. B. G. Native of Cochinchina, in watery places. Menyánthes hydrophýllum, Lour. coch. 105. Leaves petiolate, few, scattered. Flowers white, on long peduncles. Corolla campanulate, hairy; segments crenated. Nectaries 5, branched, discoloured, adhering to the base of the corolline segments. Capsule ovate, girded by the permanent calyx. Said by Loureiro to be intermediate between *Hydrophýllum* and *Menyánthes:* from the larger nectaries it is probably a species of *Hydrophýllum.*

Hydrophyllum-like Villarsia. Pl. creeping.

Cult. All the species of *Villársia* are elegant when in blossom. The hardy species require to be grown in a pond. The greenhouse and stove aquatic species should be grown in cisterns in the stove or greenhouse. *V. parnassiæfòlia, V. geminàta, V. renifórmis,* and *V. sarmentòsa,* being only bog or marsh plants, require to be grown in pots, in a mixture of peat and sand, the pots to be placed in deep pans of water. All the species are readily increased by seed or dividing.

Order CLVI. SPIGELIA'CEÆ (this order contains plants agreeing with *Spigèlia* in important characters.) Mart. nov. gen. bras. 2. p. 132.—Gentianeæ part of authors.

Flowers regular, of equal parts. Calyx free, regularly 5-parted. Limb of corolla equal, valvate in æstivation. Stamens 5, rising from the corolla; pollen trigonal, the angles globular.

Style inserted in the top of the ovarium, articulated; stigma simple. Capsule dicoccous, coccæ 2-valved: with a free central placenta. Seeds small; with an immediate placentation; testa simple. Embryo small, straight, in fleshy, copious albumen.—Shrubs or sub-shrubs. Leaves opposite, quite entire, stipulate or substipulate. Flowers disposed in secund, bracteate spikes. Down or hairs on the plants simple or stellate. This order differs from *Gentiàneæ*, in the style being articulated; and in the immediate, not parietal placentation of the seeds. The plants contained in this order are highly ornamental, like those of *Gentiàneæ*. The *Spigèlia anthélmia*, and other annual species, are used as a vermifuge; and the root of *Spigèlia Marilándica*, infused in water, is anthelmintic; and the wine is febrifugal.

Synopsis of the genera.

1 Spige'lia. Calyx 5-parted. Corolla funnel-shaped, 5-parted. Style articulated. Capsule dicoccous; coccæ 2-valved; Placentas pedicellate.

2 Mitre'ola. Calyx 5-toothed. Corolla funnel-shaped, 5 parted. Style articulated, bifid at apex. Capsule 2-lobed. Placentas pedicellate. ?

3 Mitrasa'cme. Calyx 4-cleft or bifid. Corolla with an angular tube; limb 4-parted. Style bifid at the base. Capsule dehiscing between the divisions of the style.

I. SPIGE'LIA (named in honour of Adrian Spigelius, born at Brussels, 1578, professor of anatomy and surgery at Padua; died 1625. Author of Isogoge, in rem herbariam, Padua, 1606.) Lin. gen. no. 209. Juss. gen. 103. H. B. et Kunth, nov. gen. amer. 3. p. 184. Mart. nov. gen. bras. 2. p. 126.—Arapàbaca, Plum.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped; limb 5-cleft. Style articulated. Capsule didymous, dicoccous, cut round at the base; coccæ 2-valved, many-seeded. Seeds attached to the central placenta, which is pedicellate from the base.—Sub-shrubs or herbs. Roots fibrous. Stems terete, or obscurely tetragonal. Leaves opposite, or sub-verticillate, sessile, connate from the confluent petioles, quite entire. Flowers disposed in terminal, secund spikes, which are revolute at top, flowering upwards from the base. Corollas rose-coloured, or purple.—Inhabitants of boggy, or hard, stony situations.

§ 1. *Suffruticòsæ. Plants suffruticose.*

1 S. pulverule'nta (Mart. nov. gen. bras. 2. p. 126. t. 192.) suffruticose; stems branched above, nearly terete, clothed with pale, rusty, stellate tomentum; leaves opposite, scabrous from powder, but at length naked, broad and sub-cordate at the base, on short petioles; spikes solitary; stamens 5 times shorter than the corolla, which is funnel-shaped; corolla and coccæ powdery. ♄. S. Native of Brazil, in the mine provinces, at the altitude of 3800 feet, on Serra de Caraca. Sp. Olfersiàna, Schlecht, in Linnæa, 1. p. 206. Corollas rose-coloured, with more obscure stripes.

Powdery Worm-grass. Shrub 2 feet.

2 S. fruticulòsa (Lam. ill. p. 474. no. 2152. Poir. ency. 7. p. 345.) shrubby, glabrous; leaves ovate-petiolate: upper ones 4 in a whorl; spikes solitary, slender; corolla funnel-shaped; stamens inclosed. ♄. S. Native of Cayenne, in woods. Habit of *S. anthélmia*. Stem and branches quadrangular. Leaves 2-3 inches long, and more than an inch broad.

Shrubby Worm-grass. Shrb 1 to 2 feet.

3 S. Sellowia'na (Schlecht. in Linnæa, 1. p. 205. Mart. l. c. p. 129.) shrubby, covered all over with yellowish, stellate tomentum; leaves opposite, on short petioles, ovate, rounded at the base, acutish, scabrous above; spikes solitary; corollas tubular; stamens exserted. ♄. S. Native of the interior of Brazil. Habit of *S. pulverulénta;* but the flowers are double the size, and more conspicuous.

Sello's Wormgrass. Shrub.

4 S. glabra'ta (Mart. l. c. p. 127. t. 193.) suffruticose, quite glabrous; branches nearly terete; leaves oblong or lanceolate, long-acuminated, tapering into the short petioles; upper ones usually 4 in a whorl; spikes aggregate; stamens 3 times shorter than the corolla, which is funnel-shaped; coccæ glabrous. ♄. S. Native of Brazil, in the province of Bahia, in shady woods, at Almada and Ilheos. Sp. laurìna, Schlecht. in Linnæa, 1. p. 204. Flowers 8-12 on each peduncle, fewer than in the last species. Corollas flesh-coloured, with more obscure stripes, about 8 lines long.

Glabrous Worm-grass. Shrub 2 feet.

§ 2. *Perennis. Herbaceous, perennial plants.*

5 S. pulche'lla (Mart. l. c. 2. p. 128. t. 194.) quite glabrous; stems furrowed-angular, almost leafless, rushy; leaves opposite, sessile, small, linear, acute; spikes solitary; stamens exserted, but 5 times shorter than the corolla, which is tubular; coccæ smooth. ♃. S. Native of Brazil, in high, rocky places, near Villa do Rio de Contas, at the elevation of 2800 feet. Corollas showy scarlet, an inch and more long.

Neat Worm-grass. Pl. 1 to 2 feet.

6 S. Schlechtendalia'na (Mart. l. c. p. 129.) stems and branches tetragonal; leaves opposite, or 4 in a whorl, sessile, narrow-lanceolate, acuminated, downy on the nerves beneath; spikes solitary; stamens inclosed, 3 times shorter than the corolla, which is funnel-shaped; coccæ smooth. ♃. S. Native of Brazil, on the top of mount Morro de Villa Rica, at the elevation of 4000 feet. Corolla 8 lines long, pale rose-coloured, marked with obscure lines.

Schlechtendahl's Worm-grass. Pl. 1 to 2 feet?

7 S. Humboldtia'na (Schlecht. in Linnæa, 1. p. 200. Mart. nov. gen. br. 2. p. 129.) herbaceous, smoothish; stem and branches tetragonal; leaves petiolate, oblong-lanceolate, or ovate, acute at the base; upper ones 4 in a whorl; spikes solitary; corolla funnel-shaped; stamens inclosed; coccæ smooth. ♃. S. Native of Brazil, in the provinces of Rio Janeiro, St. Paul, and Cisplatine; and of Mexico, in woods, at Papantla. Flowers white. Very like the following.

Humboldt's Worm-grass. Pl. 1 foot.

8 S. sca'bra (Schlecht. l. c. p. 202. Mart. l. c.) herbaceous; stem and branches tetragonal; leaves petiolate, ovate, attenuated at the base, scabrous beneath, especially on the nerves and veins; floral leaves 4 in a whorl; spikes solitary; corolla funnel-shaped; stamens inclosed; coccæ roughish. ♃. S. Native of Brazil, in the province of Cisplatine.

Scabrous Worm-glass. Pl. 1 to 2 feet.

9 S. Beyrichia'na (Schlecht. l. c. p. 203.) herbaceous, smoothish; stem and branches tetragonal; leaves petiolate, ovate, acute at both ends: floral ones 4 in a whorl; spikes solitary; corollas funnel-shaped; stamens inclosed; coccæ smooth. ♃. S. Native of Brazil, in the province of Rio Janeiro. Very nearly allied to *Sp. glabràta;* but differs, in the leaves being shorter, ovate, less hard, and smooth.

Beyrich's Worm-grass. Pl.

10 S. hamellioi'des (H. B. et Kunth, nov. gen. amer. 3. p. 185.) herbaceous, smoothish; stems simple, glabrous; leaves ovate-oblong, acuminated, glabrous above, but furnished with small, scattered, adpressed hairs beneath; upper ones 3-4 in a

whorl; spikes solitary; corolla funnel-shaped: stamens inclosed, twice shorter than the corolla; coccæ glabrous. ♃. H. Native of New Granada, near Guaduas, in temperate places. Stem sub-tetragonal. Leaves 3-4 inches long. Calycine segments linear-subulate, with hispid edges.

Hamellia-like Worm-grass. Pl. 1 foot.?

11 S. pedunculàta (Willd. mss. ex Rœm. et Schultes, syst. 4. p. 787. H. B. et Kunth, l. c.) herbaceous, glabrous; stem nearly simple; leaves oblong, long-acuminated, rather scabrous on the margins, upper ones usually 4 in a whorl; spikes solitary, on long peduncles; stamens equal in length to the corolla; corolla funnel-shaped; coccæ glabrous. ♃. S. Native on the declivities of the Andes, about Quindiu, near El Moral. Stems nearly terete. Calycine segments linear-lanceolate, with hispid edges. Corolla purple.

Peduncled-spiked Worm-grass. Pl. 1½ foot.

12 S. speciòsa (H. B. et Kunth, l. c. p. 186. t. 224.) herbaceous; stems simple, tetragonal, downy; leaves opposite, roundish, acute, sessile, glabrous, but downy on the veins beneath, and ciliated on the margins; spikes terminal, sessile, solitary; corolla funnel-shaped; stamens exserted. ♃. S. Native near the city of Mexico. Root tuberous. Veins of leaves purplish. Corolla large, flesh-coloured; with a green, revolute limb.

Showy Worm-grass. Fl. April. Pl. 1½ foot.

13 S. Maryla'ndica (Lin. syst. 197. mant. 2. p. 330.) herbaceous; stems simple, tetragonal, scabrous: leaves opposite, sessile, oval-lanceolate, glabrous; spikes solitary; corolla funnel-shaped; stamens inclosed; coccæ glabrous.? ♃. H. Native of Virginia, Maryland, Carolina, Georgia, &c. on the edges of woods, in rich moist soil; and on the banks of the Arkansas, in the forests near the first cliffs. Michx. fl. bor. amer. 1. p. 148. Pursh, 1. p. 139. Curt. bot. mag. t. 80. Lodd. bot. cab. 930. Stev. et Church. med. bot. 1. t. 7. Plench, t. 89. Heyne, term. bot. t. 44. f. 5. Garden and Hope, act. edinb. 3. 1771. p. 145-153. t. 1. Lonicèra Marylándica, Lin. spec. 2. p. 249. Catesb. car. 2. t. 78. Corollas scarlet outside and yellow inside. Calycine segments subulate. The roots are sold under the name of *worm-grass* or *pink-root*, or *Indian pink* in the shops. This is a mucilaginous plant, with a mild and not disagreeable taste. The infusion and decoction of the root and leaves afford a flocculent precipitate with alcohol. The plant was first used by the Cherokee Indians as an anthelmintic. Drs. Lining, Garden, and Chalmers first introduced it to notice; and their subsequent experience tended to confirm its utility. The root possesses the greatest activity, and is given in doses of from 10 grains, two or three times a day. If it proves purgative it is said to be most effective; and should it not, it must be combined with cathartics, which prevent the narcotic symptoms, such as stupor, head-ache, dilated pupil, flushings of the face, stiffness of the eyelids, that so frequently follow its administration. It is said to be most useful in lumbrica; and it is to its narcotic principle that Dr. Good attributes its vermifuge powers, which it possesses in common with *Spigèlia anthélmia*. Notwithstanding all that has been said in its favour, its real anthelmintic properties are somewhat equivocal. The plant is called *Unsteetla* by the Cherokee Indians.

Maryland Worm-grass. Fl. July, Aug. Clt. 1694. Pl. ½ to 1 foot.

§ 3. *Annuæ. Annual plants.*

14 S. anthe'lmia (Lin. amœn. 5. p. 133. t. 2.) herbaceous, roughish; stems nearly terete, branched; leaves on short petioles, ovate, long-acuminated, or oblong-acute: floral ones 4 in a whorl; spikes aggregate; corollas funnel-shaped; stamens inclosed; coccæ muricately scabrous. ⊙. S. Native of Guiana, Cayenne, New Granada, Trinidad, and Brazil. In New Andalusia it is called *Yerba de Lombrices*. Sims, bot. mag. 2359. Lam. ill. t. 107. Brown. jam. p. 156. t. 37. f. 3.—Plum. gen. p. 11. t. 31.—Plenck, off. t. 88. Brazeel-Parrsis, Petiv. gaz. t. 59. f. 10. Corollas pale red, small.

Anthelmintic Worm-grass. Fl. July. Clt. 1759. Pl. ½ to 1 foot.

15 S. Flemmingia'na (Schlecht, in Linnæa. 1. p. 203. Mart. nov. gen. bras. 2. p. 130.) herbaceous, glabrous; stem and branches nearly terete; leaves petiolate, oblong-lanceolate, acuminated at both ends: floral ones 4 in a whorl; spikes solitary, elongated, on short peduncles; corolla funnel-shaped; stamens inclosed; coccæ smooth. ⊙. S. Native of Brazil, within the tropic. Very like *S. anthélmia*.

Flemming's Worm-grass. Pl. ½ to 1 foot.

16 S. pusílla (Mart. l. c. p. 130.) herbaceous, downy; branches procumbent, and are as well as the stem tetragonal; leaves on short petioles, opposite, ovate, attenuated at the base, acutish; flowers few, terminal, sessile; corolla tubularly ventricose; coccæ smooth. ⊙. S. Native of Brazil, in woods, near Sebastianople. Corollas white, suffused with red. Flowers 2-3 together at the tops of the branches.

Small Worm-grass. Pl. procumbent.

Cult. All the species of this genus are very showy while in blossom, and are therefore worth cultivating in every collection. The best soil for them is an equal mixture of loam and peat. Young cuttings of the shrubby and herbaceous perennial kinds root freely, planted in the same kind of soil, with a hand-glass placed over them. *S. Marylándica* sometimes survives the winter when planted in the open ground, in a peat border. The annual kinds should be treated as other tender annuals.

II. MITRE'OLA (a dim. of *μιτρα, mitra*, a mitre; form of capsule). Rich. in Michx. fl. bor. amer. 1. p. 148. R. Br. prod. p. 450.—Cynóctonum, Gmel. syst. 443.—Anónymos, Walt. fl. car. 108. Ophiorhìza spec. Lin. Michx.

Lin. syst. *Pentándria, Monogy'nia.* Calyx 5-parted, permanent. Corolla urceolate or funnel-shaped; having the tube much longer than the calyx; a villous mouth; and ovate, acute segments. Stamens inclosed. Style articulated at the base?; bifid at apex; stigmas blunt. Capsule 2-lobed or of 2 coccæ; coccæ or lobes diverging, dehiscing inside. Seeds numerous, angular, fixed to 2 elongated placentas, one in each coccæ or cell.—Erect herbaceous plants, with opposite leaves; and terminal secund spikes of flowers.

1 M. sessilifòlia (R. Br. prod. p. 450.) stem acutely tetragonal; leaves opposite, sessile, ovate; cymes on long peduncles; flowers unilateral. ♃. H. Native of Lower Virginia and Carolina, in dry gravelly fields, by wood sides. Ophiorhìza, Mitrèola, Lin. spec. 213. Michx. fl. amer. bor. 1. p. 148. Willd. spec. 1. p. 826. Pursh, 1. p. 139. Lam. ill. t. 107. f. 1. Cynóctonum sessilifòlium, Gmel. syst. 443. Anónymos sessilifòlia, Walt. fl. car. p. 108. Flowers small, pale blue. Style bifid. Cynóctonum petiolàtum, Gmel. l. c. the Anónymos petiolàta, Walt. l. c. is probably a mere variety of this plant.

Sessile-leaved Mitreola. Fl. July. Pl. 1 foot.

2 M. Swa'rtzii; glabrous; stem tetragonal, simple, or branched, terete at top; leaves on short petioles, acute, glabrous; spikes terminal, slender, unilateral: flowers digynous, solitary in the forks. ♃. S. Native of Jamaica. Ophiorhìza Mitrèola, Swartz, obs. p. 59. t. 3. f. 2. exclusive of the synonymes. Flowers small, white, a little longer than the calyx. Styles 2.

Swartz's Mitreola. Pl. 1 foot.

3 M. paniculàta (Wall. cat. no. 4349.) erect, paniculately branched; stem and branches slightly tetragonal; leaves ovate,

acuminated, downy, as well as the young branches; leaves and petioles slightly ciliated; panicles axillary and terminal; dichotomously branched; flowers distant, secund, spicate, on very short pedicels, with one in each fork. ⊙. H. Native of Tavoy, on Mount Taong Dong, near Ava, Segaen, Prome, &c. Capsule of 2 1-celled divisions, which are incurved at top. Mitrèola oldenlandioìdes, Wall. cat. no. 4350., a native of Sukanagur, is only a smaller more glabrous variety; having the stems more decidedly quadrangular.

Panicled Mitreola. Pl. ½ to 2 feet.

Cult. See *Mitrasácme*, p. 173. for culture and propagation.

III. MITRASA'CME (from μιτρα, *mitra*, a mitre, and ακμη, *akme*, a point; form of capsule). Labill. nov. holl. 1. p. 36. t. 49. R. Br. prod. p. 452. According to R. Br. l. c. *Mitrágyne* would be a more applicable name for this genus.

LIN. SYST. *Tetrándria*, *Monogýnia*. Calyx angular, 4-cleft, rarely bifid. Corolla with an angular tube, and a 4-parted limb, deciduous. Stamens 4, equal, inclosed, rarely exserted; anthers behind. Style bifid at the base. Capsule dehiscing between the divisions of the style.—Glabrous or pilose herbs. Leaves opposite, sometimes crowded and radical, without any cauline ones; sometimes connate. Flowers terminal, umbellate, rarely axillary, solitary. Capsule dehiscing at top, not open.—According to R. Br. this genus differs from the legitimate *Gentiàneæ* a little, but nevertheless it agrees more with *E'xacum* than with *Scrophulárinæ*.

SECT. I. MITRASA'CME VE'RÆ (this section contains the legitimate species of the genus). R. Br. prod. p. 452. Calyx 4-cleft. Stamens inclosed, inserted in the middle of the tube of the corolla. Style at the time the flowers are open, bifid at the base; stigma 2-lobed.

1 M. POLYMÓRPHA (R. Br. prod. p. 452.) umbels semi-compound; peduncles elongated, and are as well as the calyxes glabrous; segments of calyx beardless at apex; leaves linear, ciliated a little, glabrous or pilose beneath; stem erect, hairy. ⊙. G. Native of New South Wales.

Polymorphous Mitrasacme. Fl. June, July. Clt. 1826. Pl. ½ foot.

2 M. SQUARRÒSA (R. Br. l. c.) umbels semi-compound; peduncles glabrous; segments of calyx beardless at tops; leaves broad-linear, crowded, recurved at tops, and ciliated at the base, with cartilaginous margins; stem multiple, pilose. ⊙. G. Native of New South Wales.

Squarrose Mitrasacme. Pl.

3 M. CINERA'SCENS (R. Br. l. c.) umbels simple, 3-4-flowered; peduncles glabrous; calycine segments beardless at apex; leaves linear-lanceolate, ciliated, glabrous, terminating in a setaceous mucrone; branches ascending, pilose: the ultimate internode the longest, and smoothish. ⊙. G. Native of New South Wales.

Greyish Mitrasacme. Pl.

4 M. CANE'SCENS (R. Br. prod. p. 453.) umbels usually 3-flowered, sessile; pedicels glabrous; calycine segments bearded at apex; leaves linear, obtuse, hairy on both surfaces; stem procumbent; branches ascending, with all the internodes pilose; root perennial. ↄ. G. Native of New South Wales.

Canescent Mitrasacme. Fl. June, Aug. Clt. 1824. Pl. procumbent.

5 M. MULTICAU'LIS (R. Br. l. c.) peduncles 2-4, 1-flowered, from the ultimate axils, shorter than the stem, pilose; tube of corolla about equal to the calyx, but twice longer than the limb; capsules ovate; stem multiple: partial ones undivided, erect, hairy. ⊙. G. Native of New Holland, within the tropic.

Many-stemmed Mitrasacme. Pl.

6 M. RAMÒSA (R. Br. l. c.) umbel terminal, 4-6-flowered; pedicels pilose; tube of corolla equal in length to the calyx, which is pilose; leaves linear, pilose; stem simple at the base, and a little branched at the apex. ⊙. G. Native of New Holland, within the tropic.

Branched Mitrasacme. Pl.

7 M. LARICIFÒLIA (R. Br. l. c.) peduncles downy, axillary, 1-flowered, longer than the stem, which is simple; tube of corolla 3 lines longer than the limb; capsules globose; leaves linear-subulate, terminating in a setaceous mucrone, glabrous, with recurved margins, which are ciliated at the base. ⊙. S. Native of New Holland, within the tropic.

Larch-leaved Mitrasacme. Pl.

8 M. PROLÍFERA (R. Br. l. c.) umbels terminal, 2-3-flowered, on as many axillary pedicels; tube of corolla globose, exceeding the limb: throat bearded; capsules globose; leaves linear-lanceolate, glabrous; stem branched, humble. ⊙. S. Native of New Holland, within the tropic.

Proliferous Mitrasacme. Pl.

9 M. ALSINOÌDES (R. Br. l. c.) peduncles solitary, lateral; leaves ovate-lanceolate, glabrous; stem dichotomous, erect. ⊙. G. Native of New South Wales.

Chickweed-like Mitrasacme. Pl.

10 M. PALUDÒSA (R. Br. l. c.) umbels 2-3-flowered, nearly terminal; corollas subrotate; anthers exserted at the apex; leaves linear-lanceolate, glabrous; branches ascending. ⊙. G. Native of New South Wales.

Marsh Mitrasacme. Pl.

11 M. PYGMÆ'A (R. Br. l. c.) scapes radical, capillary; umbels simple or compound; corolla one half longer than the calycine segments, which are setaceously mucronate; capsules ovate, exserted at apex; leaves radical, oval-oblong. ⊙. S. Native of New Holland, within the tropic.

Pygmy Metrasacme. Pl. dwarf.

12 M. ELA'TA (R. Br. l. c.) scapes radical, elongated, furnished with remote stipula-formed leaves; umbels simple or compound; corolla salver-shaped: having the tube 3 times higher than the calyx; leaves radical, stellate, oblong. ⊙. S. Native of New Holland, within the tropic.

Tall Mitrasacme. Pl.

13 M. STELLA'TA (R. Br. prod. p. 454.) scapes glabrous, longer than the stem, which is downy; umbels compound; limb of corolla one half shorter than the tube: segments semi-ovate; leaves lanceolate, linear, acute, glabrous, 1-nerved: upper ones approximate, disposed in a stellate manner. ⊙. S. Native of New Holland, within the tropic.

Starry-leaved Mitrasacme. Pl.

14 M. SERPYLLIFÒLIA (R. Br. l. c.) plant creeping, smoothish; branches diffuse or ascending; leaves ovate, petiolate, ciliated, twice as long as the peduncles, which are axillary and solitary; calyx glabrous; stigma almost undivided. ⊙. G. Native of New South Wales.

Wild-thyme-leaved Mitrasacme. Fl. June, Aug. Clt. 1826. Pl. creeping.

15 M. PILÒSA (Labill. nov. holl. 1. p. 36. t. 49. R. Br. l. c.) plant creeping, pilose: leaves ovate, petiolate, ciliated, shorter than the axillary, solitary peduncles; calyxes hispid. ⊙. G. Native of Van Diemen's Land.

Pilose Mitrasacme. Pl. trailing.

16 M. PHASCOÌDES (R. Br. l. c.) stemless; flowers 3-4-together, sessile; leaves linear-lanceolate, pilose. ⊙. S. Native of the Cape of Good Hope.

Phascum-like Mitrasacme. Pl. tufted.

SECT. II. DICHELOCA'LYX (from διχηλος, *dichelos*, bifid, and καλυξ, *calyx*, a calyx; in reference to the bifid calyx). Calyx

bifid. Stamens inclosed, inserted in the middle of the tube of the corolla. Style bifid at the base, at the time the flowers are expanded. Stigma 2-lobed.

17 M. paradóxa (R. Br. l. c.) umbels terminal: leaves linear-lanceolate; stem erect; capsule inclosed. ⊙. G. Native of New Holland, on the south coast.

Paradoxical Mitrasacme. Pl.

Sect. III. Hológyne (from ὁλος, *holos*, entire, and γυνη, *gyne*, a female; in reference to the undivided style and stigma). Style undivided at the base at the time the flowers are open. Stigma entire. Calyx 4-cleft. Stamens inclosed, inserted in the middle of the tube of the corolla.

18 M. conna'ta (R. Br. l. c.) scape terminal, glabrous, longer than the stem, which is pilose; umbels simple; limb of corolla about equal to the tube in length: with the segments linear-lanceolate; segments of calyx one half shorter than the tube; leaves 3-nerved; upper ones approximating in a stellate manner. ⊙. S. Native of New Holland, within the tropic.

Connate-leaved Mitrasacme. Pl.

19 M. capilla'ris (Wall. in Roxb. fl. ind. 1. 420. D. Don, prod. fl nep. 129.) umbels nearly simple, on elongated peduncles; pedicels and calyxes glandular; segments of corolla roundish, obtuse; leaves elliptic, mucronulate, pilose as well as the stem, which is short. ⊙. G. Native of Nipaul, in the Great Valley. Leaves decussate, obsoletely 3-nerved, connate at the base from the membranous sheathing stipulas. Pedicels very long. Flowers small, white. Segments of calyx with membranous ciliated margins. Style subulate, dilated at the base, bipartite when the capsule becomes mature. Stigma capitate, pruinose, slightly 2-lobed. Capsule 2-celled, empty at top.

Capillary Mitrasacme. Pl. ½ foot.

20 M. nudicau'lis (Reinwdt. herb. ex Blum. bijdr. p. 849.) scape radical, elongated, trifid; leaves opposite, remote, stipula-formed; umbels usually 3-flowered; corolla salver-shaped; having the tube thrice as long as the calyx; radical leaves stellate, oval-oblong, obtuse. ♃. S. Native of the island of Salor.

Naked-stemmed Mitrasacme. Fl. Aug. Sept. Pl.

Sect. IV. Plecoca'lyx (from πλεκω, *pleco*, to plait, and καλυξ, *calyx*; in reference to the plicate calyx). Calyx plicate, 4-cleft; lobes concave. Stamens exserted, inserted in the throat of the corolla. Capsule at length semi-bivalved.

21 M. ambígua (R. Br. l. c.) scapes radical, capillary, naked; umbels rather compound; leaves oblong-lanceolate. ⊙. G. Native of New Holland, within the tropic.

Ambiguous Mitrasacme. Pl.

Cult. The species of *Mitrasácme* being for the most part annual, the seeds of those which can be procured should be sown in pots, filled with an equal mixture of sand, loam, and peat, and reared in a hot-bed in spring; and when they have grown to a sufficient size, they should be thinned, if too thick, and afterwards placed in the greenhouse, or in a frame.

Order CLVII. GENTIA'NEÆ. (This order contains plants agreeing with the genus Gentiàna in particular characters.) Juss. gen. p. 141. ed. Usteri, p. 157. R. Br. 149. H. B. et Kunth. nov. gen. amer. 3 p. 167. Mart. nov. gen. bras, 2. p. 132.

Calyx 4-5 cleft, permanent. Corolla monopetalous, hypogynous, regular, marcescent or deciduous; with an equally parted limb; lobes equal in number to the calycine segments, but usually 5, sometimes from 4-8, imbricate in æstivation. Stamens epipetalous, equal in number to the segments of the corolla, and alternating with them, but some of them are abortive. Ovarium solitary, 1-2-celled, many-seeded. Styles 1 or 2, when 2 they are partly combined or altogether so; stigmas 1-2. Capsule (sometimes a berry) many-seeded, 1-2-celled, usually 2-valved; having the margins of the valves bent in and bearing the seeds in those in which the capsule is 1-celled; but the seeds are inserted in central placentas in those with 2-celled capsules. Seeds small. Embryo straight, inclosed in the axis of soft fleshy albumen. Radicle tending towards the umbilicus.—Herbs, rarely shrubs, usually glabrous. Leaves opposite, entire, exstipulate. Flowers terminal or axillary.

This order is more readily distinguished by habit alone, than by character. It is nearly allied to *Polemoniàceæ*, *Scrophulárinæ*, and *Spigeliàceæ;* from the first it is distinguished by the dehiscence of the capsule and placentation of the seeds; from the second in the flowers being regular, and in the stamens being equal in length; and from the latter in the style not being kneed, in the capsule being 1-celled, and in the seeds being fixed to the edges of the valves. It also comes near to *Apocýneæ*, but is readily distinguished from that order in the æstivation of the corolla. In *Swértia perénnis* the embryo is in the umbilical region of the seed, contrary to the assertion of Dr. Gærtner.

The species are chiefly natives of cool and mountainous regions of Europe, Asia, and America. They are mostly dwarf, herbaceous plants, with deep blue, yellow, or white flowers, the former colour prevailing. They are all pretty, and most of them beautiful in the highest degree, but, with few exceptions, they are impatient of cultivation. The medicinal properties of the root of *Astèrias lùtea*, *Coilántha rùbra*, and *C. purpùrea*, the stems and leaves of *Agathòtes alàta*, *Erythræ'a Centaúrium*, and *E. Chilénsis*, *Frasèra Waltèri*, &c., are eminently tonic, stomachic, and febrifugal; their bitterness is second only to quassia and Peruvian bark. Similar, but more feeble virtues are found in most of this order. A kind of spirit is distilled in Switzerland from the roots of *Gentiàna* macerated in water.

Synopsis of the genera.

Tribe I.

Gentianie'æ. Capsule 1-2-celled; margins of valves placentiferous. Seeds usually disposed in a double row.

Sub-tribe I. Gentia'neæ-ve'ræ. *Capsule 1-celled, 2-valved; margins of valves bearing the seeds. Anthers remaining unchanged.*

1 Swe'rtia. Corolla rotate, 4-5-parted: having 2 nectariferous pores at the base of each segment, which are ciliated with hairs. Seeds compressed, marginate.

2 Hale'nia. Corolla rotate, 4-5-parted: each segment furnished with a spur, horn or tubercle at the base. Seeds roundish, small, smooth.

3 Agathòtes. Corolla rotate, 4-parted: having 2 parallel, oblong, fringed pores at the base of each segment. Seeds minute, globose, smooth.

4 Ophe'lia. Corolla rotate, 4-5-parted; each segment furnished with 2 distinct or combined nectariferous, naked pores or glands at the base. Seeds angular, scrobiculate, scabrous.

5 Gentiane'lla. Corolla 4-cleft, salver-shaped, furnished with 4 nectariferous pores at the bottom; segments fringed. Seeds small, scobiform.

6 Frase'ra. Corolla rotate, 4-parted; each segment furnished with 1 orbicular bearded gland in the middle. Seeds imbricate, marginate.

7 Gentia'na. Corolla campanulately funnel-shaped, 4-5-cleft. Stigma 2-lobed. Seeds roundish or oblong.

8 Centaure'lla. Corolla urceolately campanulate, 4-cleft. Stigma thick, glandular, 2-lobed. Seeds small, roundish.

9 Aste'rias. Calyx spathaceous, 3-4-cleft, split on one side. Corolla subrotate, 5-cleft, furnished with a green gland at the base of each segment. Anthers at first combined, afterwards free. Seeds compressed, winged.

10 Coila'ntha. Calyx spathaceous, unequally toothed, split on one side. Corolla campanulate, 5-10-cleft. Stigma bifid. Anthers at first combined. Capsule furnished with 5-7 tubercles at the base. Seeds compressed, winged.

11 Eurytha'lia. Corolla salver-shaped: limb 4-5-cleft, with as many bearded or fringed smaller segments inside these, and attached to them at the base. Anthers incumbent. Stigma 2-lobed. Seeds compressed, roundish.

12 Pleurógyna. Corolla rotate, 4-5-cleft, with a fringed throat. Anthers incumbent. Stigmas 2, adnate to the ovarium lengthwise on both sides in the sutures. Seeds minute, globose.

13 Erica'la. Corolla funnel-shaped or salver-shaped, 8-10-cleft; the alternate or accessory segments usually the smallest. Anthers incumbent, ovate or oblong, minute. Seeds ovate or oblong, minute.

14 Pneumona'nthe. Corolla campanulate or salver-shaped, 10-cleft: the alternate or accessory segments usually the smallest. Anthers combined. Seeds small, globose, smooth.

15 Glyphospe'rmum. Flowers polygamous. Corolla tubular, 5-cleft. Anthers incumbent. Stigma capitate, 2-lobed. Seeds orbicular, full of excavated dots, disposed in a single row.

16 Sela'tium. Corolla tubular, 5-lobed. Filaments flat; anthers incumbent. Stigma 2-lobed, nearly sessile. Placentas 2, one half shorter than the ovarium.

17 Ulóstoma. Corolla funnel-shaped, 5-parted: having the tube bearded with long hairs inside. Filaments dilated: anthers incumbent. Ovarium fusiform. Stigma sessile, 2-lobed.

18 Schulte'sia. Calyx tubular, 4-cleft, 4-winged. Corolla salver-shaped, with an equal tube, and a 4-cleft limb. Stigma bilamellate. Seeds minute, angular.

19 Callopísma. Calyx 4-parted; with keeled segments. Corolla salver-shaped, 4-cleft; with an equal tube. Stigma 2-lobed, exserted. Anthers pruinose, opening by a double pore at the apex. Seeds oblong or angular.

20 Ta'chia. Calyx tubular, 5-angled, 5-toothed. Corolla funnel-shaped, 5-parted, with a wide throat. Stamens exserted, inclinate. Stigma small, round, bilamellate, exserted; margins of valves bent into the central placenta. Seeds small, viscid.

21 Prepu'sa. Calyx campanulate, 6-cleft, 6-winged. Corolla campanulate, 6-cleft. Stamens 6. Seeds minute, globose, angular.

22 Orthoste'mon. Calyx tubular, 4-toothed. Corolla with a short, 4-parted limb. Stamens 4, exserted; anthers dehiscing lengthwise. Stigmas 2, roundish.

23 Chlòra. Calyx 4-8-parted. Corolla salver-shaped, 4-5-parted. Stamens 8; filaments very short; anthers linear, erect. Stigma 2-4-cleft. Capsule oval-oblong. Seeds minute.

24 Hippion. Calyx viscid, 5-cleft. Corolla viscid, salver-shaped, swelling at the base, and contracted at the orifice; limb 5-cleft. Stamens 5, exserted. Anthers incumbent. Style declinate. Stigma capitate, slightly cloven.

25 Canscòra. Calyx cylindrical or quadrangular. Corolla funnel-shaped: with a 4-cleft unequal limb. Stamens 4, one longer than the rest. Anthers oblong-linear. Stigma 2-lobed. Seeds roundish, minute.

26 Vohìria. Calyx turbinate, 5-cleft; furnished with 2-3 scales at the base. Corolla salver-shaped, 5-cleft; tube long, narrow, tumid at the base. Anthers almost sessile. Stigma capitate, simple. Capsule oblong. Seeds scobiform.

27 Leipha'imos. Calyx small, 5-parted. Corolla funnel-shaped, 5-cleft. Anthers sagittate, nearly sessile. Stigma somewhat peltate, sub-bilabiate. Capsule lanceolate; edges of valves villous. Seeds scobiform.

28 Enicoste'ma. Calyx unequally 5-cleft. Corolla funnel-shaped, 5-cleft. Stamens 5; filaments dilated. Stigma capitate, subemarginate. Capsule oblong. Seeds scrobiculate.

29 Crawfu'rdia. Calyx tubular, 5-toothed. Corolla campanulate, 5-cleft, with or without accessory lobes. Filaments dilated; anthers erect. Hypogynous disk 5-lobed. Stigma 2-lobed, recurved. Seeds with membranous edges.

Sub-tribe II. Coutou'beæ. *Capsule 2-celled, in consequence of the margins of the valves being bent into the central column; margins of valves placentiferous. Anthers remaining unchanged, even in the old state.*

30 Coutou'bea. Calyx campanulate, 4-parted. Corolla salver-shaped, 4-parted; tube equal. Stamens 4, exserted; filaments bidentate at the base. Anthers sagittate. Stigma bilamellate. Seeds scobiform.

31 Adene'ma. Calyx 5-parted. Corolla funnel-shaped, 5-cleft. Stamens 5, inclosed; filaments short, furnished with a gland at the insertion of each; anthers incumbent. Stigma 2-lobed. Seeds scobiform.

32 Schuble'ria. Calyx 5-parted. Corolla tubularly campanulate, 5-cleft. Stamens 5, minute; anthers oblong. Stigma simple, penicellately glandular. Seeds small, ovate or obovate, angular.

33 He'lia. Calyx campanulate, 5-parted. Corolla salver-shaped; limb rather oblique, 5-parted: tube inflated in the middle. Stamens 5. Stigma of 2 cylindrical divisions. Seeds small, globose, or angular.

34 Eudóxia. Corolla campanulate, 5-cleft. Stamens 5, adnate to the tube of the corolla; filaments channelled inside; anthers linear, incumbent. Ovarium fusiform, 2-celled. Stigma sessile, 2-lobed. Ovula orbicular, peltate, concave on one side, with membranous edges.

Sub-tribe III. Chiròniæ. *Capsule 1-celled, 2-valved; margins of valves inflexed, seminiferous. Anthers changed when old.*

35 Chirònia. Calyx 5-parted. Corolla salver-shaped, 5-cleft. Stamens 5; filaments dilated; anthers oblong, erect, connivent, at length spirally twisted. Style declinate. Stigma capitate.

36 ROSLÍNIA. All as in *Chirònia*, but differs in the fruit being a succulent berry.

37 ERYTHRÆ'A. Calyx 5-cleft. Corolla funnel-shaped: with a short 4-5-parted limb. Anthers spiral in the old state. Style erect. Stigmas 2, roundish.

38 SABBA'TIA. Calyx 5-parted. Corolla with an urceolate tube, and a 5-12-parted limb. Stigmas 2, spiral. Anthers at length revolute.

SUB-TRIBE IV. LISIA'NTHEÆ. *Capsule 2-celled, in consequence of the margins of the valves being bent into the central column; margins of valves placentiferous. Anthers changed in the old state.*

39 LISIA'NTHUS. Calyx campanulate, 5-cleft. Corolla funnel-shaped; tube ventricose on one side; limb equal, 5-cleft. Anthers sagittate, incumbent, revolute in the old state. Style elongated; stigma bilamellate. Seeds small, angular.

40 IRLBA'CHIA. Calyx campanulate, 5-cleft. Corolla funnel-shaped, equal, 5-cleft. Anthers revolute when old. Lobes of stigma cylindrical. Seeds angular, small.

41 SYMBOLA'NTHUS. Calyx 5-parted, pentagonal. Corolla salver-shaped, 5-parted; tube cylindrical; segments fringed. Stamens having a small crenulated, ring-formed membrane at the base of the filaments. Anthers sagittate, but at length convolute. Lobes of stigma linear-oblong, flat.

42 EU'STOMA. Calyx 5-parted; having the segments more or less winged on the back. Corolla funnel-shaped, 5-cleft; tube contracted a little at apex. Stamens 5; filaments compressed; anthers rather sagittate. Stigma deeply 2-lobed. Seeds scobiform.

TRIBE II.

EXACIE'Æ. *Capsule 2-celled; margins of valves inflexed, inserted in the central placentas, which are at length free and bear the seeds.*

43 SEBÆ'A. Calyx 4-5-parted; segments keeled or winged. Corolla 4-5-cleft. Stamens exserted; anthers dehiscing lengthwise, when old recurved and callous at the apex. Stigmas 2.

44 E'XACUM. Calyx campanulate, 4-cleft; segments winged on the back. Corolla subrotate, 4-cleft. Stamens 4, declinate; filaments terete; anthers oblong, sub-tetragonal, emarginate at the base, erect, dehiscing by a chink at apex. Style declinate. Stigma clavate, undivided.

45 MICROCA'LE. Calyx deeply 4-cleft. Corolla salver-shaped, with a swelling tube and a 4-cleft limb. Stamens 4, filiform, erect: anthers oblong. Style declinate; stigma capitate, undivided. Capsule imperfectly 2-celled.

TRIBE III.

DESFONTAINIE'Æ. *Berry 1-celled, many-seeded; with 4-5 parietal septiform placentas, hence the berry appears many-celled; placentas with reflexed seminiferous sides. Seeds disposed without order, erect, obovate, angular, with an umbilicus at the base, and a dilated chalaza at top. Albumen fleshy, white.—Evergreen shrubs, with spiny-toothed leaves, and solitary, terminal, pedunculate flowers. Peduncles bibracteate.*

46 DESFONTA'INIA. Calyx 4-5-parted; with nearly equal obtuse segments. Corolla tubular, cartilaginous; with a 4-5-lobed limb; lobes roundish, retuse. Stamens 4-5. Anthers erect, innate, 2-celled, inserted each in a large, fleshy connective; cells dehiscing lengthwise.

† *A genus hardly known.*

47 PALLA'DIA. Corolla funnel-shaped; limb of 8 segments; tube furnished with 8 plicæ. Capsules 2, club-shaped. Stigmas 2, spreading. Seeds small, roundish, fixed to spongy receptacles.

TRIBE I.

GENTIANIE'Æ. Capsule 1-2-celled, 2-valved; margins of valves placentiferous. Seeds usually disposed in two rows, on each side of the valves.

SUB-TRIBE I. GENTIA'NEÆ-VE'RÆ. (This tribe is supposed to contain the legitimate species of the genus.) Capsule 1-celled, 2-valved. Margins of valves bearing the seeds. Anthers remaining unchanged in the old state.

I. SWE'RTIA (so named by Linnæus after Iman Sweert, a cultivator of bulbs and flowers, in Holland; author of Florilegium, Francof. 1612. fol.). Lin. gen. no. 321. Schreb. 449. Juss. 142. Gærtn. fruct. 2. p. 160. t. 114. Lam. ill. t. 109.

LIN. SYST. *Tetra-Pentándria, Monogýnia.* Calyx deeply 4-5-parted. Corolla rotate, 4-5-parted; segments furnished with 2 callous scrobicles at the base of each, which are fringed on the edges. Stamens 4-5; filaments subulate, flattened, glabrous, dilated at the base; anthers incumbent, dehiscing lengthwise, loosened at the base. Style very short. Stigmas 2, suborbiculate, flattened, minutely papillose above, with revolute edges. Capsule 1-celled, 2-valved. Seeds compressed, marginate, fixed to the edges of the valves.—Usually glabrous herbs. Leaves opposite, rarely alternate, quite entire, nerved. Flowers terminal, pedunculate, almost solitary, or racemosely panicled, blue or yellowish.

§ 1. *Pentámera* (from πεντε, *pente*, five, and μερις, *meris*, a part; parts of the flowers). *Calyx 5-parted. Corolla 5-cleft. Stamens 5.*

1 S. PERE'NNIS (Lin. spec. 328.) glabrous: stems erect, and are, as well as peduncles, tetragonal; leaves almost all radical, ovate or elliptic, obsoletely nerved; racemes panicled, terminal; segments of corolla acute. ♃. H. Native of Germany, Austria, France, Caucasus, and Siberia; and of North Wales. Jacq. austr. 243. Smith, engl. bot. t. 1441. Pall. ros. 2. p. 98. Gentiàna paniculàta, Lam. fl. fr. 2. no. 333. Gentiàna palústris, All. ped. no. 367.—Hall. helv. no. 636.—Barrel. icon. t. 91.—Morr. his. sect. 12. t. 5. f. 11. Calycine segments subulate. Corolla of a greyish purple colour; segments elliptic, acute, dotted with black, having the edges of pores bristly. Margins of valves bearing a double row of seeds. Plant very bitter. Cauline leaves opposite. Bracteas elliptic, oblong.

Perennial Felwort. Pl. July, Aug. Pl. 1 foot.

2. S. OBTU'SA (Led. act. petrop. 5. p. 526. fl. alt. 1. p. 290. Rchb. pl. crit. 5. p. 11. t. 419. f. 605.) glabrous; stems erect, and are, as well as the peduncles, tetragonal; leaves scattered, all oblong, 5-nerved, somewhat coriaceous, obtuse; flowers racemose; segments of corolla obtuse, dotless, and erose at the apex; cilia of nectary very long and loose; filaments pilose at the base. Native of Siberia, in sub-alpine humid places. S. perénnis Pall. itin. 2. p. 568. S. perénnis, β alternifòlia, Schlecht. in Linnæa. 2. p. 189-190. Stem bluish-green, tetragonal. Lower cauline leaves petiolate, oblong. Bracteas, and pedicels bluish. Corolla violaceous.

Var. β, *albiflòra* (Led. fl. alt. 1. p. 291.) flowers white. Native of Siberia.

Obtuse-leaved Felwort. Pl. 1 foot. ♃. H.

3 S. DECU'MBENS (Vahl. symb. 1. p. 24.) glabrous, decumbent; stems filiform, obscurely angular; leaves linear-lanceolate, sessile, somewhat connate at the base; pedicels twine at the tops of the branches; each furnished with a linear bractea at the base. ♃. G. Native of Arabia Felix. Willd. spec. 1. p. 1330. Parnássia polynectària, Forsk. descr. p. 207. icon. t. 5. f. 6. Stigmas 2.

Decumbent Felwort. Pl. decumbent.

4 S. JAVA'NICA (Blum. bijdr. p. 848.) stem erect, fastigiately branched; leaves linear-lanceolate, 3-nerved, sessile; peduncles tetragonal, 1-flowered; axillary ones usually twin, and the terminal ones aggregate; corollas campanulately 5-parted, about equal in length to the calyx. ♃. S. Native of Java, on the top of Mount Gede, in humid places.

Java Swertia. Fl. year. Pl.

5 S. CÆRU'LEA (Royle, herb.) lower leaves spatulate, petiolate: superior ones as well as calycine segments lanceolate, bluntish; corollas 5-parted: segments ovate, mucronate, fringed on the edges with distant, linear scrobicles. ⊙. H. Native of the Himalaiah. Flowers blue.

Blue-flowered Felwort. Pl.

§ 2. *Tetramèra* (from τετρα, *tetra*, four, and μερις, *meris*, a part; parts of the flowers). *Calyx* 4-*parted*. *Corolla* 4-*cleft*. *Stamens* 4.

6 S. DICHÓTOMA (Lin. spec. 329.) glabrous; stems branched, dichotomous, diffuse, articulated, thick; radical leaves obovate, nerved, petiolate: cauline ones elliptic, acute, 3-nerved, sessile; pedicels from the forks of the branches nutant, shorter than the internodes. ⊙. H. Native of Siberia, on the banks of the Catscha, above Krasnojarsk, &c. Lin. amœn. 2. p. 317. Pall. fl. ross. 2. p. 100. t. 91.—Gmel. sib. 4. p. 113. t. 53. f. 2. Habit of *Anagállis*. Lobes of calyx ovate-lanceolate, acute. Segments of corolla ovate, obtuse, with the nectaries hardly ciliated. Capsule obovate, compressed. Flowers green and sometimes reddish. Stem decumbent, red.

ichotomous Felwort. Pl. decumbent.

7 S. MULTICAU'LIS (D. Don, prod. fl. nep. p. 128.) stems tufted; peduncles tetragonal, 1-flowered; leaves lanceolate, obtuse, attenuated at the base; calycine segments oval, obtuse; corollas 3 times longer than the calyx: with oval-oblong, obtuse segments. ♃. H. Native of Nipaul, on the alps. Root long, fusiform. Stems tetragonal, trichotomous, 3-flowered, or simple 1-flowered. Flowers purplish, size of those of *S. perénnis*.

Many-stemmed Felwort. Pl. tufted.

8 S. PALLA'SII; glabrous; stem simple, filiform, erect; leaves lanceolate, nerved; pedicels erect, axillary, somewhat fastigiate. ⊙. H. Native of Kamtschatka, at the mouth of the river Apalla. S. tetrapétala, Pall. fl. ross. 2. p. 99. t. 90. f. 2. Each stem furnished with 4-5 pairs of leaves. Flowers small. Calycine segments linear. Segments of corolla hardly cohering at the base, deep blue; having the nectariferous scrobicles combined, notched on the edges, and of a fulvous colour, and visible on the back. Ovarium fusiform. Stamens rufescent.

Pallas's Felwort. Pl. ½ foot.

9 S. PUSÍLLA (Pursh, l. c.) glabrous; stem simple, 1-flowered; leaves oblong; corolla twice as long as calyx. ⊙. H. Native of New Hampshire, on the alpine regions of the White Hills; and of Labrador. The whole plant is scarcely an inch high, with 1-2 pairs of small leaves, and a considerable sized blue flower. Segments of corolla oblong, acuminated; of the calyx obtuse.

Least Felwort. Fl. June. Pl. 1 inch.

10 S. FASTIGIA'TA (Pursh, fl. amer. sept. 1. p. 101.) glabrous; stem branched; leaves spatulate-obovate, nerved; flowers fastigiate, aggregate, axillary and terminal; pedicels twin; corolla campanulately rotate, length of calyx. ♃. H. Native of North America, on the Missouri flats, near the Rocky Mountains, Lewis. Leaves large. Flowers sky blue.

Fastigiate-flowered Felwort. Fl. July. Pl. ½ foot.

11 S. PERFOLIA'TA (Royle, mss.) glabrous; stem erect, terete; leaves elliptic-oblong, acuminated, 7-nerved, connately sheathing; flowers racemosely panicled; segments of corolla acuminated; nectariferous scrobicules combined. ♃. H. Native of the Himalaiah. Habit and size of *Gentiàna lùtea*. Root fusiform, horizontal, dirty yellow. Stems the thickness of a finger. Lower leaves petiolate; petioles connately sheathing: upper ones sessile, connate. Flowers very numerous, drooping, blue? Pedicels filiform, furnished each with a lanceolate bractea at the base. Nectariferous scrobicles roundish, fringed with long cilia.

Perfoliate-leaved Felwort. Pl. 3 feet.

12 S. SPECIÒSA (Wall. cat. no. 4384.) glabrous; stem erect, terete?; leaves petiolate, spatulate-oblong, obtuse, 5-nerved; flowers racemosely panicled; segments of corolla obtuse; nectariferous scrobicles distinct, ciliated with threads. ♃. H. Native of Nipaul, Kamaon, and Himalaiah. Swértia petiolàris, Royle, mss. Petioles connate at the base. Leaves 2 inches long. Segments of calyx lanceolate, mucronate. Corolla yellow, almost twice longer than the calyx.

Showy Felwort. Pl. 2 to 3 feet.

13 S. CUNEA'TA (Wall. cat. no. 4380.) glabrous; stem erect, filiform; leaves spatulately oblong, petiolate, obtuse, 5-nerved; flowers racemosely panicled; segments of corolla obtuse; nectariferous scrobicles linear-oblong, distinct, ciliated with long hairs. ♃. H. Native of the Himalaiah, Royle; Kamaon, Wall. Swértia glycanthèra, Royle, mss. Root fibry, dirty yellow. Leaves 2-4 inches long: superior ones linear-oblong, almost sessile. Segments of the calyx linear, acute, 3-nerved. Segments of corolla obtuse, emarginate, 5-nerved. Corolla blue.

Cuneate-leaved Felwort. Pl. ¼ to ¾ foot.

14 S. ALTERNIFÒLIA (Royle, mss.) leaves alternate, elliptic-oblong, acuminated, 7-nerved, sheathing at the base; flowers drooping, racemosely panicled; segments of the calyx ovate, acuminated: of the corolla elliptic, obtuse; nectariferous scrobicles orbicular, fringed, contiguous. ♃. H. Native of Nipaul, Royle.

Alternate-leaved Felwort. Pl.

Cult. All the species delight in a light soil, inclining to peat; and a marshy situation. The perennial species are increased by division at the root, or by seed.

II. HALE'NIA (meaning unknown to us). Borkh. in Rœm. archiv. 1. p. 24. Swértia species of authors.

LIN. SYST. *Tetra-Pentándria*, *Digýnia*. Calyx 4-parted. Corolla subcampanulate or funnel-shaped, 4-cleft, each segment furnished with a spur, horn, or tubercle at the base. Filaments filiform or subulate; anthers incumbent, dehiscing at the sides lengthwise. Stigma sessile, 2-lobed. Capsule 1-celled, 2-valved at apex. Seeds roundish, small, smooth.—Usually glabrous herbs. Leaves opposite, quite entire, nerved: radical ones crowded. Flowers terminal and axillary, pedunculate, blue, or yellow.

1 H. SIBÍRICA (Borkh. in Rœm. arch. 1. p. 25.) stem erect, obsoletely quadrangular, simple, or branched; cauline leaves lanceolate, 3-nerved; pedicels axillary and terminal, filiform, 1-flowered; flowers nutant; corolla subcampanulate, sometimes 5-cleft; spurs divaricate, incurved, subulate. ⊙. or ♃. H. Native of Siberia, about the Genissee, and in shady places at the mouth of the river Tschulyschman. Swértia corniculàta, Lin. spec. 328. amœn. 2. p. 317. Pall. fl. ross. 2. p. 99. t. 90. f. 1. Tetragonánthus elàtior. Stell. irc. p. 122.—Gmel. sib. 4. p. 114. t. 53. f. 3. Radical leaves broad, lanceolate. Corollas greenish.

Capsule silique-formed. This plant, from its grateful bitterness, is received among the domestic remedies of the inhabitants of Siberia.

Siberian Halenia. Fl. July, Sept. Clt. 1817. Pl. ½ to 2 ft.

2 H. Michauxia'na; stem branched, quadrangular; branches short; cauline leaves ovate, 3-nerved; corollas campanulate; spurs deflexed. ♂. H. Native of Canada, in swamps, and round the lakes of the western parts of the United States. Swértia corniculàta, Michx. fl. amer. bor. 1. p. 97. Pursh, 1. p. 100. Swértia Michauxiàna, Rœm. et Schultes, syst. 6. p. 130. Swértia Americàna, Spreng. syst. 1. p. 861. Flowers greenish yellow.

Michaux's Halenia. Fl. July. Clt. 1824. Pl. ½ to 1 foot.

3 H. Pavonia'na; tufted; stems slender, tetragonal, simple or branched, nearly naked; flowers terminal, umbellate; leaves petiolate, lanceolate-linear, nerveless: cauline ones conniving at the base; corolla subcampanulate; spurs acute, diverging, longer than the corolla. ⊙. G. Native of Peru, on the Andes. Swértia umbellàta, Ruiz et Pav. fl. per. 3. p. 21. t. 242. f. b. Peduncles 5-10 together, tetragonal, rather drooping. Umbels solitary or twin. Calycine segments lanceolate, acutish, with scabrous margins. Corolla yellow; with ovate, acuminated segments. Capsule conical. Seeds lenticular.

Pavon's Halenia. Pl. 1 to 2 feet.

4 H. brevicórnis; stem erect, branched, terete; leaves linear-lanceolate, 3-nerved, on short petioles; flowers axillary and terminal, solitary, pedicellate; calycine segments linear; corolla funnel-shaped; spurs very short. ⊙. G. Native of Quito, in temperate places, near Chilla. Swértia brevicórnis, H. B. et Kunth, nov. gen. amer. 3. p. 174. Leaves 1½ inch long: superior ones sessile-linear. Corolla pale yellow: with ovate, acute segments. Capsule oblong, compressed. Seeds roundish.

Short-horned Halenia. Fl. May. Pl. ½ to ¾ foot.

5 H. parviflòra; stem erect, quadrangularly terete, simple; cauline leaves linear-lanceolate, 3-nerved, sessile; flowers paniculately spicate, twin; calycine segments linear; corolla rotately campanulate, with a tubercle at the base of each segment instead of spurs. ⊙. F. Native of Mexico, near the town of Guanaxuato. Swértia parviflòra, H. B. et Kunth, nov. gen. amer. 3. p. 175. Corolla yellow; with ovate, acute segments. Capsule oblong, compressed.

Small-flowered Halenia. Fl. Sept. Pl. ½ to ¾ foot.

6 H. gra'cilis: stem erect, tetragonally terete; leaves oblong, 3-nerved: superior ones sessile, ovate-oblong; flowers terminal and axillary, twin, pedicellate; calycine segments obovate-spatulate; corolla subcampanulate; spurs pendulous, erectish, conical. ⊙. F. Native along with the preceding. Swértia gràcilis, H. B. et Kunth, nov. gen. amer. 3. p. 176. Leaves 8-9 lines long. Corolla yellow; ? with ovate, acute segments.

Slender Halenia. Pl. ¾ foot.

7 H. plantagínea; stems erect, quadrangular, simple, or fastigiately branched; radical leaves lanceolate, 3-nerved, on long petioles: cauline leaves linear, sessile; flowers terminal and axillary, solitary, pedicellate; calycine segments linear-spatulate; corolla campanulate; spurs pendulous. ♃. G. Native of Mexico, on the burning mount Jorullo. Swértia plantagínea, H. B. et Kunth, nov. gen. amer. 3. p. 175. Radical leaves 3 inches long. Corolla yellow; with ovate obtuse segments. Seeds roundish.

Plantain-like Halenia. Fl. Sept. Pl. ¾ foot.

8 H. asclepia'dea; stems erectish, angularly terete, simple; leaves 3-nerved: radical ones lanceolate, petiolate: cauline ones linear, sessile; flowers subumbellate, pedicellate; calycine segments lanceolate; corolla campanulate; spurs conical, ascending, spreading. ♃. G. Native of New Granada, near Santa Fe de Bogota, on the declivities of mountains. Swértia asclepiàdea, H. B. et Kunth, nov. gen. amer. 3. p. 175. Leaves 20 lines long. Corolla yellow; with ovate-oblong, obtuse segments.

Asclepias-like Halenia. Fl. July. Pl. 1 foot.

9 H. hypericoìdes; stems procumbent, branched, leafy; leaves oblong-lanceolate, 3-nerved: upper ones sessile; flowers panicled, twin, pedicellate; calycine segments linear-lanceolate; corolla subcampanulate; spurs pendulous, hooked at top. ♃. G. Native of New Granada, near the mine called Zipaquira, at the altitude of 1400 hexapods. Swértia hypericoìdes, H. B. et Kunth, nov. gen. amer. 3. p. 176. Leaves 8-10 lines long; having the petioles connate, and sheathing at the base. Corolla yellow?; with ovate, acute segments. Capsule oblong, obtuse, compressed. Seeds roundish.

St. John's-wort-like Halenia. Fl. Sept. Pl. proc.

10 H. ellíptica (D. Don, mss.) stem terete, branched; leaves elliptic-obtuse, 5-nerved: lower ones petiolate; calycine segments obtuse, short; spurs filiform, longer than the corolla. ♃. F. Native of the Himalaiah and Kamaon. Swértia corniculàta, Royle, herb. Swértia centrostémma, Wall. cat. no. 4385. Stem 1-1½ foot. Leaves an inch and a half long. Flowers pale.

Elliptic-leaved Halenia. Pl. 1 to 2 feet.

11 H. elonga'ta (D. Don, mss.) leaves linear-lanceolate, acute, 3-nerved, attenuated at the base; calycine segments spatulate; spurs short, straight, shorter than the corolla. ⊙. H. Native of Mexico.

Elongated Halenia. Pl. 1 foot.

12 H. pinifòlia (D. Don, mss.) tufted; stems erect, simple; leaves linear, acute, channelled; flowers umbellate; calycine segments ovate-lanceolate, acute; spurs straight, twice shorter than the corolla. ♃. F. Native of Peru, on the Cordilleras of the Andes. Swértia pinifòlia, Ruiz et Pav. in herb. Lamb. Leaves very narrow; with scabrous edges. Flowers golden yellow.

Pine-leaved Halenia. Pl. ¼ to ½ foot.

Cult. Elegant plants, requiring almost the same treatment and soil as *Swértia*. The species require to be grown in pots, well drained with sherds, and filled with a mixture of peat and sand, placed in pans of water, in order to keep the mould constantly moist.

III. AGATHO'TES (from αγαθοτης, *agathotes*, goodness; in reference to the quality of the species). D. Don, mss. Swértia species, Wall.—Gentiàna species, Roxb.

Lin. syst. *Tetrándria, Monogýnia.* Corolla rotate, 4-parted; segments ovate, acuminated, furnished each with 2 oblong, parallel, fringed scrobicles at the base. Stamens 4; filaments subulate, glabrous, compressed. Anthers oblong, incumbent, with 2 parallel cells. Ovarium ovate. Style distinct; stigma 2-lobed: lobes roundish, thick, pruinose. Capsule 1-celled, dehiscing by 2 valves at apex. Seeds minute, globose, smooth.—Annual, erect, branched herbs. Stems terete, smooth. Leaves opposite, sessile, ovate-lanceolate, acuminated, 5-nerved, membranous, 3-6 inches long: superior ones stem-clasping. Flowers loosely panicled, drooping, greenish yellow, with a dark purple base. All the species contain an agreeable bitter.

1 A. ala'ta (D. Don, mss.) stem tetragonal, winged; leaves ovate; scrobicles of corolla orbicular, conferruminated, with downy edges. ⊙. H. Native of Nipaul. Flowers yellow.

Winged-stemmed Agathotes. Pl. 2 feet.

2 A. nervòsa; stem and branches tetragonally winged; leaves 3-nerved: lower ones ovate, obtuse, petiolate, becoming more lanceolate and smaller as they ascend the stem; scrobicles combined, ciliated on the edges. ⊙. F. Native of Nipaul, and Kamaon. Swértia nervòsa, Wall. cat. no. 4383. Flowers

racemosely panicled; pedicels solitary, axillary, and terminal; calycine segments lanceolate, acuminated, longer than the corolla. Corolline segments acuminated, broad at the base.

Nerved-leaved Agathotes. Pl. 2 to 3 feet.

3 A. CHIRAYÌTA (D. Don, mss.) stem terete; leaves ovate-lanceolate: scrobicles of corolla oblong, distinct: having the edges fringed with hairs. ⊙. H. Native of Nipaul, Kamaon, and Himalaiah. Gentiàna Chiràta, Wall. pl. asiat. rar. 3. p. 33. t. 252. Gentiàna cheràyta, Fleming. asiat. res. 2. p. 16. Roxb. fl. ind. 2. p. 71. Swértia purpùrea, Royle, herb. Swértia chiràta, Hamilt. mss. Flowers greenish yellow. Segments of calyx about equal in length to the corolla. The whole of the dried herb of this plant is in general use among the natives of Hindostan, and the mountainous countries bordering upon it to the north. It is called in the Sanscrit *Chirata*, *Chiratatikta*, and *Cherataka*, &c., and in the Bengalee *Chireta* and *Chirayta*. Dr. Wallich thinks that it contains a larger proportion and greater intensity of bitter principle than any other species of *Gentian*, and that the introduction of it into our pharmacopœia would be attended with much public benefit. A weak infusion of it, made with cold spring or rain water, should be used in small quantities, repeated several times daily, for some weeks, when it may advantageously be left off for a short time, and then resumed again. A decoction or infusion, made with hot water, Dr. Fleming says is objectionable, on account of the head-ache it generally produces. The dried herb of the *Chiràta* is met with in every bazaar in Hindostan, being a medicine in the highest repute with both the Hindu and European practitioners. It contains all the stomachic, tonic, febrifugal and antarthritic virtues which are ascribed to *Astèrias lùtea*, but in a greater degree. The efficacy of *Chiràta*, when combined with Caranga nut, the *Guilandìna Bonducélla*, in curing intermittents, has already been mentioned under that name, in vol. II. It is found equally powerful in exciting and strengthening the action of the stomach, and obviating flatulency, acidity, and redundancy of phlegm, in dyspepsia and gout. For restoring the tone and activity of the moving fibre in general debility, and in that kind of cachexy which is liable to terminate in dropsy. In *Chiràyta* will be found one of the most useful and efficacious remedies which can be employed. Infusions of the plant are the best way of administering it. Spirituous tinctures are also prepared with the addition of cardamom seeds or orange peel. The most useful purpose to which the tincture can be applied, is that of being added to the infusion to render it more agreeable.

Chirayta. Pl. 2-4 feet.

Cult. For culture and propagation, see *Ophèlia*, p. 179.

IV. OPHE'LIA (from ωφελεια, *opheleia*, service; plants serviceable in medicine). D. Don, mss.—Swértia species of authors.

LIN. SYST. *Tetra-Pentándria*, *Monogýnia*. Calyx deeply 4-5-parted, spreading. Corolla rotate, deeply 4-5-parted; nectariferous glands or pores at the base of each segment 2, distinct or combined, naked. Stamens 4-5; filaments subulate, glabrous; anthers cordate, obtuse, 2-celled. Ovarium fusiform. Style very short; stigma 2-lobed: lobes obtuse, revolute, pruinose. Capsule ovate, membranous, 1-celled, 2-valved, many-seeded, dehiscing at top. Seeds minute, angular, scrobiculate, dark brown, scabrous.—Annual branched herbs, natives of Nipaul; with quadrangular stems; opposite sessile leaves; and panicled, white, or purple flowers.

* *Segments of corolla furnished with 2 conferruminated glands or pores at the base of each.*

1 O. ANGUSTIFÒLIA (D. Don, mss.) flowers 4-cleft; leaves petiolate, linear-lanceolate, acute; calycine segments linear, mucronate; segments of corolla ovate, acuminated, hardly shorter than the calyx. ⊙. H. Native of Nipaul, at Narainhetty, and of Kamaon and Sirmore. Swértia angustifòlia, S. pulchélla, and S. dichótoma, Ham. herb. S. angustifòlia, D. Don, prod. fl. nep. p. 127. Wall. pl. rar. asiat. 3. p. 2. t. 204. Branches trichotomous. Leaves 2 inches long. Flowers pale purple, dotted with paler purple. Root fusiform, fibry. The glands or pores on the segments of the corolla are bearded above, consequently it may be a species of *Agathòtes*.

Narrow-leaved Ophelia. Pl. 1 to 2 feet.

2 O. CILIA'TA (D. Don, mss.) flowers 5-cleft; leaves linear, scabrous, with revolute margins, petiolate, ciliated; calycine segments lanceolate, mucronate; segments of corolla ovate-lanceolate, acuminated, tuberculate at the base, hardly longer than the calyx; stem nearly terete. ⊙. H. Native of the Himalaiah, Royle. Swértia ciliàta, Royle, herb. Stem scabrous at the joints.

Ciliated-leaved Ophelia. Pl. 1 foot.

3 O. WALLÍCHII; flowers 5-cleft; leaves lanceolate, acuminated, 3-nerved, ciliated at the base; segments of corolla ovate, shorter than the calyx; filaments dilated at the base. ⊙. H. Native throughout Nipaul and Kamaon. Swértia paniculàta, Wall. pl. rar. asiat. 3. p. 3. t. 205. Flowers whitish-purple. Perhaps the same as *Oph. ciliàta*.

Wallich's Ophelia. Pl. 1 to 2 feet.

4 O. TE'RES (D. Don, mss.) flowers 5-cleft; leaves lanceolate, acuminated, 3-nerved, scabrous, petiolate, ciliated; calycine segments mucronate; segments of corolla ovate-lanceolate, acuminated, longer than the calyx; filaments monadelphous; stem terete. ⊙. H. Native of Nipaul, at Gosaingsthan. Swértia racemòsa, Wall. cat. no. 4377. Flowers white, but dark purple at the base.

Terete-stemmed Ophelia. Pl. 2 to 3 feet.

5 O. FLÓRIDA; flowers 4-cleft? leaves sessile, lanceolate, 3-nerved, acuminated, becoming gradually narrower and smaller as they approach the top; calycine segments linear-setaceous, longer than the corolla before its expansion, but are afterwards about equal in length to it; segments of corolla oblong, mucronate; flowers corymbose and racemose. ⊙. S. Native of the Burmese empire, at Prome, and on mount Taong Dong. Swértia flórida, Wall. cat. no. 4382. The flowers of the plant from Prome are paniculately corymbose; and those of the plant from Taong Dong, are paniculately racemose. Lower leaves petiolate.

Flowery Ophelia. Pl. 2 feet.

6 O. CHIRA'YTA (D. Don, mss.) flowers 5-cleft; leaves sessile, ovate, acute, 5-nerved; calycine segments ovate-lanceolate, acuminated; segments of corolla oblong, bluntish, shorter than the calyx. ⊙. H. Native of Nipaul. Swértia latifòlia, Royle, herb. Flowers very pale blue.

Chirayta Ophelia. Pl. 1 to 2 feet. ?

7 O. PÓRRIGENS (D. Don, mss.) flowers 4-cleft; leaves linear, acute, glabrous: with revolute edges; calycine segments lanceolate, acuminated; segments of corolla ovate, mucronulate, longer than the calyx; stem tetragonal. ⊙. H. Native of Nipaul. Swértia pulchélla, Ham. ex Wall. cat. no. 4375. Swértia élegans, Wall. cat. no. 4376. is only a slight variety of this species.

Stretching Ophelia. Pl. 1 foot.

8 O. CORDA'TA; flowers 5-cleft? leaves ovate, cordate at the base, 5-nerved; panicles axillary and terminal, racemose; calycine segments ovate, acuminated, about equal in length to the segments of the corolla, which are also nearly similar in shape. ⊙. H. Native of Kamaon. Swértia cordàta, Wall. cat. no. 4378. Stem branched, tetragonal; angles slightly winged; wings rather scabrous.

Cordate-leaved Ophelia. Pl. 2 to 3 feet.

* * *Segments of corolla furnished each with 2 oblong, distinct glands.*

9 O. LU'CIDA (D. Don, mss.) flowers 4-cleft; superior leaves cordate, acute, stem-clasping; calycine segments linear-lanceolate, mucronulate; segments of corolla ovate, acuminated, longer than the calyx. ⊙. H. Native of Nipaul. Swértia lùcida, Royle, herb. Flowers purple.

Shining Ophelia. Pl. 2 to 3 feet.

Cult. The seeds of the species of *Ophèlia* should be reared on a hot-bed in spring, as other tender annuals; and the plants afterwards planted out in the open ground, about the end of May, in a warm situation.

V. GENTIANE'LLA (a dim. of *Gentiàna*). Borkh. in Rœm. arch. 1. p. 29. Gentiàna species of authors. Híppion species, Schmidt. in Rœm. arch. 1. p. 11. Gentiàna, sect. Crossopétalæ, Frœl. gent. 109.

Lin. syst. *Tetrándria, Digýnia.* Calyx 4-cleft. Corolla salver-shaped, 4-cleft, without any accessory segments; furnished with 4 nectariferous scrobicles at bottom, as in *Swértia.* Stamens 4; anthers incumbent. Ovarium subpedicellate, obsoletely tetragonal. Style hardly any. Stigmas broadish, revolute. Capsule fusiform, 1-celled, 2-valved, with obtuse angles. Seeds small, scobiform.—Perennial, herbaceous, glabrous plants; stems tetragonal. Leaves opposite, lanceolate, with scabrous edges, sessile. Flowers terminal, pedicellate. Segments of corolla serrated, deeply ciliated in the middle.

1 G. CILIA'TA (Borkh. in Rœm. arch. 1. p. 29. Mayrhoff. fl. mon. t. 189.) stem flexuous, tetragonal; leaves lanceolate and linear; segments of corolla serrated, deeply ciliated at the base. ♃. H. Native from the Baltic to the Mediterranean, on hills. Gentiàna ciliàta, Lin. spec. 334. Lam. dict. 2. p. 644. exclusive of the synonymes of Oeder and Gunner. Jacq. fl. austr. t. 113. Pall. fl. ross. 1. t. 92. f. 2. b. Híppion ciliàtum, Schmidt, in Rœm. arch. 1. p. 11. Lower leaves spatulate. Corolla deep or pale blue, having the nectariferous glands yellow. Filaments ciliated with white hairs. Anthers purple. Segments of corolla lanceolate, acuminate: alternate ones larger.

Var. β; stem dwarfer, few-flowered; leaves for the most part lanceolate. ♃. H. Froel. gent. p. 109.—Barrel, icon. 121. exclusive of 97. f. 1.

Var. γ; stem many-flowered, branched. ♃. H. Froel. gent. p. 109.

Var. δ; stem humble, 1-flowered; leaves all ovate-lanceolate. ♃. H. Froel. l. c.

Var. ε; segments of corolla toothed, not ciliated. ♃. H. Híppion dentòsum, Schmidt, boh. 24. exclusive of the synonymes.

Ciliated-flowered Gentianella. Fl. Aug. Sept. Clt. 1759. Pl. ½ foot.

2 G. FIMBRIA'TA; stem simple, 1-flowered, naked under the flower; leaves lanceolate; segments of corolla serrated at top, and ciliately fringed in the middle. ♃. H. Native of Caucasus, in valleys. Gentiàna fimbriàta, Willd. mss. ex Rœm. et Schultes, syst. 6. p. 175. Gentiàna ciliàta, Bieb. fl. cauc. 1. p. 99. exclusive of the definition and synonymes.—Column. ecphr. p. 222. 221. f. 1. Flowers blue. Segments of corolla oblong. This plant is said to occur in Germany with larger flowers, and with the stem leafy even to the calyx.

Fringed-flowered Gentianella. Fl. Aug. Sept. Clt. 1818. Pl. ½ foot.

3 G. MACRA'NTHA (D. Don, mss.) stem erect, branched; branches tetragonal; lower leaves spatulate: upper ones linear; peduncles tetragonal, 1-flowered; corolla turbinately campanulate; segments fringed; calycine segments unequal. ♃. H. Native of Mexico. Gentiàna ciliàta, Moc. et Sesse, mss. in herb. Lamb. Radical leaves petiolate: cauline ones sessile. Corollas large, showy, pale blue: segments oblong, mucronulate, erosely serrated at top, and fringed at the base. Filaments dilated, keeled. Anthers oblong. Ovarium fusiform, stipitate. Stigmas large, cucullate, with plicate fringed edges.

Large-flowered Gentianella. Pl. 1 foot.

4 G. CRINÌTA; stem terete; branches elongated, 1-flowered; leaves lanceolate, acute; segments of corolla obovate, deeply ciliated. ♃. H. Native from New York to Carolina, in dry pastures and woods. Gentiàna crinìta, Frœl. gent. p. 112. Pursh 1. p. 185. Curt. bot. mag. t. 2031. Sweet, fl. gard. 139. Gentiàna fimbriàta, Andr. bot. rep. 509. Gentiàna ciliàta β, Americàna, Lin. syst. 1. p. 645. Flowers azure blue, elegantly fringed on their edges. Accessory segments of corolla or inner plicæ simple, ex Pursh. Seeds cylindrical, hispid.

Long-haired Gentianella. Fl. Aug. Sept. Clt. 1804. Pl. ¼ foot.

5 G. BARBA'TA; stem acutely tetragonal; branches elongated; leaves lanceolate, acuminated; segments of corolla oblong, rounded at the apex, serrulated, deeply ciliated in the middle. ♃. H. Native of Siberia and Caucasus, in grassy, saltish alpine meadows. Gentiàna barbàta, Frœl. gent. p. 114. Willd. spec. 1. p. 1352. Led. fl. alt. 1. p. 282. Gentiàna ciliàta, Pall. fl. ross. 2. p. 101. t. 92. f. 2. a. Sims, bot. mag. t. 639. exclusive of the synonymes.—Gmel. sib. 4. p. 105. no. 73. exclusive of the synonymes. Flowers smaller than those of *G. ciliàta.* Corolla with a greenish tetragonal tube; and green nectariferous glands; segments pale blue.

Var. β, símplex (Led. fl. alt. 1. p. 282.) stems quite simple.

Bearded-flowered Gentianella. Fl. Aug. Sept. Clt. 1764. Pl. ½ foot.

6 G. DETÓNSA; stem tetragonal, erect; leaves linear, acute; segments of corolla crenulated at top, bidentate on both margins, acute or obtuse.? ♃. H. Native of Norland, Iceland, Norway, &c. Gentiàna detónsa, Rottl. in act. hafn. 10. p. 435. t. 1. f. 3. Retz, obs. 1. no. 25. Frœl. gent. p. 116. Willd. spec. 1. p. 1352. Gentiána ciliàta β, Gmel. syst. p. 462. no. 43. Retz, scan. ed. 2. p. 64. no. 220. G. ciliàta, Gunn. norv. 2. p. 88. t. 2. f. 3-5. Gentiàna serràta β, Wahl. lapp. p. 71. Very like *G. barbàta,* and probably only a variety of it. Corolla blue.

Shaven-flowered Gentianella. Pl. ½ foot.

7 G. SERRA'TA (Borkh. in Rœm. arch. 1. p. 29.) stem tetragonal; branches 1-flowered; leaves linear-lanceolate; corolla 5-cleft; segments oblong, obtuse, serrated, or ciliated on the edges. ♃. H. Native of Norland and Iceland, in pastures near the sea. Gentiàna serràta, Gunn. norv. 2. p. 101. no. 819. Frœl. gent. p. 117. Gentiàna ciliàta, Oed. fl. dan. t. 317. Gentiàna Bavárica, Zoega island. p. 235. Peduncles 2-leaved. Corolla blue. Stigmas capitate.

Serrated-flowered Gentianella. Pl. ½ foot.

Cult. The species of *Gentianélla* are extremely elegant when in blossom, and are therefore well fitted for decorating peat borders, in which soil they always succeed best. As most of the species are difficult to preserve in the open ground during winter, reserve plants of each should be kept in pots that they may be easily sheltered by a frame in winter. The species are best increased by seed, which should be sown as soon as ripe, for if kept till spring they seldom vegetate.

VI. FRASE'RA (named after John Fraser, a collector of North American plants). Walt. fl. car. p. 88. Michx. fl. bor.

amer. 1. p. 96. Pursh, fl. amer. sept. 1. p. 94. Spreng. gen. 1. p. 85.

Lin. syst. *Tetrándria, Monogy'nia.* Calyx 4-parted or 4-cleft. Corolla 4-parted, spreading; segments oval, each furnished with an orbicular bearded gland in the middle. Stamens 4, inclosed; filaments filiform. Anthers ovate, oblong; somewhat bifid at the base, at length reflexed. Stigmas 2, thick, glandular. capsule compressed, submarginated, 1-celled. Seeds few, imbricated, winged, fixed to the margins of the valves.—A tall herb, having the stem and branches tetragonal. Leaves opposite and subverticillate, oblong. Flowers verticillate, on short, 1-flowered pedicels. Corollas greenish yellow, sometimes mixed with purple.

1 F. Walte'ri (Michx. l. c. t. 97.). ♂. F. Native in swamps of Lower Carolina; and on the borders of lakes in Pennsylvania and New York; and at the sources of the Arkansas. F. Caroliniénsis, Walt. fl. car. p. 88. Flowers in aggregate clusters. The whole of the plant has a very stately appearance; its generic character approaches so near to *Swértia* that without seeing the fruit it might be considered a species of that genus.

Walter's Frasera. Fl. July, Aug. Clt. 1795. Pl. 3 to 6 ft.

Cult. This plant requires to be grown in a peat soil, in a moist situation; it will also require protection the winter after being raised from seed, or that preceding its flowering.

VII. GENTIA'NA (so named from Gentius, king of Illyria, who first experienced the virtues of some species or other). Borkh. in Rœm. arch. 1. p. 28. R. Br. prod. p. 450.—Gentiàna species of authors—Híppion species of Schmidt.

Lin. syst. *Pentándria, Monogýnia.* Calyx 4-5-cleft, Corolla funnel-shaped, rarely salver-shaped, with a naked throat; limb 5-cleft, without any accessory segments. Stamens 5; anthers free, incumbent; filaments flattened. Stigma 2-lobed, usually sessile. Capsule 1-celled. Seeds roundish or oblong.—Glabrous herbs. Leaves opposite, decussate, petiolate or sessile. Flowers terminal. This genus is easily distinguished from others broken off from *Gentiàna* by the throat of the corolla being naked, in the anthers being free, in the limb of the corolla being without any accessory segments, &c.

Sect. I. *Perennial herbaceous plants. Corollas more or less campanulately funnel-shaped, 5-cleft. Anthers incumbent. Stigma 2-lobed, sessile.*

1 G. limoselloìdes (H. B. et Kunth, nov. gen. amer. 3. p. 130. t. 220. f. 1.) procumbent; leaves spatulate, obtuse, rather veiny; flowers terminal, solitary, on long peduncles; corolla campanulately funnel-shaped, 5-cleft; throat naked. ♃. F. Native of South America, on the burning mount Antisana, in humid flats. Stem branched, quadrangular. Leaves on long petioles. Calycine segments lanceolate, acute. Ovarium linear. Lobes of stigma obtuse, spreading. Segments of corolla obovate-oblong, obtuse.

Limosella-like Gentian. Pl. $\frac{1}{4}$ to $\frac{1}{3}$ foot.

2 G. rupícola (H. B. et Kunth, l. c. t. 220. f. 2.) tufted, procumbent, branched; leaves spatulate or linear-oblong, obtuse, somewhat 1-nerved, dense; flowers terminal, solitary, pedunculate; corolla campanulately funnel-shaped, 5-parted; throat bearded. ♃. F. Native of mount Antisana, near the crater, among rocks, which are covered by perpetual snow; and of Peru, near Pasco. Gent. campanuloìdes Willd. herb. ex Rœm. et Schultes, syst. 6. p. 184. Branches densely leafy. Leaves sessile. Flowers about the size of those of *Campánula pátula*, sometimes larger, purple or blue, with obovate obtuse segments. Calycine segments lanceolate, acutish. Ovarium linear.

Rock Gentian. Pl. procumbent, tufted.

3 G. gra'cilis (H. B. et Kunth, l. c. p. 168. t. 221.) stems ascending, almost simple, 1-flowered; leaves oblong-spatulate, obtuse, nerveless: lower ones approximate; corolla campanulately funnel-shaped, 5-cleft; throat beardless. ♃. F. Native on the tops of the Andes of Quito; in Parama de Saraguru, between Rio Bamba and Loxa. Stems quadrangular, rather compressed at top. Leaves nearly sessile, smaller, and more distant to the tops of the stems. Flowers size of those of *Saxífraga granulàta;* with lanceolate, acute segments. Calycine segments lanceolate, acute. Ovarium linear, compressed.

Slender Gentian. Pl. $\frac{1}{2}$ foot.

4 G. saxifragioìdes (H. B. et Kunth, l. c. p. 168.) tufted, procumbent; sterile branches short, densely leafy: floriferous ones elongated, few-leaved, ascending, 1-2-flowered; leaves lanceolate-linear, obtuse, somewhat 1-nerved; corolla campanulately funnel-shaped, 5-cleft; throat beardless. ♃. F. Native of South America, on the Pulla mountains, between Vinajaca and Loxa, at the altitude of 1560 hexapods: and near Pasco. Stem branched, creeping. Leaves sessile. Flowers size of those of *Halèsia tetráptera,* orange-coloured or yellow in the dried state. Segments of corolla obovate-oblong, obtuse. Calycine segments lanceolate, acute. Ovarium linear, compressed. Lobes of stigma obtuse. Leaves sheathing in a very remarkable manner at the base.

Saxifrage-like Gentian. Pl. $\frac{1}{2}$ foot.

5 G. cæspitòsa (Graham, in edinb. phil. journ. may. sept. 1830.) plant creeping, tufted, ascending, branched; flowers corymbose, terminal; leaves crowded, decussate, roundish-elliptic, rather fleshy, concave, 3-nerved; calyx 5-cleft, acute, reflexed; corollas erect, campanulate, 5-toothed, obtuse; with a naked throat. ♃. H. Native of North America, on the arctic coasts; and reared from seed collected during Capt. Franklin's expedition. Stems rooting at bottom. Leaves like those of *Arenària peploìdes,* but much darker green. Flowers sessile, rarely solitary and axillary, usually 3-4 together, terminal. Corolla greenish blue, yellowish green at the base, contracted somewhat towards the mouth, 5-nerved; three of the nerves passing into each of the blunt teeth of the limb; stamens reaching the base of the teeth. Anthers sagittate, dehiscing along the sides. Stigmas sessile, revolute. Ovarium attenuated at both ends.

Tufted Gentian. Fl. June, July. Clt. 1829. Pl. 1 to 2 in.

6 G. gramínea (H. B. et Kunth, l. c. p. 169.) procumbent; branches ascending, subfastigiate, 1 or 3-flowered; leaves linear, acute, nerveless, remote; corolla campanulately funnel-shaped, 5-cleft; throat almost beardless. ♃. F. Native of Peru, near Micuipampa, in cold rocky places, at the altitude of 1820 hexapods. Stems branched, compressedly quadrangular. Leaves small at the base. Corolla white and violaceous, ex Bonpl.; with obovate-oblong obtuse segments. Lobes of stigma obtuse, spreading. Ovarium linear, compressed. Capsule oblong-linear.

Grassy Gentian. Pl. $\frac{1}{2}$ foot.

7 G. cerastioìdes (H. B. et Kunth, l. c. t. 222.) procumbent; branches ascending, few-flowered; leaves linear, obtuse, obsoletely 3-nerved: lower ones approximate; corolla campanulately funnel-shaped, 5-parted; throat bearded. ♃. F. Native of the Andes, in the province of Pasto, between Chilanguer and Guachucal, at the altitude of 1600 hexapods. Habit of a species of *Cerástium.* Branches slightly tetragonal. Leaves sessile, subconnate. Calycine segments lanceolate-linear, acute. Corolla white? or violaceous; with obovate-oblong, obtuse segments. Ovarium linear.

Chickweed-like Gentian. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

8 G. ce'rnua (H. B. et Kunth, l. c. p. 170.) stem erect, nearly simple, 1-3-flowered; leaves oblong, or ovate-lanceolate,

acutish, obsoletely 3-nerved: lower ones approximate; flowers drooping; corolla campanulate; throat a little bearded. ♃. F. Native of South America, on the declivities of mount Chimborazo. G. cistiflòra Willd. rel. ex Rœm. et Schultes, syst. 6. p. 184. Stems a little compressed. Leaves sessile, subconnate. Flowers size of those of *Pnemonánthe vulgàris*, dark purple, painted with yellow veins. Ovarium linear. Capsule oblong-linear.

Drooping-flowered Gentian. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

9 G. dianthoìdes (H. B. et Kunth, l. c. t. 223.) stems erect, simple, 4-6-flowered; leaves linear, acute, 1-nerved: lower ones approximate; flowers opposite; corolla campanulately funnel-shaped, 5-cleft; throat beardless. ♃. F. Native of the Andes of Peru, between the mine of Micuipampa and the city of Caxamarca, at the altitude of 1800 hexapods. Stem a little compressed, purplish. Leaves sessile, connate at the base. Flowers about the size of those of *Campánula pátula*, drooping, ex Bonpl.; rose-coloured. Calycine segments lanceolate, acute; segments of corolla roundish, obovate, obtuse. Ovarium linear.

Pink-like Gentian. Pl. 1 foot.

10 G. foliòsa (H. B. et Kunth, l. c. p. 170.) stems simple, leafy; leaves lanceolate, acute, 3-nerved; flowers terminal, corymbose; corolla campanulately funnel-shaped, 5-cleft; throat beardless. ♃. F. Native of Peru, in frigid places. G. coarctàta Willd. rel. ex Rœm. et Shultes, syst. 6. p. 184. Stems tetragonal. Leaves sessile, sheathing at the base. Flowers white, size of those of *Pneumonánthe vulgàris*. Calycine segments ovate-lanceolate, acute. Segments of corolla obovate-oblong, obtuse. Ovarium linear, compressed. Lobes of stigma obtuse, spreading.

Leafy Gentian. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

11 G. corymbòsa (H. B. et Kunth, l. c. p. 171. t. 224.) stem erect, simple; leaves linear-spatulate, obtuse, almost veinless; corymbs terminal, a little branched; corolla campanulately funnel-shaped, 5-parted; throat beardless. ♃. F. Native near Santa Fe de Bogota, on the mountains. Root perpendicular, branched. Stems slightly tetragonal. Leaves subconnate at the base. Flowers size of those of *Campánula pátula*, violaceous. Calycine segments lanceolate, acute; segments of corolla oblong, obtuse, narrowed at the base. Ovarium ovate-conical, compressed, stipitate.

Corymbose-flowered Gentian. Pl. $\frac{3}{4}$ foot.

12 G. liniflòra (H. B. et Kunth, l. c. p. 171.) stem erect, branched; leaves lanceolate-linear, acute, 3-nerved, remote; flowers terminal, corymbose, or umbellate; corollas rotately funnel-shaped, 5-cleft; filaments bearded at the base. ♃. F. Native of Peru, on the mountains near Ayavaca, at the altitude of 1400 hexapods. Root perpendicular. Stems slightly tetragonal. Flowers size of those of *Eurythàlia campéstris*, of a violet colour. Calycine segments lanceolate, acute. Segments of corolla oblong, obtuse. Ovarium linear, compressed. Capsule linear-oblong.

Flax-flowered Gentian. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

13 G. diffu'sa (H. B. et Kunth, l. c. p. 172.) stems diffuse, nearly simple; leaves lanceolate, obtuse, 3-nerved, remote; flowers somewhat racemose; corolla rotately funnel-shaped, 5-cleft; throat bearded. ♃. F. Native of Quito, in the fissures of rocks, near the town of Antisana. Stems numerous, erect, or procumbent. Leaves sessile, membranous. Flowers blue, size of those of *Eurythàlia campéstris*. Calycine segments lanceolate, acute. Segments of corolla ovate-oblong, acute. Lobes of stigma obtuse. Ovarium linear, compressed, sessile, as in most of the species.

Diffuse Gentian. Pl. $\frac{1}{2}$ to 1 foot.

14 G. hyssopifòlia (H. B. et Kunth, l. c.) stem erect, branched at top; leaves linear, acute, 3-nerved, remote; flowers panicled; corolla rotately funnel-shaped, 5-cleft; throat beardless. ♃. F. Native of the Andes of Quito, in cold places between Nabon and the valley of Saraguru, at the altitude of 1200 hexapods. Stem terete. Branches paniculately disposed. Leaves subconnate at the base. Corolla violaceous; with oblong obtuse segments. Calycine segments lanceolate, acute. Lobes of stigma roundish, spreading. Ovarium linear, sessile. Capsule linear-oblong, compressed.

Hyssop-leaved Gentian. Pl. $1\frac{1}{2}$ foot.

15 G.? Magella'nica (Gaud. in Freyc. voy. pt. bot. p. 449.) stems erect, branched; branches tetragonal; angles membranous; leaves spatulate-lanceolate, acutish, 3-nerved; flowers terminal, solitary, or by threes; calyx 4-cleft, equal in length to the corolla: with lanceolate segments. ♃. F. Native of the Falkland Islands.

Magellan Gentian. Pl. tufted.

16 G. Rìma (D. Don, mss.) stems numerous, ascending, leafy; leaves lanceolate, obtuse, 5-nerved; radical ones crowded, petiolate; calycine segments ligulate, oblong, obtuse; corolla subrotate, twice longer than the calyx: segments obtuse. ♃. F. Native of Peru, where it is called *Rima-Rima*. Root brown, fusiform. Pedicels terete. Corolla yellow. Stigma sessile.

Rima Gentian. Pl. $\frac{1}{2}$ foot.

17 G. pedunculà'ris (D. Don, mss.) stems erect, filiform, few-leaved; radical leaves lanceolate-acute, petiolate, 3-nerved; flowers umbellate; calycine segments lanceolate, acute; corolla rotate, twice longer than the calyx: segments obtuse. ♃. F. Native of Peru. Gentiàna lùtea, Ruiz et Pav. in herb. Lamb. Root fusiform, brown. Pedicels bractless. Corolla yellow. Stigma sessile.

Peduncular Gentian. Pl. $\frac{1}{2}$ foot.

18 G. montà'na (Forsk. prod. fl. austr. no. 133.) cauline leaves remote, sessile, elliptic or ovate, about 2 pairs: lower ones approximate, attenuated at the base; flowers peduncular, subcorymbose, or solitary; corolla 5-cleft, campanulately funnel-shaped. ♃. F. Native of Van Diemen's Land, and New Zealand. The New Zealand plant hardly differs from that of Van Diemen's Land, unless in the cauline leaves being broader and ovate. The stems are probably tetragonal.

Mountain Gentian. Pl. $\frac{1}{2}$ to 1 foot.

19 G. saxòsa (Forst. in act. holm. 1777. p. 184. t. 5. prod. fl. austr. no. 132. Lin. suppl. 1. p 175.) stems terete, simple; leaves fleshy, spatulate, coriaceous, nerveless; radical ones crowded; flowers terminal, subumbellate, pedicellate; peduncles angular, 1-flowered, axillary, and terminal; calycine segments linear-spatulate; corolla campanulate, 5-cleft; with a naked throat: and oval, obtuse, concave segments. ♃. F. Native of New Zealand, on rocks by the sea shore. Frœl. gent. p. 23. Willd. spec. 1. p. 1237. Root fibrous. Calyx angular. Corolla white. Stigma sessile, 2-lobed; lobes orbicular, reflexed. Capsule oblong, subcylindrical.

Rocky Gentian. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

20 G. macrophy'lla (Pall. fl. ros. 2. p. 108. t. 96.) stems nearly terete, almost naked in the middle; radical leaves, lanceolate, 5-nerved, length of stems; flowers terminal, verticillately aggregate, involucrated by usually 4 floral leaves; calyx 4-5-toothed; corolla tubularly campanulate, 4-5-cleft; with short, acutish segments; lobes of stigma flat, at length revolute. ♃. H. Native of Siberia, in elevated meadows frequent. Frœl. gent. p. 31. Willd. spec. 1. p. 1335. Sims, bot. mag. 1414. Hippion macrophýllum, Schmidt.—Gmel. sib. 4. p. 104. t. 52. Calyx usually cleft on one side. This plant has much the habit of *Ericàla cruciàta*, from which it differs in the flowers being small, pale blue, and without any accessory segments to the corolla.

Long-leaved Gentian. Fl. July, Aug. Clt. 1796. Pl. $\frac{1}{2}$ to 1 foot.

Sect. II. *Annual plants. Corolla campanulate; throat naked. Style short; stigma 2-lobed.*

21 G. au'rea (Lin. spec. 331.) stem erect, branched; branches tetragonal; lower leaves spatulate-oblong: upper ones ovate, acutish, all obsoletely 5-nerved; flowers axillary and terminal, on long angular pedicels; corollas campanulately funnel-shaped, 5-cleft: segments acuminated: throat naked. ⊙. H. Native of the alps of Lapland, Norway, on islands near the sea. Frœl. gent. p. 54. no. 20. Lin. fl. lapp. ed. 2. p. 65. Gmel. syst. 1. p. 461. no. 23. Gentiàna involucràta, Rottb. in act. hafn. 10. p. 434. t. 1. f. 2. A. B. Wahl. lapp. p. 67. Gentiàna quinquefòlia, Oed. fl. dan. t. 344. Híppion aúreum, Schmidt, in Rœm. arch. 1. p. 10. no. 10.—Barrel. icon. 3. t 104. f. 1. Radical leaves dense. Calycine segments ovate, mucronate, Wahl.; subulate, Lin. Flowers collected into heads of few flowers, involucrated. Corolla white, ex Wahl.; yellow in the dried state, ex Lin.; purple ex Old.; tube length of calyx. Capsule longer than the calyx.

Golden-flowered Gentian. Fl. Aug. Clt. 1823. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ ft.

22 G. quinquefloˋra (Lin. spec. 333. exclusive of the synonymes. Lam. dict. 2. p. 643.) stem tetragonal, branched; leaves stem-clasping, oval, acute, 3-nerved; flowers terminal and lateral, 3-5 together, on short pedicels; corolla tubularly campanulate, 5-cleft: throat naked: segments lanceolate, acuminated, with simple plicæ; calycine segments very short, narrow. ♂. H. Native from New York to Kentucky, on hills in shady dry places. Willd. spec. 1. p. 1339. Frœl. gent. p. 51. Gentiàna amarelloìdes, Michx. fl. bor. amer. 1. p. 175. Pursh, fl. amer. sept. 1. p. 186. Gentiàna amarelloìdes Kentuckénsis, Pers. syn. 1. p. 286. Gentiàna quinquefòlia, Lin. spec. 1. p. 333. exclusive of the synonymes. Híppion quinquefòlium, Schmidt, in Rœm. arch. 1. p. 11. Flowers small, pale blue, not yellow, as represented by Michaux. Angles of stem membranous.

Five-flowered Gentian. Fl. Aug. Clt. 1824. Pl. $\frac{1}{2}$ to 1 ft.

23 G. Aleu'tica (Cham. et Schlecht, in Linnæa. 1. p. 175.) stem tetragonal, obsoletely winged, simple or branched at the base; leaves obscurely 3-nerved: radical ones few, lanceolate-spatulate: cauline and floral ones ovate, stem-clasping; flowers on short pedicels, and as if they were involucrated by the floral leaves; corolla salver-shaped, 4-cleft; with a naked throat and lanceolate segments, which are denticulated at the edges: calyx divided, even to the middle, nearly equal: with ovate-lanceolate, acute segments. ⊙. H. Native of the island of Unalaschka, in grassy places. Gentiàna Unalaschénsis, Ledeb. mss. Spreng. syst. 1. p. 856. Plant quite glabrous. Flowers rather small, pale violet. Calycine segments cartilaginously serrulated.

Aleutian Gentian. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

24 G. Rurikia'na (Cham. et Schlecht, in Linnæa. 1. p. 176.) stem tetragonal, obsoletely winged, branched from the base; radical and lower cauline leaves lanceolate, acutish, obscurely 3-nerved, sometimes spatulate; flowers on long peduncles; corolla salver-shaped, 4-cleft, with a naked throat, more than twice longer than the calyx: having lanceolate, setaceously acuminated segments; calyx divided even to the base; segments unequal: 2 of which are very large. ☉. H. Native of Behring's Straits, on the shore. Gent. gràcilis, Cham. in litt. Cauline leaves linear-lanceolate. Branches or peduncles many-flowered. Very like *Gent. aúrea.*

Rurıki's Gentian. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

25 G. umbella'ta (Bieb. suppl. p. 188.) stem tetragonal, branched; leaves ovate-oblong, bluntish, 3-5-nerved; radical ones spatulate; peduncles terminal, umbellate, involucrated by the 4 superior leaves; flowers pedicellate; calycine segments linear-lanceolate, unequal; corolla subcampanulate, 5-cleft: with ovate-lanceolate, mucronate segments. ⊙. H. Native of Caucasus and Siberia, in humid places, near rivers. Gentiàna aúrea, Steven, in mem. soc. mosc. 3. p. 257. Flowers small, pale blue.

Umbellate-flowered Gentian. Fl. Aug. Clt. 1823. Pl. $\frac{1}{2}$ ft.

26 G. propínqua (Richards in Frankl. Journ. ed. 2d. Appen. p. 9,) radical leaves linear, obovate, cauline ones lanceolate, corollas 5-cleft, tubularly campanulate: segments subserrated at top: throat naked. ⊙. H. Native of North America. Habit of Eurythàlia praténsis.

Allied Gentian. Pl. $\frac{1}{4}$ foot.

§ 3. *Corollas tubular, 4-5-cleft, with a naked throat. Stigma sessile. Annual plants, natives of Nipaul.*

27 G. canalicula'ta (Royle, mss.) stem erect, branched, bicanaliculate; leaves sessile, ovate-lanceolate, obtuse, somewhat 5-nerved; calyx 4-5-parted: with obovate, acuminated, membranous segments; corolla tubular, 4-5-cleft; throat naked: lobes ovate, acutish. ⊙. H. Native of Nipaul. Root subfusiform, fibrous. Leaves distinct, not connate at the base. Flowers racemosely panicled, blue; pedicels bisulcate. Calyx ample. Stamens 4-5, inserted in the sinuses of the corolla; filaments very short, subulate. Anthers oblong. Capsule oblong, compressed, bipartite at apex. Seeds spadiceous, convex on one side and engraven on the other.

Channelled-stemmed Gentian. Pl. $\frac{1}{2}$ to 1 foot.

28 G. pedunicula'ta (Royle, mss.) stem erect, bicanaliculate, branched from the base; leaves sessile, elliptic-oblong, obtuse, membranous; peduncles elongated, filiform, 1-flowered; calycine segments lanceolate, acute, unequal; corolla tubular: throat naked: lobes oval, obtuse. ⊙. H. Native of Nipaul. Root fibrous. Leaves distinct at the base, not connate. Calyx 5-parted; segments foliaceous, unequal. Throat of corolla ciliately bearded inside. Stamens inserted in the tube. Filaments channelled. Anthers and ovarium oblong. Stigmas short, obtuse, minutely papillose. Capsule subcylindrical, bifid at apex. Seeds small, roundish, with excavated dots.

Peduncled-flowered Gentian. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

29 G. Moorcroftia'na (Wall. cat. no. 4390.) annual, much branched; leaves lanceolate, obtuse; flowers large, panicled; calyx campanulate: with a short tube and long, linear segments; corolla large, funnel-shaped, with elliptic, obtuse segments, and a naked throat. ⊙. H. Native from Sirinagur to Luddak. Pedicels long, 1-flowered. Flowers large, showy.

Moorcroft's Gentian. Pl. $\frac{1}{2}$ foot.

§ 4. *Anómala. An anomalous species.*

30 G. pinifòlia (Ruiz et Pav. in herb. Lamb.) stem solitary, simple, erect, densely leafy; leaves very narrow-linear, mucronulate, much crowded; raceme terminal, erect, thyrsoid; corolla tubular, longer than the calyx, with a glabrous throat, and ovate, acute segments. ♃. F. Native of Peru, on the Cordilleras of the Andes. Root thick, fusiform. Leaves an inch long. Racemes 2-3 inches long, many-flowered. Flowers fascicled, verticillate. Bracteas lanceolate, membranous. Calyx campanulate; with lanceolate, acute segments. Ovarium fusiform, stipitate. Style rather long; lobes of stigma roundish; mucronate revolute. Seeds globose, smooth. Habit of a species of *Eudóxia.*

Pine-leaved Gentian. Pl. $\frac{1}{2}$ foot.

† *Species hardly known, many of which are probably synonymous with those described above.*

31 G. CONGE'STA (Willd. herb. ex Rœm. et Schultes, syst. 6. p. 184.) leaves linear-spatulate; flowers umbellate, crowded. ♃. F. Native of South America. Humb. et Bonpl.

Crowded-flowered Gentian. Pl.?

32 G. LINIFÒLIA (Willd. l. c.) corollas campanulate, 5-parted solitary, terminal; leaves narrow-linear, acute; stems branched at the base, ascending. ♃. F. Native of South America. Humb. et Bonpl.

Flax-leaved Gentian. Pl.?

33 G. CONNA'TA (Willd. l. c.) corollas campanulate, 5-cleft; calycine teeth ovate-filiform; leaves oblong, connate; stem a little branched, erect. ♃. F. Native of South America, Humb. et Bonpl.

Connate-leaved Gentian. Pl.?

34 G. CHELONOÌDES (Willd. l. c.) corollas campanulate, 5-cleft; leaves linear-lanceolate, spreading; stem simple, erect. ♃. F. Native of South America, Humb. et Bonpl.

Chelone-like Gentian. Pl.?

35 G. STRI'CTA (Willd. l. c.) corollas campanulate, 5-cleft; leaves oblong; peduncles opposite, 1-flowered; stems simple, erect. ♃. F. Native of South America, Humb. et Bonpl.

Straight Gentian. Pl.?

36 G. RAPUNCULOÌDES (Willd. l. c.) corollas campanulate, 5-cleft; leaves oblong-lanceolate; flowers opposite: stem simple, ascending. ♃. F. Native of South America, Humb. et Bonpl. Peduncles an inch long, umbellate.

Rampion-like Gentian. Pl. ½ foot.

37 G. FLORIBU'NDA (Willd. l. c.) corollas campanulate, 5-cleft; leaves oblong-lanceolate, bluntish; peduncles 1-flowered: lower ones opposite: superior ones subverticillate; stem simple. ♃. F. Native of South America, Humb. et Bonpl.

Bundle-flowered Gentian. Pl.?

38 G. PEDUNCULA'RIS (Willd. l. c.) corollas campanulate, 5-cleft; radical leaves spatulate: cauline ones lanceolate; peduncles elongated, 1-flowered, solitary, terminal; stem ascending at the base. ♃. H. Native of South America, Humb. et Bonpl.

Peduncular-flowered Gentian. Pl.?

39 G. CHIMBORACE'NSIS (Willd. l. c.) corollas funnel-shaped, 10-cleft; leaves linear-lanceolate, spreading; flowers terminal, solitary, sessile; stem erect, branched a little. ♃. F. Native of South America, on mount Chimborazo, Humb. et Bonpl. A species of *Ericàla*.

Chimborazo Gentian. Pl. dwarf.

†† *The following plants have been described as species of Gentiàna by various authors; but none of them are legitimate species of that genus.*

40 G.? DU'BIA (Thunb. prod. 1. p. 48. fl. cap. 2. p. 174.) fructiferous stem terete, leafless, or the leaves fall off early, they are therefore unknown; panicles terminal, trichotomous, supradecompound; corolla 4-cleft.—Native of the Cape of Good Hope. Stem simple, erect. Calyx 4-parted; with small, acute segments. Corolla 4-parted, purple; segments acute. Capsule oblong, ending in 4 points. Styles 2, divisible.

Doubtful Gentian. Pl. ½ foot.

41 G.? NÍGRICANS (Lam. dict. 2. p. 645.) a small plant, with very narrow linear leaves, and slender branched stems; flowers terminal, cymose; corolla funnel-shaped, 4-cleft; limb rather downy.—Native country unknown.—Ray. hist. 3. append. 253. no. 51. Plant becoming black on drying. Stem dichotomously branched at top. Leaves capillary: lower ones nearly an inch long. Flowers small, purplish or blue, numerous. Perhaps a species of *Houstònia*.

Blackish Gentian. Pl. ½ foot.

42 G.? CALYCÌNA (Lam. dict. 2. p. 639.) stem articulated, dichotomously panicled, and rather angular at top; leaves ovate-oblong: lower ones obtuse: the rest acute; flowers solitary, terminal, on long peduncles; corolla deeply 5-6-cleft, hardly exceeding the calyx, which is large and 5-6-parted.—Native of Louisiana, ex herb. Juss. Flowers yellowish. Calycine segments linear, acute, rather unequal. Corolla rotate, with oblong obtuse segments. Stamens free. Stigmas oblong, large; style short. Capsule size of a pea, 2-valved, 1-celled.

Large-calyxed Gentian. Pl.

43 G.? MITZNOFA'NA (Rœm. et Schultes, syst. 6. p. 186.) stem erect, terete, simple; leaves sessile, cordate-ovate, acute, 7-nerved: floral ones the narrowest; flowers terminal, twin, erect; calycine segments acute, length of the tube of the corolla. —Native of Japan, in boggy places. Plánta Japanénsis, Mitznofàna, *i. e.* flos aquaticus, Cleyer, in misc. nat. cur. dec. 2. ann. 8. p. 489. f. 51. 2 icones. Frœl. gent. p. 119. Habit altogether different from *Gentiàna*. Root fibry. Corolla with a grey tube, blue limb, and obtuse segments.

Mitznofana Gentian. Pl. ½ foot.

44 G.? SCILLOÌDES (Lin. suppl. 1. p. 175.) stem 1-flowered, prostrate; leaves obovate, obtuse, 3-nerved; corolla funnel-shaped, 5-cleft; bracteas twin.—Native of the Azores, Masson, Hippion scilloìdes, Schmidt. Leaves on short petioles: the upper ones more remote. Peduncles long, naked, terminal, 1-flowered. Bracteas opposite, subulate, erect, beneath the flowers. Calycine segments linear. Tube of corolla funnel-shaped, longer than the calyx; limb 5-cleft, flat, beardless, yellow. This plant does not probably belong to the genus, from the form of the calyx and corolla; but nothing is said of the style by Linnæus. Perhaps a genus of *Campanulàceæ*.

Scilla-like Gentian. Pl. 1 foot, prostrate.

††† *What are the following species?*

1 Gentiàna màjor Mariàna, angustiori folio Gentianéllæ vernæ, floribus cœruleis plurimis in summitate congéstis. Pluk. mant. 89. Perhaps *Gentiàna cruciàta*.

2 Gentiàna angustifòlia Americàna, flore ex ochro cyaneo mixto in fastigio caulis unico. Plukn. mant. 89. Ray. suppl. p. 370. no. 4.

3 Gentiàna orientàlis, amplissimo et acutissimo asclepiadis folio. Tourn. cor. 2. Said by Cham. in Linnæa. 1. p. 175. to be the same as *Gentiàna septemfìda*.

4 Gentiàna orientàlis, foliis venosis, flore magno candidissimo, Tourn. cor. 2. var. flore exalbo-virescente. Tourn. l. c. Said by Cham. in Linnæa. 1. p. 174. to be the same as *Gentiàna gélida*.

5 Gentiàna orientàlis, minor autumnalis myrtifolia flore magno cœruleo, Tourn. cor. 2. Said by Cham. in Linnæa. 1. p. 175. to be *Gentiàna septemfìda*.

6 Gentiana rivulàris and Gentiàna pállens, Thunb. mus. nat. acad. ups. 11. p. 180. are probably a species of *Sebæ'a*.

Cult. The South American and New Zealand species of *Gentian* should be grown in pots, well drained with sherds, in a mixture of peat and sand, and placed among other alpine plants. They will require protection in winter. The seeds of annual kinds may be sown in pots, in the same kind of soil, or even in the open border. *Gentiàna macrophýlla*, the only hardy perennial, is well fitted for a border flower, but grows best in a peat soil. All the perennial species are either to be increased by dividing at the root, or by seed.

VIII. CENTAURE'LLA (a dim. of *Centaúrium*, so called from the affinity of the genera). Michx. fl. amer. bor. 1. p.

97. t. 12. Pursh, fl. amer. sept. 1. p. 94. Nutt. gen. amer. 1. p. 172.—Andrèwsia, Spreng. gen. 1. p. 85.—Bartònia species, Muhl.

Lin. syst. *Pentándria, Digýnia.* Calyx 4-parted, adpressed. Corolla urceolately campanulate, 4-cleft; segments ovate or oblong, erect or spreading. Stamens 4, inclosed; inserted beneath the recesses of the limb of the corolla. Anthers erect, subcordate, bluntish; filaments, subulate, flattened. Stigma thick, glandular, bluntly bifid. Capsule 1-celled, 2-valved, involucrated by the permanent calyx and corolla. Seeds minute, globular, attached to the edges of the valves.—Annual, glabrous, simple, or branched small plants. Leaves opposite, decussate.

1 C. verna'lis (Michx. fl. amer. bor. 1. p. 98. t. 12. f. 2.) stem simple; peduncles scattered, corymbosely elongated; segments of corolla oblong, acute, twice longer than the calyx; style longer than the ovarium. ⊙. H. Native from Virginia to Georgia, in mossy swamps. Andrèwsia vérna, Spreng. syst. 1. p. 428. Flowers white, larger than the other species.

Var. β, uniflòra (Pursh, l. c. p. 100.) small; stem 1-flowered. This may prove to be a distinct species.

Spring Centaurella. Fl. May, July. Pl. ½ foot.

2 C. æstiva'lis (Pursh, fl. sept. amer. 1. p. 100.) stem simple; peduncles opposite, simple; segments of corolla spatulate, abruptly acute, 3 times longer than the calyx; style length of ovarium. ⊙. H. Native from Carolina to Georgia, in mossy swamps. Flowers smaller than the preceding; the calyx short.

Summer Centaurella. Fl. June, Aug. Pl. ¼ to ⅓ foot.

3 C. autumna'lis (Pursh, l. c.) stem a little branched; peduncles opposite; lower ones branched; segments of corolla oval, acute, hardly longer than the calyx; style very short. ⊙. H. Native from New England to Carolina, in mossy swamps, in inundated, grassy places. C. paniculàta, Michx. fl. bor. amer. 1. p. 98. t. 12. f. 1. Bartònia tenélla, Muhl. in litt. Sagìna Virgínica, Willd. spec. 1. p. 719. Andrèwsia autumnàlis, Spreng. syst. 1. p. 428. Flowers small, greenish white.

Autumnal Centaurella. Fl. July, Sept. Pl. ½ to 1 foot.

Cult. For culture and propagation see *Eurythàlia*, p. 188.

IX. ASTE'RIAS (from *αστηρ, aster*, a star; shape of flowers.) Borkh. in Rœm. arch. 1. p. 14. Gentiàna lùtea, Lin.

Lin. syst. *Pentándria, Digýnia.* Calyx spathaceous, scarious, diaphanous, 3-4-cleft; segments short, lanceolate, unequal. Corolla with a short tube, and a 5-cleft limb, furnished with a green gland at the base of each segment; segments oblong, acute, veiny, shorter than the calyx. Stamens 5-6; anthers subulate, combined at first, but at length distinct. Stigmas oblong, flat, revolute. Capsule ovate; 4 sided, acuminated. Seeds roundish, compressed, with membranous edges, disposed in 3 series along the margins of the valves.—Showy plants, with the habit of *Veràtrum*. Leaves broad, 5-nerved; cauline ones sessile: floral ones subcordate, stem-clasping, concave, all pale green, but glaucous beneath. Flowers apparently verticillate, pedicellate, seated on common thick peduncles. Bracteas 2-4, to each whorl of flowers, 3-nerved and equal in length to them.

1 A. lu'tea (Borkh. in Rœm. arch. 1. p. 25.) corollas rotate, 5-6-cleft; flowers verticillate, subcymose; leaves broad, ovate; calyx spathaceous. ♃. H. Native of the alps of middle Europe, from the Pyrenees to Savoy. Gentiàna lùtea, Lin. spec. 367. Vill. delph. 2. p. 521. Mill. icon. t. 139. Plenck. off. t. 156. Woodv. med. bot. 3. p. 433. t. 156. Church. et Stev. med. bot. vol. 4, with a figure. Swértia lùtea, Vest. in Tratt. tab. t. 518. Radical leaves ovate-oblong: cauline ones sessile, ovate, acute. Corolla yellow, veiny, and spotted. The roots of *Gentian* are long, thick, externally of a brown colour, and wrinkled; internally spongy, and of a yellow colour, without any remarkable smell, but surpassing in bitterness all other European vegetables. Alcohol dissolves only the bitter extractive, water both the extractive and mucilage. Its bitterness depends upon a new principle discovered by Henri and Caventou, called gentianin, and is easily obtained in a crystalline form by means of ether, in which it is very soluble. It likewise dissolves in alcohol, and more sparingly in water. It appears to be neither alkaline nor acid. Gentian possesses the general virtues of bitters in an eminent degree, and it is totally devoid of astringency. On dead animal matter it acts as an antiseptic. Taken into the stomach it proves a powerful tonic, and in large doses it evacuates the intestines. It is useful in weakness of the stomach, and in general debility. Externally its powder is applied to putrid ulcers. Narcotic effects have sometimes been ascribed to it, but these are owing to the roots of *Aconite* or *Belladonna* gathered along with it.

Var. β, màjor; flowers smaller, paler; corolla 5-9-parted almost to the base, spotless. ♃. H. Native of subalpine places.

Var. γ, uniflòra (D. C. fl. fr. no. 2761.) Stem 1 flower.

Yellow Asterias or Gentian-root. Fl. June, July. Clt. 1596. Pl. 4 to 6 feet.

2 A. hy'brida; leaves ovate-lanceolate; corollas 5-8-cleft, rotate; whorls of flowers sessile; calyx membranous, unilateral, unequally 6-cleft. ♃. H. Native of the alps of Vallais. Gentiàna hýbrida, D. C. syn. fl. gall. p. 244. no. 2762. fl. fr. 2. p. 651. no. 2762. G. Thomàsii, Vill. mem. pl. hybr. in Rœm. coll. p. 189. G. campanulàta, Reyn. mem. 219. Flowers reddish yellow. Supposed to be a hybrid between *A. lùtea* and *Coilántha purpùrea.*

Hybrid Asterias. Pl. 3 to 4 feet.

Cult. This genus is composed of robust plants, with the habit of *Veràtrum*, proper for flower borders. A deep light rich soil suits them best, as it allows the roots to ascend. They are increased either by seed, or by dividing the root.

X. COILA'NTHA (from *κοιλος, koilos*, concave, and *ανθος, anthos*, a flower; in reference to the shape of corollas.) Renealm. spec. 65. Borkh. in Rœm. arch. 1. p. 24.—Gentiàna species, Lin. and others. Dasystéphana, Borkh.

Lin. syst. *Pentándria, Digýnia.* Calyx spathaceous, truncate, scarious, diaphanous, cleft inside, with 6-7 unequal lobes or teeth at apex. Corolla large, coriaceous, campanulate, 5-7-cleft; segments broad at the base, obtuse, remote. Stamens 5-7; anthers oblong, combined. Ovarium oblong, pedicellate. Stigma bifid, downy, divaricate. Capsule fusiform, with 5-7 tubercles at the base, 1-celled. Seeds many, orbicular, with winged edges.—Showy plants, with obsoletely tetragonal stems; opposite, ovate, 5-nerved, apiculated leaves, which are sheathing at the base. Flowers large, on short pedicels: terminal ones disposed in a whorl, and the axillary ones solitary. Bracteas opposite, shorter than the flowers.

1 C. purpu'rea (Borkh. in Rœm. arch. 1. p. 25.) radical leaves ovate, 5-nerved: cauline ones ovate-lanceolate: upper ones broad-lanceolate, combined and sheathing at the base; corolla 5-6-cleft; stamens 5-6; calyx membranous, spathaceous. ♃. H. Native of the alps of Norway, Switzerland, Savoy, Pyrenees, &c. Gentiàna purpùrea, Lin. spec. p. 637. Willd. spec. 1331. exclusive of the synonyme of Villars. Woodv. med. bot. 4. p. 132. t. 262. Oed. fl. dan. t. 50. Plenck. off. t. 159. Andr. bot. rep. t. 117. Frœl. gent. p. 18. no. 2. Pneumonánthe purpùrea, Schmidt, no. 1. Gentiàna punícea, Gesner. Schmidel. op. gesn. 2. p. 52. no. 92. a. t. 28. f. 92. A. a. Root yellow outside and white inside, scaly at top, very bitter. Stem purplish green. Bracteas ovate

lanceolate. Flowers from 3-8 together, terminal; and the axillary ones usually solitary. Calyx spathaceous, with 2-3 unequal teeth at the apex. Corolla coriaceous, purplish, marked with dots in lines inside; tube striated, with greenish yellow; limb 6-cleft; segments sub-ovate, obtuse. Capsule fusiform.

Var. β; corollas rose-coloured.

Var. γ; corollas without dots.

Var. δ; corollas white.

Purple Coilantha. Fl. June, July. Clt. 1768. Pl. 1 to 2 ft.

2 C. Pannónica; radical leaves ovate, apiculated; having the petioles sheathing at the base: cauline ones ovate, lanceolate: floral ones acuminated: all 5-nerved; calyx 6-7-cleft; corolla 6-7-cleft; stamens 6-7. ♃. H. Native of the alps of middle Europe, and Savoy, but not of the Pyrenees. Gentiàna Pannónica, Scop. carn. 2. no. 29. Lin. spec. 1. p. 63. exclusive of the synonymes. Lin. syst. ed. Mur. p. 265. Jacq. fl. austr. 2. t. 136. Tratt. fl. aust. fasc. 1. t. 9. Schrank, bav. 1. no. 424. exclusive of the syn. of Lin. Frœl. gen. no. 21. Gentiàna punctàta, Jacq. obs. 2. p. 17. t. 39. Pneumonánthe Pannónica, Schmidt, boh. 2. no. 112.—Barrel. icon. t. 64. Stems purplish. Flowers verticillate, axillary, and terminal. Corolla rather membranous, purple, beset with dots; with a yellowish tube; segments ovate, obtuse. Capsule fusiform. Bracteas ovate, acuminated.

Var. β; stem humble; whorls solitary, few-flowered.

Var, γ; corolla white.

Var. δ; stems tall; leaves long, acuminated.

Pannonian Coilantha. Fl. June, July. Clt.? Pl. 1 to 2 ft.

3 C. bíloba; flowers verticillate; corollas usually 6-cleft; calyx membranous, 2-lobed; lobes obtuse, entire, equal, ♃. H. Native of France, on mountains, in the province of Clarion. Gentiàna bíloba, D. C. syn. fl. gall. p. 244. no. 266. fl. fr. 2. p. 653. no. 2766. icon. fl. gall. t. 15. Gentiàna punctàta, Wahl. carp. 1. p. 72. Nearly allied to *C. punctàta* in the colour and size of the corolla, but differing in the floral leaves being twice longer than the flowers. Perhaps only a variety of *C. purpùrea*.

Two-lobed-calyxed Coilantha. Fl. June, July. Clt. 1820. Pl. 1 to 2 feet.

4 C. puncta'ta (Borkh. in Rœm. arch. 1. p. 27.) leaves ovate, acutish, 5-nerved: lower ones petiolate: superior ones acuminated, all coadunate at the base; flowers verticillate; calyx rather truncate, with 6-7 unequal lobes; corolla campanulate, usually 6-8-cleft, dotted. ♃. H. Native of the alps of middle Europe, as on the alps of Switzerland and Savoy. Gentiàna punctàta, Lin. spec. 637. Willd. spec. 1. p. 1333. Tratt. fl. austr. fasc. 3. t. 9. Jacq. austr. 5. t. 28. Gent. purpùrea, Vill. dauph. 2. p. 523. Hall. hist. 638. Pneumonánthe punctàta, Schmidt, Rœm. arch. 1. no. 4.—Gesn. in Schmidel, op. 2. p. 53. no. 92. b. t. 28. f. 92. b.—Mor. hist. t. 4. f. 2. Barrel. icon. 69. with a paler flower. Root brownish outside, white inside. Stem subtetragonal, green or purplish. Leaves pale green. Bracteas shorter than the flowers. Terminal flowers 5 in a head: axillary ones solitary. Calyx with blueish angles, and lanceolate, obtuse, short segments. Corollas large, yellow, or sulphur-coloured, blueish before expansion, dotted with numerous irregular purple spots; limb 6-7-cleft. Stamens 6-7. Seeds imbricate, winged.

Dotted-flowered Coilantha. Fl. June, July. Clt. 1775. Pl. 1 to 2 feet.

5 C. campanula'ta; leaves ovate, acutish, 5-nerved: lower ones usually 7-nerved; superior ones sessile, sheathing, acuminated; flowers verticillate, terminal, and axillary; calyx 6-7-cleft, with blueish angles and unequal triangular segments; corolla campanulate, 7-cleft; with obtuse, triangular, equal lobes, without dots. ♃. H. Native of Carinthia, Switzerland, &c., on the alps; and of the Pyrenees. Gentiàna campanulàta, Jacq. in Murr. syst. p. 267. austr. app. p. 43. t. 29. Tratt. fl. austr. fasc. 4. p. 1. Gentiàna campanulàta immaculàta, Pers. ench. 1. p. 284. Gent. Bursèri, var. α. D. C. fl. gall. no. 2763. α. Pneumonánthe campanulàta, Schmidt, l. c. Root fusiform, divided a little. Leaves pale green. Bracteas about the length of the flowers. Corolla large, sulphur-coloured. Stamens 7. Stigmas flat, obtuse. Seeds orbicular.

Campanulate-flowered Coilantha. Fl. July, Aug. Clt. 1819. Pl. 1 foot.

6 C. Sessæ'i (D. Don, mss.) stem erect, simple, terete, papillose; leaves sessile, ovate-lanceolate, 3-nerved; flowers axillary, solitary, bractless; calyx spathaceous, 5-toothed; corolla campanulate, 10-cleft; the alternate segments bicuspidate. ♃. F. Native of Mexico. Gentiàna cærùlea, Moc. et Sesse, in herb. Lamb. Leaves scabrous, 3-5-nerved: lower ones ovate, obtuse: superior ones acuminated, deep green above. Calyx cleft on the inner side. Corolla blue; lobes roundish, mucronate. Filaments flattened; anthers oblong. Styles distinct. Stigmas revolute, papillose. Capsule pear-shaped. Seeds winged.

Sesse's Coilantha. Pl. ½ to 1 foot.

7 C. Mocínni (D. Don, mss.) stem erect, simple, terete; leaves sessile, ovate-lanceolate, 5-nerved; flowers axillary, on short pedicels, usually solitary; calyx spathaceous, 5-toothed, bibracteate at the base; corolla campanulate, 10-cleft; the alternate segments bicuspidate. ♃. F. Native of Mexico. Confused with *G. cærùlea* in Moc. et Sesse. in herb. Lamb. Leaves smooth, 2 inches long. Calyx cleft on the inner side. Bracteas linear-lanceolate, acute, much longer than the calyx, connate at the base. Corolla campanulately funnel-shaped. Filaments dilated at the base. Ovarium somewhat fusiform; stigmas linear, obtuse, minutely papillose.

Mocinno's Coilantha. Pl. 1 foot.

8 C. Burse'ri; corollas usually 5-cleft, campanulate, dotted; segments lanceolate, with a small accessory tooth between each; calyx membranous, spathaceous. ♃. H. Native of the eastern and central Pyrenees, often with vars. β and γ. Gentiàna Bursèri, Lapey. fl. pyr. p. 130. abr. p. 132. D. C. fl. fr. suppl. no. 2763. Said to be very nearly allied to *C. punctàta*, but the corolla is always pale yellow, never purple. It has the leaves of *C. lùtea*, and the flowers of *C. punctàta* or *C. purpùrea*, and is probably a hybrid. Villars says, dauph. 2. p. 522. that the flowers are campanulate, verticillate, 6-cleft, acute, serrulated, dotted; and the calyx spathaceous.

Var. α; corollas dotted, bluntish. ♃. H. Native of the Pyrenees. Gentiàna Bursèri β, Lapeyr. l. c.

Var. β; corollas dotted, acutish. ♃. H. Native of Dauphiny, Pyrenees, &c. Gentiàna Bursèri γ, D. C. l. c. Gent. punctàta, Vill. dauph. p. 520. Gent. hýbrida, Vill. mem. pl. hybr. Rœm. coll. 1. p. 189. Gent. punctàta, var. lùtea, Tratt. fl. austr. fasc. 3. t. 10.?

Var. γ, *gigantèa* (Lapeyr. abr. p. 8. pyr. suppl. p. 41.). ♃. H. Native of the Pyrenees.

Burser's Coilantha. Fl. July, Aug. Clt. 1820. Pl. 2 feet.

9 C. glau'ca (Borkh. in Rœm. arch. 1. p. 26.) stems terete; leaves ovate-roundish, hardly nerved: rather fleshy: cauline ones 3-4 pairs, sessile; flowers 1-3, terminal, sessile; calycine segments unequal, blueish, subulate; corolla campanulate, 5-cleft, with short, obtuse segments, 3 times longer than the calyx. ♃. H. Native of Kamtschatka, on the tops of the alps, in humid places facing the north. Gentiàna glaúca, Pall. fl. ross. 2. p. 104. t. 93. f. 2. Frœl. gent. p. 56. Willd. spec. 1. p. 1340. Pneumonánthe glaúca, Schmidt, in Rœm. arch. 1. p. 10. no. 14. Stems simple. Radical leaves rosulate. Calyx campanulate. Corolla subventricose, blueish, but the tube pale.

Anthers white. Capsule fusiform. Perhaps a species of *Pneumonánthe*.

Glaucous Coilantha. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

10 C. asclepia'dea; leaves ovate-lanceolate, 3-5-nerved, stem-clasping, with repand edges; terminal flowers crowded, axillary ones solitary, all nearly sessile; corolla campanulate, 5-cleft; segments ovate, acute; calyx tubular, 5-toothed: teeth unequal, distant; anthers connivent. ♃. H. Native of Switzerland, Hungary, Syria, Austria, Carniola, Silesia, Piedmont, Barbary, Mount Caucasus, &c., in shady alpine places. Gentiàna asclepiàdea, Lin. spec. 329. Hall. helv. no. 640. Jacq. austr. t. 328. Sims, bot. mag. 1078. Frœl. gent. p. 48. Dasystéphana Renealm specim. 67. t. 68. Dasystéphana asclepiàdea, Borkh. in Rœm. arch. 1. p. 26. Mayerhoff. fl. monac. t. 60. Gentiàna Asclepiàdis folio, Bauh. pin. 187. Ger. emac. 433. f. 3. Corollas large, blue, 3 times longer than the calyx. Seeds winged with broad white edges.

Var. β; leaves distinct. ♃. H. Native of Carniola and Bohemia, Frœl. gent. p. 49. Scop. carn. 1. p. 298. Pneumonánthe asclepiàdea, Schmidt, boh. no. 113. no. 6. Schmidel, op. gesn. 1. t. 9. f. 80. 2. p. 40. t. 26. f. 82. Flowers sessile, solitary, secund. Leaves bifarious.

Var. γ; leaves 3 in a whorl. ♃. H. Frœl. gent. 49. Pont. comp. p. 76.

Var. δ; leaves lanceolate, long-acuminated, 3 inches long, a little smaller. ♃. H. Frœl. l. c. p. 49. Calyx subspathaceous, ex Frœl.

Var. ε; stem elongated, nutant; peduncles elongated, a little branched. ♃. H. Frœl. l. c. Clus. hist. 1. p. 312. middle figure.

Var. η; corolla white. ♃. H. Frœl. l. c. Wahl. helv. l. c. Ponted. comp. p. 76.

Var. ϑ; stem 1-flowered. ♃. H. Pneumonánthe plicàta, Schmidt, in Rœm. arch. 1. p. 10. no. 613. t. 1. f. 1. Calyx ventricose, with 3 of the segments broader than the others.

Asclepias-like Coilantha. Fl. July, Aug. Clt. 1629. Pl. $\frac{1}{2}$ to $1\frac{1}{2}$ foot.

Cult. For culture and propagation see *Astèrias*, p. 184.

XI. EURYTHA'LIA (meaning unknown to us). Renealm. spec. Borkh. in Rœm. arch. 1. p. 28. Mayerhoff, fl. mon. t. 278.—Gentiàna species of authors.—Híppion species, Schmidt, in Rœm. arch. 1. p. 32. t. 4. f. 13. fl. bohem. no. 128. Gentiàna, sect. Endótriche, Frœl. gent. p. 87. Opsántha, Renealm. spec. 71.

Lin. syst. *Tetra-Pentándria, Monogýnia.* Calyx 4-5-cleft. Corolla salver-shaped; with a 4-5-cleft limb, having as many bearded or fringed segments inside and attached to them at the base. Stamens 4-5; filaments filiform; anthers oblong, incumbent. Stigma 2-lobed or bifid. Ovarium pedicellate. Capsule ovate or oblong, erect, 1-celled, 2-valved. Seeds smooth, roundish, compressed.—Annual, branched or simple herbs. Leaves opposite, sessile, decussate. Flowers terminal, blue, white, or purple. This genus is readily distinguished from the rest by the beard inside the segments of the corolla at the throat.

1 E. uniflòra; stem simple, slightly tetragonal, usually 1-flowered; leaves ovate; corolla 5-cleft: with ovate, acute segments, and bearded plicæ inside, equal in length to the calycine segments. ⊙. H. Native of Savoy, Bavaria, and the Carpathian mountains. Gentiàna uniflòra, Willd. spec. 1. p. 1346. G. amarélla, var. ε, Frœl. gent. p. 87. Híppion Gentianélla, Schmidt, in Rœm. arch. 1. p. 23. t. 2. f. 4. Stem hardly higher than the corolla. Flowers larger than those of *E. campéstris*, of a violet colour.

One-flowered Eurythalia. Pl. 1 inch.

2 E. Germa'nica (Mayerhoff, fl. mon. t. 278.) stem obsoletely 6-angled, branched; branches longer than the internodes, 1 or many-flowered; leaves ovate-lanceolate, 3-nerved; corolla 5-cleft; segments of corolla ovate, acute; with bearded plicæ inside at the base, about equal in length to the calycine segments. ⊙. H. Native of middle Europe, as of Germany, in mountain meadows. Gentiàna Germánica, Willd. spec. 1. p. 1346. Schultes, fl. bav. no. 48. G. amarélla, Frœl. gen. p. 86. Schultes, fl. austr. ed. 2. no. 1016. Hall. helv. 651. and of all other botanists who have written on the German flora. G. amarélla γ, Wahl. carp. p. 76. exclusive of the syn. of Besser. G. amarélla, var. α, Lam. fl. fr. 2. p. 92. Gent. amarélla β, Bieb. fl. taur. 1. p. 23. t. 3. f. 4. G. campéstris, All. pedem. no. 354. D. C. fl. fr. no. 2776.—Barrel. icon. t. 102. Root yellow. Stem purplish. Radical leaves obovate, obtuse: cauline ones sessile, a little connate at the base, as in the rest of the species: uppermost and branch ones subcordate. Corolla purplish blue; and the beard white.

Var. β; stem branched; leaves subcordate, acuminated. ⊙. H. Barrel. icon. t. 510. f. 2. G. amarélla, var. δ, Frœl. gent. p. 86.

Var. γ; stem usually 1-flowered, short; flowers white; corollas and calyxes with scabrous edges. ⊙. H. Gentiàna amarélla β, Wahl. fl. carp. p. 76.

Var. δ; stem branched; flowers white.

German Eurythalia. Fl. Aug. Clt. 1818. Pl. $\frac{1}{8}$ to $\frac{1}{3}$ foot.

3 E. amare'lla (Borkh. l. c.) stem tetragonal, paniculately branched at top; branches shorter than the internodes; leaves ovate-lanceolate, 3-nerved; corolla 5-cleft; segments ovate, acute, with bearded plicæ inside at the base. ⊙. H. Native of Sweden, Bohemia, Hungary, Galicia, &c. in dry pastures, as well as of the islands of Unalaschka, and Sitcha; in England in dry pasture, on calcareous soils. Gentiàna amarélla, Lin. spec. 334. Smith, engl. bot. t. 236. Oed. fl. dan. 328. Frœl. gen. p. 141. Bieb. fl. cauc. 1. p. 148. Curt. fl. lond. fasc. 6. t. 31. Wahl. carp. p. 76. exclusive of the syn. G. praténsis, Besser. Gentiàna lancifòlia, Rafin. dansk. holst. fl. Schum. fl. sæl. p. 80. Pers. ench. 1. p. 286. Schultes, fl. austr. ed. 2. no. 1017. Híppion axillàre, Schmidt, boh. no. 129. Rœm. arch. 1. p. 32. t. 4. f. 13. Gentiàna tetragòna, Mayer, physt. aufs. p. 194. Gentiàna campéstris, Geners. elench. no. 234. Gentiàna amarélla β, Frœl. gent. p. 87.—Plenck. icon. t. 158. Opsántha, Renealm, spec. p. 71. Gentiàna pyramidàlis, Willd. herb. no. 5540. Híppion axillàre, Schmidt, in Rœm. arch. 1. t. 5. f. 13. Gentiàna axillàris, Rchb. icon. t. 130. Swértia corniculàta, herb. Willd. no. 5478—Barrel. icon. t. 510. f. 2. Gentiàna obtusifòlia, Willd. ex Rchb. icon. t. 129. no. 248. Peduncles axillary and terminal, 1-2-flowered. Corolla twice longer than the calyx, with a white tube and a purple limb, and beard. Calycine segments 5, uniform. Corolla 4 5-cleft. The plant is very bitter. The plant from the island of Sitcha differs from that of Unalaschka in the calycine segments being more unequal.

Var. β; a larger plant, with longer branches, larger flowers, which are constantly 5-cleft; segments of corolla broader. Bieb. l. c.

Var. γ, fùgax vérna or *præ'cox*, Ray. This differs only in the early time of flowering.

Var. δ. This, the taller autumnal *Gentian*, with Centaury-like leaves, is said by Ray to have been found near Welwyn, in Hertfordshire, and Belcham St. Paul, in Essex, but it does not differ in any thing essential from the species.

Amarella or Bitter Eurythalia. Fl. Aug. Brit. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ ft.

4 E. uliginòsa; stem tetragonal, branched, winged at the base; leaves lanceolate; corolla 5-cleft, a little longer than the calycine segments, which are nearly equal; segments of corolla ovate, acute, having the inner plicæ bearded on the inside at

the base. ⊙. H. Native of Germany, in boggy pastures. Gentiàna Amarélla, Willd. prod. berol. no. 293. bot. mag. 11. p. 37. Gent. uliginòsa, Willd. spec. 1. p. 1347. Rchb. icon. t. 58. Gent. campéstre, Leyss. hal. no. 242. Stem 1-2 inches high. Peduncles long, 1-flowered. Perhaps hardly a variety of *Amarélla*. Corolla blueish.

Bog Eurythalia. Fl. Aug. Pl. 1 to 2 inches.

5 E. obtusifòlia; stem tetragonal; leaves lanceolate, obtuse; corolla 4-5-cleft: tube equal in length to the calyx; segments of corolla having the inner plicæ bearded. ⊙. H. Native of Bavaria, Savoy, and Switzerland, on the mountains. Gentiàna obtusifòlia, Willd. spec. 1. p. 1347. Wahl. helv. p. 49. G. amarélla γ, Frœl. gent. p. 87. Híppion obtusifòlium, Schmidt, fl. boh. no. 226. Rœm. arch. 1. p. 22. t. 2. f. 3. Gentiàna spatulàta, Rchb. icon. t. 22. Gent. montàna, Nees. Lower leaves narrow, and almost petiolate: radical ones almost orbicular. Corolla purplish or blueish yellow in the dried state. Branches few, 1-flowered. Two of the calycine segments are broader than the others. This plant is considered the same as *E. Germánica* by Cham. et Schlecht. in Linnæa. 1. p. 179-180.

Blunt-leaved Eurythalia. Fl. July, Aug. Clt. 1826. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

6 E. prate'nsis; stem tetragonal, branched; leaves lanceolate, with scabrous edges, obsoletely 3-nerved; corolla 4-5-cleft: with ovate-lanceolate, obtuse segments: having the inner plicæ bearded; calycine segments nearly equal, shorter than the tube. ⊙. H. Native of Russia and Siberia at the Baikal; and of Galicia, in humid and dry places. Gentiàna praténsis, Frœl. gent. p. 88. exclusive of the syn. of Fl. dan. G. campéstris, Pall. fl. ross. 2. p. 103. Taller and more branched than *E. Germánica*; with the lower branches shorter than the internodes. Corolla not twice shorter than the largest calycine segments, of a livid blue colour. Leaves sometimes violaceous beneath. Flowers terminal, aggregate; pedicels shorter than the flowers. Said by Cham. in Linnæa. 1. p. 181. to be the same with *Amarélla*.

Meadow Eurythalia. Fl. Aug. Sept. Clt. 1817. Pl. $1\frac{1}{2}$ ft.

7 E. Cauca'sica; stem tetragonal, branched from the base; branches equal; leaves ovate-lanceolate, 3-nerved; corolla 5-cleft, with ovate, obtuse segments, and a bearded throat; teeth of calyx subulate, nearly equal. ⊙. H. Native of the alps of Caucasus, at the fountains called Jucharibasch. Gentiàna Caucásica, Bieb. fl. taur. 1. p. 198. Sims, bot. mag. t. 1038. Gent. amarélla, Pall. ross. 2. p. 104. exclusive of the syn. of Fl. dan. t. 367. Gent. collìna, Adams. in Willd. herb. Roots yellowish. Calyx shorter than the tube of the corolla. Peduncles 1-flowered, length of leaves at the tops of the branches. Corollas larger than those of *E. campéstris*, of a violaceous blue colour; beard white.

Caucasian Eurythalia. Fl. July, Aug. Clt. 1804. Pl. $\frac{1}{2}$ foot.

8 E. campe'stris (Borkh. in Rœm. arch. 1. p. 28.) stem tetragonal, pyramidally branched: leaves lanceolate, 3-nerved; corolla 4-cleft; the segments obtuse and the throat bearded; the 2 exterior segments of the calyx very large. ⊙. H. Native of Europe, from Sweden to Sicily, in dry elevated pastures. In Britain, particularly in the north of Wales and Scotland, plentiful; but more especially in marly districts. Gentiàna campéstris, Lin. spec. 334. Frœl. gent. p. 91. Smith, engl. bot. t. 237. Oed. fl. dan. t. 367. Bocc. mus. t. 181. Gent. amarélla β, Lam. fl. fr. 2. p. 892. Gent. amarélla, Allg. ped. no. 353. ex D. C. fl. fr. no. 2777. Gentiàna obtusifòlia, Schleich. Híppion campéstre, Schmidt. in Rœm. arch. 1. p. 11. This is very nearly allied to *E. amarélla*, but is more branched, and the calyx is always 4-parted and irregular. Corolla purplish blue, and sometimes pure white. According to Linnæus poor people use this plant instead of hops to beer; and according to Pallas as a medicine, in common with many other species.

Var. β, *Germánica* (Frœl. gent. p. 91.) stem acutely tetragonal, green or blueish purple at the base, 2-6 inches high, simple or branched; 2 of the calycine segments are very large and subcordate, or ovate, acute 3-nerved, the 2 smaller ones lanceolate, acuminated; corolla blueish violet, with a whitish tube, a little shorter than the calyx. Gent. campéstris, Roth. fl. germ. 2. p. 290.

Var. γ, *Neapolitàna* (Frœl. l. c.) lower branches of stem the longest, therefore corymbose; calyx 4-parted; segments acuminated, 2 of which are broader and lanceolate; the other 2 linear; corolla twice longer than the calyx: limb 4-cleft, acutish, reddish purple, but the beard is white. ⊙. H. Native of Italy.

Var. δ, *quinquéfida*; flowers 5-cleft. ⊙. H. Native of Switzerland. Gentiàna Germánica, Schleich. cent. pl. p. 21. no. 31. ex D. C. fl. fr. 2777.

Var. ε, *mínima*; plant small; corollas purple. ⊙. H. Native of the south of Europe. Híppion auriculàtum, Schmidt, fl. boh. no. 125.—Barrel. icon. 97. f. 2.—Column. ecphr. 1. p. 223. t. 22. f. 3.

Field Eurythalia. Fl. Aug. Britain. Pl. $\frac{1}{4}$ to $\frac{1}{3}$ foot.

9 E. floribu'nda; stem erect, branched; leaves lanceolate, connate, acute, downy, with pilose margins; peduncles 1-flowered, solitary, or numerous, disposed on the branches as if they were in racemes; calycine segments lanceolate, acute, downy as well as the corolla, which is deeply 5-cleft, and bearded in the throat. ⊙. H. Native of Nipaul. Gentiàna floribúnda, D. Don, prod. fl. nep. p. 127. Stem terete, glabrous. Flowers pale blue. Lobes of corolla ovate, mutic.

Bundle-flowered Eurythalia. Fl.? Pl. 1 to 2 feet.

10 E. umbella'ta (D. Don, mss.) stem erect, branched, terete; leaves lanceolate, acute, 3-nerved, or somewhat 5-nerved: lower ones petiolate; calycine segments lanceolate, acuminated; throat of corolla furnished with a jagged fringed ring; lobes of corolla elliptic, oblong. ⊙. H. Native of Peru. Gentiàna umbellàta, Ruiz et Pav. in herb. Lamb. Leaves with scabrous edges, 3-4 inches long. Flowers terminal, 3-5 in an umbel, erect; pedicels 2-edged, bractless. Corollas yellow. Filaments dilated; anthers oblong. Ovarium oblong. Stigma sessile, thick, 2-lobed.

Umbellate-flowered Eurythalia. Pl. $1\frac{1}{2}$ foot.

11 E. auricula'ta; stem subtetragonal, almost simple; radical leaves ovate: cauline ones oblong-ovate, stem-clasping, obtuse, 5-nerved; flowers terminal from the axils of the superior leaves; corolla 4-5-cleft, villous inside; alternate, calycine segments cordate. ⊙. H. Native of eastern Siberia, about the sea of Ochotsk, and of Kamtschatka, in grassy marshy places. Gentiàna auriculàta, Pall. fl. ross. 2. p. 102. t. 92. f. 1. Frœl. gent. p. 90. no. 35. Híppion auriculàtum, Schmidt. Dasystéphana auriculàta, Borkh. in Rœm. arch. 1. p. 26. Corolla twice longer than the calyx: with roundish ovate, pale blue segments, which are villous inside. Ovarium fusiform. There is a much-branched variety of this, with more violet-coloured corollas, found in salt marshes towards the sea.

Auricled Eurithalia. Pl. 1 foot.

12 E. glacia'lis; stem tetragonal, branched from the base, leafy; leaves nearly all radical, and rosulate, oblong, bluntish; corolla 4-cleft, with a bearded throat; calyx 4-parted, nearly equal; peduncles long, tetragonal, naked, 1-flowered. ⊙. H. Native of Lapland, Iceland, and through Savoy, and the Carpathian mountains, on the tops of the alps, to the alps of middle

Europe, as of Valais, even to Siberia. Gentiàna glaciàlis, Vill. dauph. 2. p. 532. Frœl. gent. p. 98. Wahl. lapp. p. 69. carp. p. 75. Gent. nivàlis, Lam. dict. suppl. 2. p. 733. no. 68. Hall. helv. 652. Hippion longepedunculàtum, Schmidt, in Rœm. arch. 1. p. 21. t. 2. f. 5. Gent. nàna, All. pedem. 1. p. 99. no. 360. Nearly allied to *E. amarélla*. Corolla deep blue, having 2 small fringed segments to each segment of the corolla. Capsule elongated.

Var. β, *tenélla;* corolla 4-cleft, bearded; stem subdichotomous; peduncles very long; leaves subovate, bluntish. ⊙. H. Native of the north of Europe. Gent. tenélla, Frœl. gent. p. 96. Willd. spec. 1349. Pers. syn. 1. p. 286. Rottb. act. hafn. 10. p. 436. t. 2. f. 6. Townson, trav. hung. t. 14. Vahl, act. soc. hafn. 2. p. 2. t. 21. Fl. dan. t. 318. Gent. tetragòna, Lam. ill. no. 2233. Gmel. syst. p. 462. Roth. germ. 2. p. 290. Hippion tenéllum, Schmidt, in Rœm. arch. 1. p. 19. Gent. Konígii, Gunn. fl. norv. no. 288. Gent. campéstris β, Lin. syst. p. 269. no. 34. Gmel. syst. p. 460. no. 7. Corollas deep blue.

Var. γ, *uniflòra;* stem simple, 1-flowered. ⊙. H. Gent. glaciàlis β, Frœl. gent. p. 98.

Icy Eurythalia. Fl. Aug. Clt. 1819. Pl. ¼ to ⅓ foot.

13 E. dichótoma; stem tetragonal, dichotomously branched; leaves subovate, acute; peduncles very long; corolla 5-cleft, with a bearded throat, and oblong, obtuse, hardly spreading segments. ⊙. H. Native of Siberia, from the Lena to the Eastern Ocean. Gent. dichótoma, Pall. fl. ross. 2. p. 110. Frœl. gent. p. 100. Hippion dichótomum, Schmidt. Gent. boreàlis, Ledeb. act. nat. soc. mosc. 3. p. 357. Gent. glaciàlis, Led. fl. alt. 1. p. 288.—Gmel. sib. 4. p. 106. t. 51. f. B. This species differs from *E. glaciàlis* in the stem being finely forked, filiform, and rather flexuous. Leaves at all the forks, and on the peduncles. Calyx divided almost to the base; segments lanceolate, acute. Corolla purplish; tube longer than the calyx. The corollas vary to 4-cleft, and to a white colour. Said by Cham. in Linnæa, 1. p. 182. to be the same as *E. glaciàlis*.

Dichotomous Eurythalia. Pl. ¼ foot.

14 E. na'na (Borkh. in Rœm. arch. 1. p. 28.) stem tetragonal, decumbent, filiform, dichotomous, leafy at bottom, with ascending, tufted branches; radical leaves obovate: cauline ones ovate, obtuse; peduncles hardly the length of the flowers; corolla 5-cleft, rarely 4-cleft, campanulate, with a bearded throat, and ovate, acutish segments. ⊙. H. Native of the alps of Carinthia and Salzburg, near the limits of perpetual snow. Gent. nàna, Wulf. in Jacq. misc. 1. p. 161. t. 18. f. 3. Frœl. gent. p. 102. Hippion nànum, Schmidt, in Rœm. arch. p. 20. t. 3. f. 10. Root yellowish. Radical leaves usually 4, rarely more, rosulate. Calycine segments ovate, lanceolate, acutish, nearly equal. Corolla with a whitish tube, nearly the length of the calyx, and a deep violaceous limb, and a white bipartite beard. Stigmas ovate.

Var. β; stem simple, shorter than the flower. ⊙. H. Frœl. gent. l. c.

Var. γ; corollas white. ⊙. H. Frœl. gent. l.

Dwarf Eurythalia. Fl. July, Aug. Pl. 1 to 2 inches.

Cult. For culture and propagation see *Pleurógyna*, below.

XII. PLEURO'GYNA (from πλευρα, *pleura*, a side, and γυνη, *gyne*, a female; in reference to the 2 stigmas being adnate longitudinally to both sides of the ovarium). Eschsch. mss. ex Schlecht. in Linnæa. 1. p. 187.—Gentiàna species of authors. —Swértia species of Linnæus.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-cleft. Corolla rotate, spreading, 5-cleft; with a fringed or scaly throat. Stamens 5; filaments filiform; anthers free, incumbent. Stigmas 2, adnate longitudinally to the sutures on both sides of the ovarium. Capsule elongated, 1-celled, 2-valved. Seeds minute, globose, scobiform.—Annual plants. Leaves opposite, decussate: radical ones rosulate. Flowers blue.

1 P. Carinthi'aca; stem short, tetragonal, dichotomous, leaves ovate-lanceolate, obtuse; peduncles very long, naked; corolla rotate, 5-cleft; with bristles in the throat. ⊙. H. Native of Carinthia, and Salzburg, on the tops of the alps. Gentiàna Carinthìaca, Frœl. gent. p. 103. Willd. spec. 1. p. 1350. Swértia Carinthìaca, Wulf. in Jacq. misc. 2. p. 53. t. 6. Lin. syst. ed. 14. Murr. p. 266. Root yellowish. Stem slender. Branches and peduncles erect or ascending. Radical leaves 4, rosulate, oblong-ovate: cauline ones twin above the base. Calycine segments cut almost to the base, ovate-lanceolate, obtuse, nearly equal, shorter than the corolla. Segments of corolla ovate, acute, sky blue above, and white and violaceous beneath. Bristles in the throat short and white. Capsule elongated, angular. Stigmas obtuse.

Carinthian Pleurogyna. Fl. July, Aug. Clt. 1817. Pl. ¼ ft.

2 P. sulca'ta; stem tetragonal, dichotomous; leaves linear; segments of corolla oblong, acute; corolla rotate, 5-cleft: with scales in the throat; calycine segments lanceolate-linear. ⊙. H. Native of Iceland and Norway. Gent. sulcàta, Willd. spec. 1. p. 1351. Swértia sulcàta, Rottb. act. hafn. 10. p. 438. t. 1. f. 4. Retz. scan. ed. 2. no. 309. Swértia rotàta, Gunn. norw. no. 1077. fl. dan. t. 343. Gent. rotàta β, Frœl. gent. p. 106. Corolla length of calyx. Stem spicately branched, many-flowered, leafy, ex Fl. dan. l. c. Ovarium compressed, furrowed.

Furrowed-capsuled Pleurogyna. Pl. ¼ to ½ foot.

3 P. rota'ta; stem simple or branched from the middle, obsoletely tetragonal; leaves ovate-lanceolate, acutish, strict; segments of calyx ovate-lanceolate, one half shorter than the corolla. ⊙. H. Native throughout Siberia, in humid places. Gentiàna rotàta, Frœl. gent. p. 105. Led. fl. alt. 1. p. 289. Swértia rotàta, Lin. spec. 1. p. 1351. Pall. fl. 2. t. 89. f. 1. and 2.—Gmel. sib. 4. t. 53. f. 1. Root yellow, fascicled. Branches sub-fastigiate. Radical leaves 4, rosulate, obovate, obtuse: cauline ones lanceolate, acutish, sub-trinerved, shorter than the internodes. Segments of calyx linear-acute, 3-nerved, a little shorter than the corolla. Corolla blue, 5-parted. Scales 10 in the throat, variously cut. Ovarium cylindrical, compressed, furrowed in the middle.

Rotate-flowered Pleurogyna. Pl. ½ to 1 foot.

4 P. Stelleria'na (Cham. et Schlecht, in Linnæa. 1. p. 188.) leaves ovate, acute; calycine segments ovate, lanceolate, acute, one half shorter than the corolla. ⊙. H. Native of eastern Siberia, Kamtschatka, and Caucasus. Swértia rotàta, Pall. fl. ross. t. 89. f. 3. Bieb. cauc. 1. p. 199.—Gmel. sib. 4. p. 112. t. 52. f. 2. Stem many-flowered, branched from the base; branches fastigiate. Corolla 5-cleft.

Steller's Pleurogyna. Pl. ¼ to ½ foot.

Cult. The species of this genus are almost uncultivatable; although several of them are extremely common in chalky parts of Britain. We would recommend the seed to be sown in chalky soil, or soil well mixed with chalk or marl, in which they will probably grow in a cultivated state.

XIII. ERICA'LA (meaning unknown to us). Renealm. specim. p. 75. t. 68. Ericoìla, Borkh. in Rœm. arch. 1. p. 27. Gentiàna species of authors. Hippion species of Schmidt.

Lin. syst. *Pentándria, Digýnia.* Calyx 3-5-cleft. Corolla funnel-shaped or salver-shaped, 8-10-cleft; the alternate segments usually smaller, entire, bifid or fringed, but never bearded. Stamens 4-5; filaments filiform. Anthers incumbent, linear

or oblong-linear. Stigma 2-lobed or bifid, minutely papillose. Capsule pedicellate. Seeds small, oblong or roundish, smooth. —Dwarf perennial or annual herbs. Leaves conduplicate. Radical leaves rosulate, imbricate: cauline ones opposite, decussate, sessile. Flowers terminal, usually solitary.

§ 1. *Perennial plants.*

1 E. ALPÌNA; corolla campanulate, about equal in length to the stem; leaves ovate, rather fleshy, obtuse, nerveless. ♃. H. Native of Dauphiny, in the Pyrenees, very plentiful. Gentiàna alpìna, Vill. dauph. 2. p. 526. no. 8. t. 10. D. C. fl. fr. suppl. no. 2770. α. Lodd. bot. cab. 476. Gent. acaúlis β, Frœl. gent. p. 57. var. γ, D. C. fl. fr. 2770. Pers. syn. 1. p. 285. Híppion alpìnum, Schmidt, in Rœm. arch. 2. p. 20.—Barrel. icon. t. 105. Leaves hardly twice as long as broad, almost round. Flowers solitary, erect, always longer than the stem, 12-14 lines long.

Alpine Ericala. Fl. May, July. Clt. 1817. Pl. ¼ foot.

2 E. ALTA'ICA (Borkh. in Rœm. arch. 1. p. 27.) stem shorter than the flower; radical leaves imbricated, compact; corolla funnel-shaped, 10-cleft; segments roundish: accessory ones roundish, jagged. ♃. H. Native of Altaia, near the limits of perpetual snow. Gentiàna Altàica, Pall. fl. ross. 2. p. 109. t. 97. f. 1. Frœl. gent. p. 62. Gent. grandiflòra, Laxm. comm. nov. petrop. 18. p. 526. t. 6. f. 1. Híppion Altàicum, Schmidt, in Rœm. arch. 1. p. 10. no. 2. Gent. longiflòra, Lam. ill. p. 485. no. 2115. Root simple, fibry. Leaves lanceolate, acutish. Flowers solitary. Segments of calyx lanceolate-acuminated, with a membranous white keel and margin. Corolla large, deep blue. Anthers yellow. Very nearly allied to *E. Pyrenàica*. Capsule obovate, pedicellate.

Var. β, *albiflòra* (Led. fl. alt. 1. p. 283.) flowers white, with 5 yellow stripes. ♃. H. Native of Siberia, in alpine places.

Altain Ericala. Fl. April, May. Clt. 1824. Pl. ¼ foot.

3 E. PYRENA'ICA (Borkh. l. c.) stem branched at bottom; leaves lanceolate-linear; flowers terminating the branches, solitary; corolla funnel-shaped, 10-cleft: accessory segments oblong, obtuse and crenulated at the apex. ♃. H. Native of the Pyrenees, and Caucasus. Gentiàna Pyrenàica, Lin. syst. 268. mant. 55. Willd. spec. 1. p. 1341. Frœl. gent. p. 63. Gouan. ill. 7. t. 2. f. 2. Waldst. et Kit. hung. t. 207. Híppion Pyrenàicum, Schmidt, in Rœm. arch. 1. p. 14. no. 1. Very nearly allied to *E. vérna*, but differs in the accessory segments being nearly equal in size to the others. Stem procumbent. Flowers length of branches. Sterile branches densely leafy. Radical leaves crowded, imbricated: cauline ones connately sheathing, acute, with white cartilaginous edges. Segments of calyx lanceolate, acute, with pale edges. Corolla pale green outside, with the limb deep blue above. There is a variety of this species with a 6-cleft corolla, with as many accessory segments, see D. C. fl. fr. no. 2775.

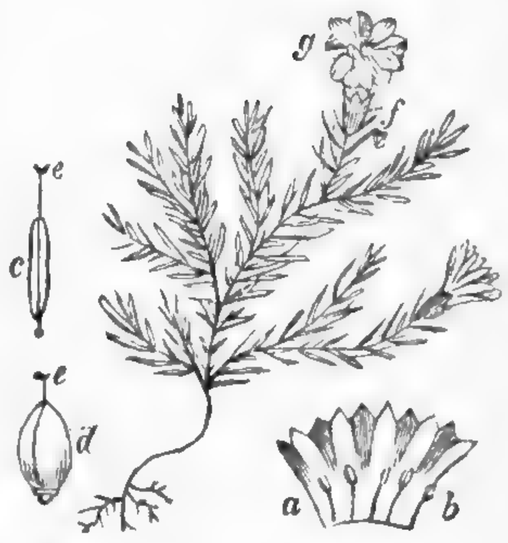
Pyrenean Ericala. Fl. April, July. Clt. 1825. Pl. ¼ foot.

4 E. PU'MILA (Borkh. in Rœm. arch. 1. p. 41.) stems 1-flowered; leaves linear-lanceolate, crowded, imbricate; corolla salver-shaped, 10-cleft; segments ovate, acute: the 5 accessory ones small, semi-bifid. ♃. H. Native of Carinthia, Austria, the Tyrol, Switzerland, &c., on the alps. Gentiàna pùmila, Lin. spec. p. 331. Jacq. vind. 215. obs. 2. p. 29. t. 49. austr. 4. t. 302. Frœl. gent. p. 81. Willd. spec. 1. p. 1345. Gent. vérna β, Lam. dict. 2. p. 639. γ. D. C. fl. fr. no. 2771. Híppion pùmilum, Schmidt, in Rœm. arch. 1. p. 10. Habit of *E. Pyrenàica* and *E. vérna*, but differs from both in the corolla. Lower leaves with subrecurved cartilaginous margins. Calyx pentagonally keeled, blueish. Corolla pale blue; accessory segments white.

Dwarf Ericala.

5 E. SEDIFÒLIA; plant tufted, procumbent; branches 1-flowered: flowers sessile; leaves lanceolate, acute, loosely imbricate; corolla funnel-shaped, 10-cleft; the accessory segments are almost equal to the others in size, all roundish ovate; calycine segments equal, linear-lanceolate, acute, with membranous, white edges; stigmas sessile, revolute at apex. ♃. F. Native on the Andes, about Quito Popayan. Gentiàna sedifòlia, H. B. et Kunth, nov. gen. amer. 3. p. 134. t. 225. Gent. cæspitòsa, Willd. herb. ex Rœm. et Schultes, syst. 5. p. 185. Leaves sessile, somewhat connate, nerveless, with diaphanous white edges. Calyx 3 times shorter than the corolla. Corolla size of *E. vérna*, blue. Capsule oblong, acute, compressed.

FIG. 21.



Stonecrop-leaved Ericala. Pl. procumbent.

6 E. TUBIFLÒRA; almost stemless, tufted; leaves crowded, mostly radical, rosulate, roundish-spatulate, sessile, small; flowers solitary, sessile, upon the tops of very short stems; calyx tubular: with triangular, acute teeth; corolla long, tubular, 10-cleft: the 5 regular segments ovate, rounded, mucronate; and the 5 accessory ones small, and also rounded. ♃. F. Native of Nipaul, at Gosainsthan. Gentiàna tubiflòra, Wall. cat. no. 4388. Flowers long, narrow, blue, large for the size of the plant. Margins of leaves cartilaginous. This is a pretty little plant.

Tube-flowered Ericala. Pl. small, tufted, 1 inch.

7 E. DEPRE'SSA (D. Don, mss.) stems 1-flowered; flowers sessile, radical; leaves lanceolate, mucronate, rosulate; of the surculi ovate; corolla campanulately funnel-shaped, 10-cleft; the 5 accessory segments ovate, erosely crenulated; the other 5 roundish, and mucronately awned. ♃. H. Native of Nipaul. Gentiàna depréssa, D. Don, prod. fl. nep. p. 126. Wall. cat. no. 4387. Root fibrous. Plant depressed, stemless, sometimes with many decumbent surculi. Leaves glaucous-green, 3-nerved, with cartilaginous edges, scabrous from papillæ. Calyx tubular, 5-cleft; with lanceolate, mucronulate keeled segments. Corolla an inch long, blue, with violaceous lines. Filaments flat, channelled. Ovarium fusiform, pedicellate. Style elongated. Stigmas lanceolate, mucronulate, approximate, papillose, as several other parts of the plant. Very nearly allied to *E. Altàica*.

Depressed Ericala. Pl. 2 inches.

8 E. CARINA'TA (D. Don, mss.) stem erect, terete, simple; leaves sessile, keeled at the base, linear-lanceolate, incurved; flowers aggregate, terminal; calycine segments linear, mucronate, with scabrous edges; corolla funnel-shaped, tubular, with a bearded throat, and a 10-lobed limb: the 5 accessory lobes sharply denticulated, much shorter than the other 5, which are lanceolate, acute. ♃. F. Native of Nipaul. Stem purplish. Leaves green, having the margins and keel cartilaginous. Filaments capillary. Stigmas revolute. Capsule cuneate-oblong, winged at apex.

Keeled-leaved Ericala. Pl. 1½ inch.

9 E. VENU'STA; stems procumbent or stoloniferous; leaves roundish-spatulate, obtuse, with cartilaginous edges; flowers sessile, terminal, 2-3 together, rarely solitary; calycine segments linear-lanceolate; corolla 10-cleft: the 5 regular segments roundish and crenated; and the 5 accessory ones small and bifid. ♃. F. Native of Kamaon. Gentiàna venústa, Wall. cat. no. 4389. Flowers blue.

Beautiful Ericala. Pl. procumbent.

10 E. angustifòlia; stem terete, simple, 1-flowered; leaves narrow-linear, spreading; corolla campanulate, with 5 ovate acute segments, and as many accessory small jagged ones. ♃. H. Native from New Jersey to Carolina, in meadows and near rivers, in sandy soil. Gentiàna angustifòlia, Michx. fl. amer. bor. 1. p. 177. Pursh, fl. amer. sept. 1. p. 186. Gentiàna purpùrea, Walt. fl. car. p. 109. Gentiàna porphýrio, Gmel. syst. p. 462. no. 37. Híppion Porphýrio, Schmidt. Calyx 5-cleft. Flowers large, azure blue, often 2 inches long. Capsule clavate, stipitate. Stigma bifid. Stems mostly simple, but sometimes 2-3-flowered.

Narrow-leaved Ericala. Pl. ½ to 1 foot.

11 E. quadrifa'ria; stem a little branched; flowers terminal, solitary, almost sessile; leaves imbricating in 4 rows, ovate, with cartilaginous edges, terminated each by a bristle; corolla funnel-shaped, 10-cleft. ♃.? G. Native of Java, on the higher declivities of Mount Gede. Gentiàna quadrifària, Blum. bijdr. p. 847. Nearly allied to *E. aquática* and *E. hùmile*.

Quadrifarious-leaved Ericala. Pl. ¼ foot.?

12 E. linea'ris; stem roughish; leaves linear-lanceolate, undulated, nerveless, ciliated, as well as the calyxes; flowers terminal, sessile, crowded; corolla campanulate, 5-cleft, with as many denticulated, accessory segments. ♃. H. Native of Pennsylvania and Virginia, on the mountains; and of the Arkansas. Gentiàna lineàris, Frœl. gent. p. 37. no. 11. Pursh, fl. amer. sept. 1. p. 186. Gentiàna pubérula, Michx. fl. bor. amer. 1. p. 176. Flowers large, blue. Segments of corolla blue.

Linear-leaved Ericala. Fl. Aug. Clt. 1816. Pl. ½ foot.

13 E. acu'ta; stems tetragonal, branched; leaves sessile, half stem-clasping, erect, oblong-ovate, very acute; flowers disposed in terminal and lateral fascicles; corolla 10-cleft: the 5 regular segments linear-lanceolate: and the 5 accessory ones small and ciliated. ⊙.? H. Native of Carolina and Canada, on high mountains. Gentiàna acùta, Michx. fl. bor. amer. 1. p. 177. Pursh 1. p. 186. Fertile branches much shorter than the sterile ones. Flowers very small, greenish yellow, on very short branches. "Flowers mostly solitary, axillary, and terminal, upon longish peduncles; calyx nearly divided to the base, 2 of the segments smaller than the others; corolla campanulate, 4-5-cleft, greenish purple; segments semi-ovate, acute; orifice ciliated:" ex Nutt. gen. 1. p. 172. Perhaps a species of *Erythàlia*, if Michaux' plant and Nuttall's be the same.

Acute-flowered Ericala. Pl. ¼ foot.

14 E. ve'rna (Borkh. in Rœm. arch. 1. p. 41.) stem branched at bottom; branches 1-flowered; leaves ovate, acutish: radical ones spreading, crowded; corolla salver-shaped, 5-cleft, with as many small bifid, accessory segments. ♃. H. Native throughout Europe, on the alps and mountains, and in humid meadows, as of Switzerland, Savoy, Piedmont, Austria, Carniola, &c. In England, in Teesdale Forest, Durham; and between Gort and Galloway, in Ireland. Gentiàna vérna, Lin. spec. p. 331. Willd. spec. 1. p. 1342. exclusive of Gent. Bavárica, Pall. Smith, engl. bot. 493. Curt. bot. mag. 491. Lodd. bot. cab. t. 62. Tratt. fl. austr. 1. t. 2. Mordant Delanay. 1. t. 1. Gentiàna prostràta, Schleich. Hall. helv. no. 644. Gent. serràta α, Lam. fl. fr. 2. p. 294. Híppion vérnum, Schmidt, fl. boh. no. 118. Rœm. arch. 1. p. 16. t. 3. f. 9.—Morr. hist. t. 5. f. 13.—Ger. emac. 436. f. 2. Gentianélla dúlcis, Gesn. in Schmidel. op. gesn. 2. p. 41. t. 22. f. 83. A. exclusive of Lin. name.—Barrel. icon. p. 98. t. 109. f. 1. Stigma finely serrated, saucer-shaped. Root creeping, Angles of calyx undulated. Segments of corolla roundish, obtuse. Corollas azure blue; accessory segments pale. Capsule fusiform, bursting when touched.

Var. β; stem hardly exceeding the corolla; segments of corolla acutely serrated. ♃. H. Native of the Noric alps, Carpathian mountains, as well as of Siberia, at the Baikal. Frœl. gent. p. 65. Gentiàna Bavárica, Jacq. obs. 3. p. 19. t. 71. Gent. vérna γ, Lam. dict. 2. p. 639. Gmel. syst. 461. Scop. carn. 1. p. 178.—Barrel. icon. 109. f. 2. Ericàla, Renealm. spec. p. 75. t. 68.

Var. γ, *elongàta* (Frœl. gent. l. c.) stem elongated, filiform, nearly naked, 1-flowered; calyx oblong, equal; radical leaves rosulate. ♃. H. Native of Austria. Gent. elongàta, Hænke, in Jacq. coll. p. 88. t. 17. f. 3.

Var. δ, *brachyphýlla* (Frœl. l. c.) leaves lanceolate-roundish, very short. ♃. H. Native of Dauphiny and Carinthia. Gentiàna brachyphýlla, Vill. dauph. 2. p. 258. no. 12. Barrel. icon. t. 103. f. 2.

Var. ε, *acutiflòra* (D. C. fl. fr. suppl. p. 427.) segments of corolla acute. ♃. H. Native of France.

Var. ζ, *ternifòlia;* cauline leaves 3 in a whorl.

Var. η, *álba;* corolla white.

Var. θ, *subacaúlis;* plant almost without a stem. ⊙. H. Native of Switzerland. Gent. vérna β, Wahl. helv. p. 47. Gent. pùmila, Sut.

Var. ι, *séxfidus;* corolla 6-cleft; calyx ventricose, tridentate. ♃. H. Híppion séxfidum, Schmidt, in Rœm. arch. 1. p. 15.

Spring Ericala. Fl. April, May. England. Pl. ¼ foot.

15 E. æstìva; stems short, 1-flowered; leaves oval, all equal, crowded; calyx ventricose; corolla funnel-shaped, 10-cleft: having the accessory segments small, bifid, and acute; stigma cup-shaped, deeply crenated. ♃. H. Native of Bohemia, Austria, and Bavaria, on the mountains, in meadows. Gentiàna æstìva, Rœm. et Schultes, syst. 6. p. 156. Híppion æstìvum, Schmidt, fl. boh. no. 119. Rœm. arch. 1. p. 16. t. 3. f. 8. Calyx more angular, and the stigma more deeply crenated than in *E. vérna*.

Var. β, *Terglovénsis* (Hacq. pl. alp. no. 4. t. 2. f. 3.) stemless; calyx short, pentagonal; accessory segments of corolla semibifid; stigma funnel-shaped, ciliated. ♃. H. Native of Terglove, near the ice.

Summer Ericala. Fl. June, July. Clt. 1818. Pl. ¼ foot.

16 E. Carpa'thica; leaves obovate, all sessile: cauline ones remote; flowers sessile; corolla 10-cleft, funnel-shaped; accessory segments unknown. ♃. H. Native of the Carpathian mountains. Gentiàna Carpáthica, Kit. in Schultes, fl. austr. ed. 2. no. 1008. Said to be nearly allied to *E. vérna*.

Carpathian Ericala. Pl. ¼ foot.

17 E. imbrica'ta; stems tufted, shorter than the flowers; flowers solitary; leaves ovate, acute, imbricated, with scabrous edges; corolla funnel-shaped, 10-cleft: having the accessory segments bifid. ♃. H. Native of Switzerland and Carinthia, on the tops of the alps. Gentiàna imbricàta, Frœl. gent. p. 74. Willd. spec. 1. p. 1344. Gent. Bavárica, Lam. dict. 2. p. 640.—Cam. hort. t. 15. f. 2.—Barrel. icon. t. 101. f. 2. ex Cam. Schmidel, op. gesn. 2. p. 43. t. 22. f. 84. This species appears to be intermediate between *E. Bavárica* and *E. prostràta*, but is very distinct from both. The tufts are more dense; lower leaves roundish. Limb of corolla broader than in *E. Bavárica*, deep blue; with ovate-lanceolate acute segments: the accessory one pale blue and rather large.

Imbricated-leaved Ericala. Fl. July, Aug. Clt. 1819. Pl. ¼ foot.

18 E. prostra'ta (Borkh. in Rœm. arch. 1. p. 41.) stem prostrate, filiform, leafy, about equal in length to the flower; leaves obtuse, crowded; corolla funnel-shaped, 10-cleft; the 5 accessory segments small and bifid. ♃. H. Native of Salzburgh, on the tops of the alps, Carniola, Unalaschka, Behring's Straits, Bay of St. Laurence, Aleutian Islands, &c. Gen-

tiàna prostràta, Hænke, in Jacq. coll. 2. p. 66. t. 17. f. 2. Tratt. fl. austr. fasc. 9. t. 8. Frœl. gent. p. 75. Willd. spec. 1. p. 1344. Híppion prostràtum, Schmidt, l. c. Very nearly allied to *E. Bavárica*, but all parts of the plant are more slender and the flowers much smaller; calyx less angular; segments of corolla lanceolate, acute, of a watery blue colour.

Prostrate Ericala. Pl. 1 to 2 inches.

19 E. angulòsa; stem shorter than the flower; leaves ovate, obtuse, 3-nerved: radical ones crowded, imbricate; calyxes keeled; corolla salver-shaped, 10-cleft; segments ovate, obtuse; the 5 accessory segments small and bluntly bifid. ♃. H. Native of Caucasus, and the Carpathian mountains, in rather humid alpine places. Gentiàna angulòsa, Bieb. fl. taur. 1. p. 197. suppl. p. 190. cent. pl. rar. ross. 1. t. 47. Gent. vérna γ, angulòsa, Wahl. carp. no. 216. Gent. utriculòsa, Wahl. helv. no. 273. Gent. Bavárica, Pall. ross. 2. p. 110. exclusive of the syn. of Lin. Gent. uniflòra, Georgi, itin. 1. p. 203. t. 1. f. 2. Habit and stature of *E. nàna*, but the flowers are larger, ānd the calyxes bladdery.

Angular-calyxed Ericala. Fl. April, June. Clt. 1824. Pl. ¼ foot.

20 E. Bava'rica (Borkh. in Rœm. arch. 1. p. 41. Schmidel, op. gesn. 2. p. 43. t. 27. f. 85.) stems 1-flowered; leaves ovate, obtuse: radical ones crowded, imbricated, larger than the cauline ones; corolla funnel-shaped, 10-cleft; segments entire, or slightly serrated: the accessory ones small, horn-formed. ♃. H. Native of middle Europe, on the alps. Gentiàna Bavárica, Lin. spec. 331. Vill. dauph. 2. p. 527. t. 10. exclusive of the syn. of Jacq. Hænke, in Jacq. coll. 2. p. 75. no. 32. Gentiana serpyllifòlia, Lam. dict. 2. p. 640. Pers. ench. 1. p. 285. Hall. helv. no. 645. Híppion Baváricum, Schmidt, bohem. no. 120. and in Rœm. arch. 1. p. 17. t. 4. f. 12. Gentiàna prostràta, Funk.—Barrel. icon. 101. f. 1.—Cam. hort. p. 65. t. 15. Differs from *E. vérna*, in the leaves being obtuse, not acute. Corolla deep blue. Ovarium pedicellate. Stigmas 2, downy.

Var. β, imbricàta; flower exceeding the stem; radical leaves crowded, roundish. ♃. H. Native of the alps of Salzburgh and Carinthia. Frœl. gen. p. 71. Gentiàna imbricàta, Schleich, ex D. C. fl. fr. suppl. p. 427. no. 2772.

Var. γ, elongàta; stem elongated, 3-4 inches long. ♃. H. Frœl. gent. l. c.

Var. ε, albiflòra; corollas white. Frœl. l. c.

Bavarian Ericala. Fl. July. Clt. 1775. Pl. ¼ foot.

21 E. crucia'ta (Borkh. in Rœm. arch. 1. p. 27.) stems ascending, terete, 2-edged at the base; leaves broad-lanceolate, 3-nerved; flowers terminal, and axillary, crowded, nearly sessile; calyx 4-toothed, unequal; corolla tubularly campanulate, 8-cleft: having the 4 regular segments acute: and the 4 accessory ones small, acutely bifid or jagged. ♃. H. Native of middle Europe, in dry, exposed, mountainous places; as well as of Caucasus and Siberia. Gentiàna cruciàta, Bauh. pin. 188. Lin. spec. 334. Jacq. austr. 4. t. 372. Pall. ross. 108. Híppion cruciàtum, Schmidt, in Rœm. arch. 1. p. 11. Mayerhoff, fl. mon. t. 153. Tretrorrhìza Renealm, specim. 74. t. 73. Hérba fullònum, Brunf. 2. p. 52.—Ger. emac. 433. f. 4.—Mor. hist. t. 5. f. 16. Leaves connate at the base. Bracteas length of flowers. Calyx cleft on one side. Corolla with a pale tube, widened upwards, and a pale blue limb, dotted with green in the throat. Capsule oblong. This species differs much in habit from the rest; and has much the appearance of *Gentiàna macrophýlla*. Seeds oblong, smooth.

Var. β, mìnor (Cam. epit. 417.)

Var. γ; stem humble; flowers smaller; segments of corolla acute. ♃. H. Frœl. gent. p. 28.

Crosswort Ericala. Fl. June, July. Clt. 1596. Pl. ½ foot.

22 E. spatha'cea; stem erect, simple, nearly terete; leaves lanceolate or oblong-lanceolate, subconnate, acute, approximate; flowers terminal, sessile, crowded; calyx 5-toothed, cleft on one side; corolla funnel-shaped; limb 10-cleft: the larger segments roundish, obtuse, and the accessory ones shorter and bifid?; stigma undivided, at length 2-lobed. ♃. H. Native of Mexico, on the eastern declivities of mountains, near Xalapa. Gentiàna spathàcea, H. B. et Kunth, nov. gen. amer. 3. p. 135. no. 15. Gent. plicàta, Willd. reliq. mss. Leaves 3-nerved, membranous. Flowers erect, size of those of *Gentiàna cruciàta*, blue. Ovarium sub-clavate, compressed. Style short.

Spathaceous-calyxed Ericala. Pl. 1 foot.

§ 2. *Annual plants.*

23 E. utriculòsa (Borkh. in Rœm. arch. 1. p. 27.) stem branched; branches alternate, 1-flowered; calyx carinately winged; radical leaves rosulate, ovate: cauline ones spatulate; corolla salver-shaped, 10-cleft: the segments linear-lanceolate, acute, and entire: the accessory ones bifid; stigma cup-shaped, crenated, nearly as in *E. vérna*. ☉. H. Native from the Baltic to the Mediterranean, in mountain pastures and subalpine places. Gentiàna utriculòsa, Lin. spec. 332. Frœl. gent. p. 69. Willd. spec. 1. p. 1343. Hall. helv. 646. Waldst. et Kit. hung. t. 206. Híppion utriculòsum, Schmidt, in Rœm. arch. 1. p. 11.—Barrel. icon. 18. t. 48. f. 2. not 1.—Column. ecphr. t. 221. Stem and branches obsoletely tetragonal. Corollas beautiful blue; tube whitish, striped with blue. Seeds scabrous. This species is easily recognized by the 5 prominent wings of the calyx, and the salver-shaped corolla. Root fusiform, yellow.

Var. β, ramòsa; stem branched at the base; branches elongated, 1-flowered. ☉. H. Native on mount Baldo. Frœl. gent. l. c.

Var. γ, uniflòra: stem simple, dwarf, 1-flowered. ☉. H. Frœl. l. c.

Var. δ, albiflòra; corolla white.

Bladdery-calyxed Ericala. Fl. April. Clt. 1822. Pl. ⅓ ft.

24 E. niva'lis (Borkh. in Rœm. arch. 1. p. 27.) stem simple or branched; branches alternate, 1-flowered; radical leaves crowded, ovate, acutish: cauline ones lanceolate; calyx tubular, 5-toothed, with acute, hardly keeled angles; corolla funnel-shaped, 10-cleft; the accessory segments bifid. ☉. H. Native of Europe, from Lapland to the Pyrenees, and Italy, on the alps. In Scotland, as on Ben Lawers. Gentiàna nivàlis, Lin. spec. 286. Frœl. gent. 1. p. 83. Willd. spec. 1. p. 1344. Smith, engl. bot. 896. Wahl. lapp. p. 68. helv. p. 48. Oed. fl. dan. 17. Hall. helv. no. 647. t. 17. enum. no. 218. t. 7. f. 5. Mor. t. 5. f. 3. Stem and branches tetragonal. Leaves elliptic: radical ones acute?. Corollas salver-shaped, blue, greenish outside. Calycine segments acuminated.

Var. β, mínima; stem branched, filiform; leaves very short. ☉. H. Native of Dauphiny. Gentiàna mínima, Vill. dauph. 2. p. 19. t. 11. f. 6.—Barrel. icon. 103. f. 2.

Var. γ, hùmile; stem humble, usually 1-flowered; leaves very short, ovate, obtuse. ☉. H. Native of Europe and Labrador. Frœl. gent. l. c. exclusive of the syn. of Vill. Híppion nivàle, Schmidt, in Rœm. arch. p. 19. t. 11. f. 6.—Barrel. icon. 103. f. 2.

Var. δ, albiflòra; corollas white.

Snowy Ericala. Fl. Aug. Scotland. Pl. ¼ foot.

25 E. squarròsa; stem dichotomously branched, beset with divaricate, glandular hairs; flowers sessile, several together; leaves remote, attenuated at both ends; calycine teeth spreading, mucronate; corolla funnel-shaped, 10-cleft: the 5 alternate or accessory segments small and bidentate. ☉. H. Native of Siberia, on dry schistous mountains, at the rivers Kerlyk and Kan. Gentiàna squarròsa, Led. mem. acad. sc. petersb. 5.

p. 527. no. 13. ill. fl. ross. t. 14. Gent. aquática, Bieb. suppl. p. 92. Gent. aquática, var. γ, Frœl. gent. p. 77.—Corolla blue, hardly exceeding the calyx. Stigmas sessile, revolute.

Squarrose Ericala. Pl. ¼ foot.

26 E. aqua'tica (Borkh. in Rœm. arch. 1. p. 27.) stem coarctate, erect, branched; flowers terminal, sessile; leaves obovate, imbricated, keeled, mucronate, cartilaginously margined; teeth of calyx adpressed, acute; corolla funnel-shaped, 10-cleft; the accessory segments small, bifid ?. ⊙. H. Native of Siberia, in sandy, alpine meadows. Gentiàna aquática, Lin. amœn. 2. p. 343. spec. 332. mosc. 3. p. 258.—Gmel. sib. 4. p. 110. no. 76.—Híppion aquáticum, Schmidt, in Rœm. arch. 1. p. 10. no. 12. Stem beset with glandular hairs. Calyx with 5 winged angles. Corolla pale azure blue. Capsule clavate, elongated. Stigmas obtuse. Thecapodium equal in length to the calyx.

Aquatic Ericala. Pl. ¼ foot.

27 E. Loureìri; stems tufted, simple, 1-flowered; leaves lanceolate; calyx acutely 5-cleft; corolla funnel-shaped, 5-cleft: the accessory segments smaller and plicate; stigmas sessile, revolute. ⊙. H. Native of China, in humid places about Canton. Gentiàna aquática, Lour. coch. 172. but not of Lin. Corollas blue, terminal, solitary.

Loureiro's Ericala. Pl. ¼ foot.

28 E. Thunbe'rgii; stem simple, 1-flowered; leaves with membranous edges: radical ones, ovate, acute, crowded: cauline ones ovate, minute, connate, ovate-oblong; calyx with 5 membranous angles; corolla funnel-shaped, 10-cleft, sessile: the accessory segments smaller and plicate. ⊙. H. Native of Japan. Gentiàna aquática, Thunb. jap. p. 115. Corolla blue.

Thunberg's Ericala. Pl. ¼ foot.

29 E. nu'tans; leaves spatulate, mucronate, connately sheathing, remote; flowers numerous, pedunculate, nutant; corolla 10-cleft, twice as long as the calyx; calycine teeth adpressed; capsule cylindrical, sub-truncate; having thecapodium exceeding the corolla. ⊙. H. Native of Siberia, on the tops of the Alps, against the river Tschuga, in humid places. Gentiàna nùtans, Bunge, in Ledeb. fl. alt. 1. p. 284.

Drooping-flowered Ericala. Pl. ¼ foot.

30 E. Royle'na; stem much branched, filiform, slender, flexuous; flowers numerous, solitary, pedicellate; radical leaves large, ovate, mucronately awned, spreading, flat, 3-nerved, glaucous beneath: cauline ones linear-lanceolate, mucronate: having the top of the keel and edges cartilaginously and minutely denticulated; corolla tubular, 10-cleft; the accessory segments obtuse, bidentate, much smaller than the other 5, which are lanceolate, acuminated. ⊙. H. Native of Nipaul; and the Himalayah, at a place called Khoree Pass, Royle. Gentiàna decémfida, D. Don, prod. p. 127. Gentiàna Royleàna, Wall. cat. no. 4393. Gentiàna ripària, Ham. herb. Root simple, fibrously branched. Calyx tubular, with long, subulate, setaceously mucronate, equal segments. Corolla twice longer than the calyx. Filaments capillary. Anthers incumbent. Ovarium stipitate, 2-edged, cuneated. Stigmas revolute, nearly terete, minutely papillose.

Royle's Ericala. Pl. ¼ to ½ foot.

31 E. margina'ta (D. Don, mss.) stem erect, branched; leaves sessile-lanceolate, mucronulate; with cartilaginous edges; flowers sessile, fascicled; corolla tubular, 10-cleft: the 5 alternate or accessory segments a little smaller, entire, acute: the other 5 obtuse. ⊙. F. Native of Nipaul, Kamaon, Silhet, &c. Gentiàna pedicellàta, Wall. cat. no. 4394. ? confused with *Gentiàna coronàta*. Root simple, branched at the base. Leaves coriaceous, nerveless. Bracteas similar to the leaves. Teeth of calyx ovate-lanceolate, mucronate, with scarious edges. Corolla azure blue. Filaments flattened. Ovarium fusiform, membranous. Style elevated; stigma 2-lobed; lobes flat, obtuse, minutely papillous. Habit of *Gentiàna Ròylei*, if Wallich and Royle's plant be the same.

Marginate-leaved Ericala. Pl. 1 to 2 inches.

32 E. hu'milis; stem much branched at the base; branches simple, 1-flowered; leaves oblong-lanceolate, imbricated; with white cartilaginous edges; calyx 5-angled, with erect, acute teeth; corolla funnel-shaped, 10-cleft: with lanceolate acute segments, the 5 accessory ones rather the smallest. ⊙. H. Native of eastern Caucasus, and Siberia, on the mountains, in humid, grassy places. Gentiàna hùmilis, Stev. mem. soc. mosc. 4. p. 258. Bieb. suppl. p. 191. G. aquática, Pall. fl. ross. 2. t. 97. f. 2. G. aquática β, Caucásica, Cav. hort. gorenk. 1812. p. 28. Gent. aquática β, Frœl. gent. p. 77. Gentiàna hùmilis aquática vérna, Amm. ruth. t. 1. f. 1. Root slender, white. Leaves glaucous, green: lower ones largest and rounder, becoming narrower and acuter as they ascend: cauline ones sheathing. Corolla blue, twice as long as the calyx. Teeth of calyx equal in length to the tube of the corolla. Capsule obovate. Very nearly allied to *E. aquática*.

Humble Ericala. Fl. April. Clt. 1824. Pl. ¼ foot.

33 E. fla'va; stems numerous, 1-flowered; leaves lanceolate, imbricated: radical ones elliptic, rosulate; corolla funnel-shaped, 10-cleft; having the 5 accessory segments small and emarginate. ⊙. H. Native of Bohemia, about Morgenstern. in dry places. Gentiàna flàva, Mayer, abh. bohem. gesselsch. 1785. p. 46. t. 1. f. 1. Schultes, oestr. fl. 2d. ed. no. 1012. Híppion imbricàtum, Schmidt, bohem. 2. p. 117. Rœm. arch. 1. p. 15. Calyx ventricose, yellowish. Corolla deep yellow, with short, subulate, spreading segments. Stigmas yellow. Said to be intermediate between *E. vérna* and *E. prostràta*.

Yellow-flowered Ericala. Pl. 1 inch.

34 E. Douglasia'na; stem branched, angular; cauline leaves sessile, broad-ovate, somewhat cordate: radical ones rosulate; flowers white, pedicellate, by threes from the tops of the branches and stem; corolla campanulate, 10-cleft, the 5 accessory segments small and bifid, the others lanceolate, bluntish. ⊙. H. Native of the island of Sitcha, and in north-west America. Gentiàna Douglasiàna, Bongard, in mem. acad. petersb. 2. p. 156. Root perpendicular, fibry. Calyx campanulate, with lanceolate, acute segments. Corolla white, twice as long as the calyx. Anthers oblong. Stigma sessile, 2-lobed. Ovarium oblong, compressed.

Douglas's Ericala. Pl. ½ to ¾ foot.

35 E. argе'ntea (D. Don, mss.) plant of a cinereous grey colour, fascicled or tufted, stemless; leaves and calyxes lanceolate, setaceously mucronate, keeled, recurved, with scariously membranous edges; flowers sessile, terminal, aggregate, bracteate; corolla length of calyx, 10-lobed: the 5 accessory segments ovate, obtuse, entire, membranous, smaller than the other 5, which are ovate, acuminated, having their margins involute above. ⊙. H. Native of the Himalaiah. Gentiàna argéntea, Royle, mss. Root filiform, descending, fibrously branched at the base. Plant composed of very short, crowded, leafy branches. Leaves crowded, recurvedly spreading, silvery, with white, finely serrulated edges. Calyx tubular; segments and bracteas lanceolate, mucronate, recurved. Filaments subulate. Anthers incumbent. Ovarium cuneate, oblong, sessile. Style elongated. Stigmas obtuse.

Silvery Ericala. Pl. 1 inch.

36 E. procu'mbens (D. Don, mss.) plant green, annual, of many procumbent stems; leaves lanceolate, mucronate, emarginate, flat: radical ones large, 3-nerved: cauline ones smaller; flowers subaggregate, terminal; calycine segments lanceolate, mucronate, recurved; corolla tubular, 10-cleft, longer than the calyx;

5 of the lobes ovate, acute, and the 5 accessory ones roundish and very short; capsule cuneate-compressed, winged at top. ⊙. H. Native of Nipaul. Gentiàna procúmbens, and G. radicàta, Royle, mss. Plant tufted; stems filiform, leafy, procumbent, 1-2 inches long. Flowers on short pedicels. Filaments subulate. Style short; stigmas semicylindrical, revolute. Capsule pedicellate: wings crested.

Procumbent Erycala. Pl. procumbent.

37 E. capita'ta (D. Don, mss.) stems simple, angular; angles winged; leaves ovate, petiolate, mucronulate, nerveless; flowers in dense terminal fascicles, sessile; calycine segments ovate, keeled, mucronate, recurved, with scarious edges; corolla funnel-shaped, 10-lobed: the 5 accessory lobes very short, and crenated: the other 5 ovate, mutic, capsule cuneated, crested at top. ⊙. H. Native of Nipaul. Gentiàna capitàta, D. Don, prod. fl. nep. p. 126. Gent. congésta and G. capitàta, Royle, mss. Roots fibry. Bracteas ovate, foliaceous, involucrating, sessile, mucronate. Flowers size of those of *Eurythàlia campéstris;* pale blue. Filaments capillary. Stigmas semicylindrical, revolute.

Capitate-flowered Erycala. Pl. ¼ foot.

38 E. corona'ta (D. Don, mss.) plant depressed, tufted, almost stemless; leaves lanceolate, acute, obsoletely 3-nerved, sessile, spreading, with cartilaginous edges; flowers aggregate, sessile, involucrated by lanceolate bracteas; calycine teeth ovate, mucronate, with scarious edges; corolla tubular, 10-cleft, crowned by a fringed ring; segments nearly equal, ovate, mucronulate. ⊙. H. Native of the Himalaiah, Royle. Gentiàna coronàta, Royle, mss. Roots filiform, branched. Bracteas connate at the base, membranous. Corolla longer than the calyx. Filaments subulate. Anthers oblong. Ovarium sessile. Style elongated. Stigmas semicylindrical, revolute.

Crowned-flowered Erycala. Pl. 1 inch, tufted.

39. E. orbicula'ta; stem tetragonal, paniculately branched at top; leaves roundish, pungently mucronate, recurved, with thick cartilaginous edges; flowers panicled, solitary, sessile, at the tops of small branches; calycine segments lanceolate, pungently mucronate, as also the segments of the corolla; accessary segments of corolla small. ⊙. H. Native of East Indies. Gentiàna orbiculàta, Heyne, herb. ex Wall. cat. no. 4395. Flowers small, blue. Habit of a species of *Triptilion*.

Orbicular-leaved Erycala. Pl. ¼ to ½ foot.

Cult. The species are small alpine plants, bearing blue flowers, which are large in comparison to the size of the plants. They should be grown in small pots, well drained with sherds, in rich light mould, or a mixture of peat, sand, and loam, and placed among other alpine plants. They are either increased by dividing at the root, or by seed, which should be sown as soon as ripe. The annual kinds require the same treatment as the perennial species.

XIV. PNEUMONA'NTHE (from *πνευμων, pneumon,* the lungs; and *ανθος, anthos,* a flower: used in disorders of the lungs.) Cord. hist. 1. p. 162. f. 2. Lob. icon. 309. Ger. emac. 438. Cyàna Renealm. specim. 69. t. 63.—Gentiàna species of Lin. and others. Pneumonánthe species, Schmidt. Dasystéphana species, Borkh. in Rœm. arch. Ciminàlis species, Borkh. l. c.

Lin. syst. *Monadelphia Pentandria.* Calyx 5-cleft. Corolla companulate, or funnel-shaped; 10-cleft, the 5 alternate segments usually small, bifid, or fringed. Stamens 5; anthers combined into a tube, or free; filaments flattened. Stigma 2-lobed or bifid. Capsule 1-celled, 2 valved: seeds angular, oblong. —Glabrous herbs. Leaves opposite, decussate. Flowers terminal, solitary or crowded.

§ 1. *Anthers combined. This section contains the true species of the genus.*

1. P. acau'lis (Schmidt, in Rœm. arch. l. c.) stems tetragonal, 1-flowered; radical leaves crowded, imbricated; corolla campanulate, 5-cleft; segments obtuse, mucronate, having as many small accessory segments. ♃. H. Native of the Alps of middle Europe, as of Austria, Hungary, and France, as well as of Siberia. Gentiàna acaúlis, Lin. spec. p. 330. Frœl. gent. p. 57. Willd. spec. 1. p. 1340. Jacq. austr. 2. t. 135, and 125. Smith, engl. bot. t. 1594. Curt. bot. mag. t. 52. Gentiàna grandiflòra, Pers. ench. 1. p. 285. Gentiàna acaúlis, var. *α*, grandiflòra, Lam. dict. 2. p. 637, no. 9. Ciminàlis acaúlis, Borkh. in Rœm. arch. 1. p. 26. Ciminàlis longiflòra, Mœnch, meth. p. 514. Ciminàlis grandiflòra, Mayerhoff, fl. mon. t. 37.—Schmidel, op. gesn. 2. p. 44. t. 27. f. 86.—Barrel. icon. t. 37. Flowers very large, blue, 2 inches long, with 5 yellow marks inside. Stigma orbicular, finely crenulated. Capsule semibifid. There are 5 melliferous tubercles at the base of the ovarium. Leaves with cartilaginous margins.

Var. β, grandiflòra (Lam. dict. l. c.) plant very dwarf; leaves) 1-nerved. ♃. H. Gentiàna acaúlis *β*, Frœl. gent. l. c. Thylactìtes, Renealm, specim. p. 70. t. 68. f. 3.

Var. γ, cauléscens (Lam. dict. 2. p. 638. no. 10.) corolla oblong-campanulate, shorter than the stem; cauline leaves shorter than the internodes. ♃. H. Frœl. gent. l. c. exclusive of the synonyme of Villars. Gentiàna acaúlis *δ*. D. C. fl. fr. no. 2770.—Barrel. icon. t. 106.—Bocc. mus. 2. t. 6.

Var. δ, angustifòlia (Rœm. et Schultes, syst. 6. p. 152.) leaves oblong-linear, nerveless: corolla campanulate, exceeding the stem. ♃. H. Gentiàna angustifòlia, Vill. dauph. 2. p. 526. no. 7. Gent. acaúlis, Lin. and Willd. ex D. C. fl. fr. no. 2770. Pneumonánthe angustifòlia, Schmidt, in Rœm. arch. 1. p. 14. no. 10.—Lob. icon. 310.—Barrel. icon. t. 110. f. 2.

Var. ε, biflòra; stem 2-flowered. ♃. H. Bauh. hist. 3. p. 523.

Var. ζ, albiflòra; corollas white, or nearly so. ♃. H. Seg. pl. ver. 3. p. 91.

Var. η, variegàta; leaves variegated.

Var. ϑ, flore-pleno; corollas double.

Stemless Calathian violet. Fl. March, May. Britain. Pl. ¼ foot.

2 P. vulga'ris (Schmidt, in Rœm. arch. 1. p. 10. no. 8.) stem tetragonal; leaves linear-spatulate, obtuse; flowers terminal and axillary, pedunculate; corolla funnel-shaped, 5-cleft, with acuminated segments. ♃. H. Native of Europe, from Norway to Sicily, Caucasus and Siberia, in low, humid meadows. In Britain, abundant in Lincolnshire and Yorkshire, in boggy parts of heaths. Found by Mr. Newtown between Clapham and Engleton; near Doncaster, by Mr. Tofield; near Milthorp, in Westmoreland, and in Lancashire, common; near Tunbridge, in Kent; on Longfield Downs, near Gravesend; near Greenhithe, Cobham, &c. in Kent; as well as at Lellingstone, and near Dartford, &c. Gentiàna Pneumonánthe, Lin. spec. 330. Smith, engl. bot. t. 20. Hall. helv. 641. Fl. dan. t. 269. Pall. ross. 2. p. 105. Bieb. fl. cauc. 1. p. 196. Plenck. icon. t. 160. Dreves and Hayne, 2. t. 7. Jaume, St. Hil. fasc. 42. t. 4. Gentiàna linearifòlia, Lam. fl. fr. 2. p. 298. Ciminàlis Pneumonánthe, Borkh. in Rœm. arch. 1. p. 26.—Schmidel. op. gesn. 2. p. 50. t. 28. f. 91.—Barrel, icon. t. 51. f. 2. t. 52. f. 1-2. and t. 122. f. 1. Gentiàna Calathiàna, Bauh. hist. 3. p. 524. f. 1. Root fibrous. Stems simple, tetragonal. Corolla deep blue, having the accessory segments small and green. At Barnaoul a tall, large-flowered, broad-leaved variety occurs.

Var. β; dwarf; leaves broader. ♃. H. Lam. dict. 2. p. 638. Schmidel. in op. gesn. 2. p. 50. t. 26. f. 90.—Barrel. icon. p. 51. right-hand figure.

Var. γ; leaves ovate, obtuse; stems 1½ foot high. ♃. H. Frœl. gent. 44.

Var. δ; stem usually 1-flowered. ♃. H. Schmidel, op. gesn. l. c. t. 28. f. 91.

Var. ε; corollas white. ♃. H. Frœl. gent. p. 44.

Var. ζ, *guttàta* (Sims, bot. mag. 1101. Pall. ross. 2. p. 211.) stems decumbent; leaves ovate-lanceolate, obtuse; segments of corolla dotted inside.

Var. η; corollas 4-cleft, with bluntish segments; accessory ones subdenticulated; leaves linear. ♃. H.

Var. ϑ, *ascéndens* (Schmidt, fl. boh. no. 115. exclusive of the synonymes), corollas 5-cleft, 5-toothed, sessile; leaves connate; linear-lanceolate; radical ones fasciculate. ♃. H. Native of Bohemia.

Common Calathian violet. Fl. Aug. Sept. Clt. Britain. Pl. ½ to 1 foot.

§ 2. *Anthers free, incumbent or erect. The greater number of the species contained in this section will be found probably to agree better with the genus Ericála than with Pneumonánthe.*

3 P. bicuspida'ta; stems numerous, procumbent, terete, leafy, 1-flowered; leaves sessile, linear, obtuse; calycine segments linear, lanceolate, mucronulate; corolla turbinately campanulate, 10-cleft; the 5 accessory segments small, bicuspidate, and the other 5 roundish, mucronate. ♃. H. Native of Mexico. Gentiàna assúrgens. Sesse, and Mocino. Habit of *P. vulgàris.* Stem purplish, 1-3 flowered. Lower leaves narrow-spatulate. Corolla blue. Filaments dilated. Anthers oblong, incumbent; cells loose at the base. Ovarium fusiform Style very short; stigmas semi-cylindrical, minutely papillose.

Bicuspidate-flowered Calathian violet. Pl. procumbent.

4 P. Michau'xii; stems terete; leaves linear-lanceolate, bluntish; terminal flowers in fascicles, axillary ones solitary, pedunculate; corolla campanulate, with roundish segments, the accessory ones small, and acutely unidentate. ♃. H. Native from Canada to Pennsylvania, on high mountains, near the borders of lakes and rivulets. Gentiàna Pneumonánthe, Michx. fl. bor. amer. 1. p. 176. Pursh. fl. amer. sept. 1. p. 185. Gent. pseùdo-pneumonánthe, Rœm. et Schultes, syst. 6. p. 146. Flowers large, dark blue.

Michaux's Calathian violet. Fl. Aug. Sept. Clt. 1800. Pl. ½ foot.

5 P. orna'ta; root composed of thick fleshy branches; stems terete, simple, numerous, ascending, 1-flowered; leaves lanceolate, obtuse, short, crowded, coriaceous; flowers solitary, sessile; calyx tubular, 5-cleft: segments obtuse, much like the leaves, with wide recesses; corolla funnel-shaped, with short, triangular, acute segments, having as many small ones between the larger ones. ♃. H. Native of Nipaul, at Gosainsthan. Gentiàna ornàta, Wall. cat. no. 4386. Corollas blue. Plant with the habit of *Pneumonánthe vulgàris.*

Decked Calathian violet. Pl. ¼ foot.

6 P. triflòra (Schmidt, in Rœm. arch. 1. p. 10. no. 15.) stem terete; leaves linear, obtuse: floral ones alternate, drawn out; flowers terminal, sessile, usually by threes; corolla campanulate, 10-cleft; the real segments sub-cordate, obtuse, slightly serrulated: the accessary ones small. ♃. H. Native of eastern Siberia, in alpine meadows beyond the Baical. Gentiàna triflòra, Pall. fl. ross. 1. p. 105. t. 93. f. 1. Frœl. gent. p. 38. no. 12. Dasystéphana triflòra, Borkh. in Rœm. arch. 1. p. 26. Superior leaves nearly 3 inches long. Calyx subspathaceous, unequally 5-cleft; segments linear, acute. Corollas pale blue.

Three-flowered Calathian violet. Fl. June, July. Clt. 1807. Pl. ½ foot.

7 P. adsce'ndens (Schmidt, in Rœm. arch. l. c.) stems procumbent, tetragonal; leaves linear; radical ones elongated, 3-nerved; terminal flowers usually by threes, sessile; axillary ones solitary, lower of these pedicellate; calyx cleft on one side, and 3-5-toothed on the other; corolla campanulate, 10-cleft, with broad acute segments: the 5 accessory ones very small and obtuse; stigmas acute. ♃. H. Native of Siberia, in dry, grassy, mountainous places. Gentiàna decúmbens, Lin. suppl. 174. Pall. ross. 2. p. 106. t. 94. Sims, bot. mag. t. 705. Frœl. gent. p. 43. no. 14. Gent. Pneumonánthe, Gmel. sib. 4. p. 103. t. 51. f. A. exclusive of the synonymes. Dasystéphana adscéndens, Borkh. in Rœm. arch. 1. p. 26. Radical leaves longer than the plant; ex Lin. Corollas large, blue. According to the figure in Bot. mag. the flowers are all pedunculate.

Var. α, *Pallàsii* (Led. fl. alt. 1. p. 281.) radical leaves narrower, shorter; stems ascending; calyx 5-toothed, foliaceous. ♃. H.

Var. β, *Geblèri* (Ledeb. l. c.) radical leaves broader, longer; stem erect; calyx spathaceous, nearly entire. ♃. H. Gentiàna Geblèri, Led. act. soc. nat. mosc. 7. consp. gen. gent. nos. 9-10.

Var. γ, *adscéndens;* stems simple, decumbent. ♃. H. Native of Siberia. Gentiàna adscéndens, Sims, bot. mag. t. 723. Flowers blue.

Ascending-stemmed Calathian-violet. Fl. July. Clt. 1799. Pl. decumbent.

8 P. frígida (Schmidt, in Rœm. arch. 1. p. 10. no. 11. t. 2. f. 2. Towns. trav. t. 13.) stems simple, tetragonal; leaves linear-oblong, obtuse, nerveless; flowers terminal, twin or tern, sessile; calyx tubular, 5-cleft, with linear-lanceolate, acutish segments; corolla campanulate, 10-cleft; with lanceolate-ovate, acute segments, which are rounded on one side; the accessory segments small and crenulated? stigma orbicularly-capitate. ♃. H. Native of Styria, on the Alps, and the Carpathian mountains. Gentiàna frígida, Hænke in Jacq. coll. 2. p. 13. Wulf. in Rœm. arch. 3. p. 341. Willd. spec. 1. p. 1337. Frœl. gent. p. 39. no. 13. with a figure. Wahl. carp. p. 72. Tratt. fl. austr. fasc. 7. t. 1. Radical leaves crowded. Corolla white, marked with fuscescent dots and stripes, or bluish. Stamens blue.

Frigid Calathian violet. Fl. June, July. Pl. ¼ foot.

9 P. a'lgida (Schmidt, in Rœm. arch. 1. p. 10.) stems obsoletely tetragonal, or nearly terete; leaves linear-lanceolate, 3-nerved; flowers terminal and lateral, pedicellate; calyx tubular, with linear segments; corolla campanulate, 10-cleft, with trigonal segments; the accessory ones small and serrated. ♃. H. Native of eastern Siberia, at the Jenessee, and the Baical, &c. as well as of the islands of Kamtschatka, and St. Lawrence, in humid places on the tops of mountains. Gentiàna álgida, Pall. fl. ross. 2. p. 107. t. 95. Gent. frígida β, Frœl. gent. p. 39. no. 13. Dasystéphana álgida, Borkh. in Rœm. arch. p. 26. Gent. punctàta var. Pall. itin. 3. append. p. 724. no. 82. t. L. f. 2. which is Gent. punctàta β, Gmel. syst. 5. p. 460. Gent. Romanzòvii Led. in act. sol. mosc. 7 consp. gent. 1812.—Gmel. sib. 4. p. 106. no. 75. Calyx purplish, membranous, cleft on one side, tetragonal, with unequal segments. Corolla large, milk coloured, marked with bluish dots and stripes, and the limb of a livid blue colour. This is said to be the same as Gentiàna frígida, by Cham. in Linnæa, 1. p. 174.

Var. β, dwarfer; corolla yellow, marked with blue spots. ♃. H. Frœl. gent. p. 39.

Algid Calathian violet. Fl. June, July. Clt. 1808. Pl. ¼ to ½ foot.

10 P. ge'lida; stems ascending, tetragonal; leaves lanceolate, 3-nerved; flowers axillary and terminal, aggregate: corolla campanulate, with bluntish segments; the 5 accessory ones short, and jagged. ♃. H. Native of Caucasus, particularly on mountains above Gandcha. Gentiàna gélida, Bieb. fl. taur. 1. p. 196. suppl. p. 188. Gent. alpìna, Adams, Hoffm. hort. mosc. 1808. no. 1487. Habit of *G. frígida*, or *P. septémfida.* Flowers size of those of *G. frígida;* cream-colour, or bluish.

Gelid Calathian-violet. Fl. June, July. Clt. 1807. Pl. ½ foot.

11 P. septe'mfida (Schmidt, l. c. no. 5.) stems tetragonal, erect, simple; leaves ovate-lanceolate, obtuse, approximate, 3-nerved; flowers terminal, 1-7, in a cluster; corolla funnel-shaped, 10 cleft, having the 5 regular segments roundish, mucronate; and the 5 accessory ones jagged; calyx tubular, 5 cleft. ♃. H. Native of the mountains of Persia, near the Caspian Sea; and on the Cherson Alps, in Tauria, and throughout Siberia, in alpine places. Calyx angled, angles ending in lanceolate foliaceous segments. Corolla having the tube almost cylindrical, widening upwards, of a greenish brown colour outside, but dotted inside. Limb azure blue. Filaments dilated in the middle.

Var. α, *impunctàta;* limb of corolla without any dots. ♃. H. Gentiàna septémfida, Pall. fl. ross. 2. p. 101. t. 92. f. 13. Sims, bot. mag. 1229. Frœl. gent. p. 47. no. 16. Willd. spec. 1. p. 1333. Bieb. fl. cauc. 1. p. 195.

Var. β, *punctàta;* limb of corolla dotted. ♃. H. Sims, bot. mag. 1410. Pneumonánthe septémfida, Schmidt, l. c. Eurythàlia septémfida, Borkh.

Seven-cleft-flowered Calathian-violet. Fl. June, July. Clt. 1804. Pl. ½ to 1½ foot.

12 P. sapona'ria (Schmidt, in Rœm. arch. 1. p. 10. no. 12.) stem terete; leaves oblong-lanceolate, 3-nerved; flowers in axillary and terminal fascicles, sessile; corolla campanulately ventricose, with 5 obtuse, entire segments, and 5 smaller accessory fringed ones. ♃. H. Native from Canada to Carolina, in low meadows and woods. Gentiàna saponària, Lin. spec. 330. Frœl. gent. p. 32. no. 8. Sims, bot. mag. 1039. Willd. spec. 1. p. 1338. Michx. fl. bor. amer. 1. p. 176. Pursh. fl. sept. amer. 1. p. 185. Gent. fimbriàta, Vahl. symb. 3. p. 47.—Mor. hist. 3. p. 484. sect. 12. t. 5. f. 4.—Plukn. alm. 186. f. 1. Flowers crowded, fine blue. Segments of corolla broader than long. Capsule fusiform. There is said by Frœlich to be a variety of this species collected in Carolina, with a slenderer stem, and lanceolate, membranous, obtuse, 3-nerved leaves, with only one terminal flower to each stem, and having the accessory segments of corolla less toothed.

Soapwort-like Calathian violet. Fl. Aug. Sept. Clt. 1776. Pl. 1-2 feet.

13 P. Catesbæ'i; stem terete, minutely downy, and somewhat scabrous; leaves short, elliptic-ovate, acute, with scabrous edges; flowers terminal, fasciculate; corolla 10-cleft, campanulate, somewhat ventricose or barrel-shaped; the 5 regular segments acutish, and the 5 accessory ones jagged. ♃. H. Native of North and South Carolina, in open grassy places. Gentiàna Catesbæ'i, Walt. fl. car. 109. Nutt. gen. amer. 6. p. 172. Ait. hort. Kew. ed. 2. vol. 2. p. 112. Gent. saponària Andr. bot. rep. t. 418.—Catesb. car. t. 70. Nearly allied to *P. saponària.* Flowers pale blue. Leaves sessile, rounded at the base.

Catesby's Calathian violet. Fl. Aug. Sept. Clt. 1803. Pl. ½ to 1 foot.

14 P. ochroleu'ca; stem terete, smooth; leaves ovate-lanceolate, smooth, 3-nerved; flowers disposed in sessile, terminal fascicles; corolla campanulately-ventricose, with 5 acute segments, and as many small, simple, acute, accessory ones; calycine segments longer than the tube of the corolla. ♃. H. Native from Pennsylvania to Florida, in dry, sandy fields, or gravelly hills. Gentiàna ochroleùca, Frœl. gent. p. 35. no. 9. Willd. spec. 1. p. 1338. Sims, bot. mag. 1551. Pursh, fl. sept. amer. 1. p. 185. Gent. villòsa, Lin. spec. 330. Frœl. gent. p. 36. no. 10. Willd. spec. 1. p. 1338. Gentiàna saponària, Walt. fl. car. p. 109. Michx. fl. bor. amer. 1. p. 176. Pneumonánthe villòsa, Schmidt, in Rœm. arch. 1. p. 10. no. 13.—Plukn. alm. t. 186. f. 1.—Grov. vir. p. 145. Flowers yellowish-green outside, but blue and striped with purple inside. Capsule ovate.

Cream-coloured flowered Eurythalia. Fl. Aug. Sept. Clt. 1803. Pl. 1 foot.

15 P. interme'dia; stems erect; leaves obovate-oblong, 3-nerved; flowers terminal, aggregate; calyxes foliaceous, unequal; corolla ventricose, barrel-shaped, 10-cleft; the 5 accessory segments small and simple, as in *P. ochroleùca.* ♃. H. Native of Virginia. Gent. intermèdia, Sims, bot. mag. 2303. Corolla barrel-shaped, as in *P. ochroleùca, P. saponària, P. gélida, P. frígida,* &c. Accessory segments simple and bifid. Anthers distinct. Calyx and corolla now and then 6-cleft. Corolla more or less whitish green outside, changing more or less to violet, internally streaked with violet.

Intermediate Calathian violet. Fl. Oct. Clt. 1820. Pl. ½ foot.

16 P. incarna'ta; flowers aggregate, terminal, barrel-shaped, with an unequally jagged border; leaves oval; petioles decurrent. ♃. H. Native of North America. Gentiàna incarnàta, Sims, bot. mag. 1856. Corolla pale blue at the base, limb white, tinged with green. Nearly allied to *P. saponària* and *P. ochroleùca,* especially with the latter.

Flesh-coloured flowered Calathian violet. Fl. Oct. Clt. 1812. Pl. ½ foot.

Cult. The species of this genus are all handsome border flowers; and *P. acaúlis* is well fitted for edgings to borders. They all grow best in a peat border; and are increased by division of the root, and by seed. Some of the rarer species may be grown in pots, and placed among other alpine plants.

XV. GLYPHOSPE'RMUM (from γλυφω, *glypho,* to engrave, and σπερμα, *sperma,* a seed; seeds beset with excavated dots). D. Don, mss.—Gentiàna species, Ruiz et Pav. in herb. Lamb.

Lin. syst. *Polygàmia, Dioècia.* Flowers polygamous. Calyx 5-cleft. Corolla tubular, with a 5-cleft limb and a naked throat. Stamens inserted in the throat of the corolla; filaments altogether adnate to the tube; anthers incumbent; cells loose at the base, and diverging. Ovarium fusiform, compressed, 1-celled, 2-valved; style hardly any; stigma capitate, 2-lobed; lobes very short, revolute, pruinose. Capsule membranous, 1-celled, dehiscing at apex, many seeded; placentas 2, very narrow; seeds round, rust coloured, full of excavated dots, disposed in a simple order.—Small, much branched, shrubs. Branches terete, scabrous, from papillæ. Leaves opposite, decussate, petiolate, lanceolate, coriaceous, with serrulated margins. Flowers copious, racemosely panicled at the tops of the branches; corollas small, violaceous. Flowers sometimes smaller and female with the rudiments of stamina; sometimes larger and hermaphrodite, on distinct plants. This genus has the habit of *Mitrasácme,* with scabrous branches.

1 G. viola'ceum (D. Don, mss.) branches scabrous from papillæ; leaves lanceolate, mucronate. ♄. S. Native of Peru. Gentiàna violàcea, Ruiz et Pav. mss. ex herb. Lamb. Calycine segments lanceolate, mucronate, 3-nerved. Corolla twice longer than the calyx; lobes roundish, crenulated.

Violaceous-flowered Glyphospermum. Shrub 1½ foot.

2 G. orna'tum (D. Don, mss.) branches glabrous; leaves ovate-oblong, obtuse. ♄. S. Native of Peru, at Guayaquil, Tafalla. Branches subtetragonal. Flowers larger than those of the first species, violaceous? Calycine segments ovate-lanceolate. Corolla twice longer than the calyx: with flat, roundish, quite entire lobes.

Decked Glyphospermum. Shrub 1½ foot.

Cult. For culture and propagation see *Tàchia,* p. 197.

XVI. SELA'TIUM (from *σελας, selas,* glittering: deep colour of the flowers). D. Don, mss.—Gentiàna, Ruiz et Pav. in herb. Lamb.

Lin. syst. *Pentándria, Digýnia.* Calyx semi-5-parted, membranous, with linear, acute, flat, erect segments. Corolla tubular, 5-lobed. Stamens 5, adnate to the base of the corolla; filaments dilated, flat, attenuated at apex; anthers incumbent. Ovarium fusiform, stipitate. Style very short; stigma 2-lobed: lobes flat, cuneate, dilated. Placentas 2; one-half shorter than the ovaria.—Perennial plants. Leaves opposite, sessile, veinless, with scabrous edges. Flowers terminal, subracemose, drooping.

1 S. coccíneum (D. Don, mss.) stems terete, ascending, branched, leafy; leaves linear-lanceolate, acute, veinless; flowers subracemose, drooping; corolla twice longer than the calyx. ♃. F. Native of Peru. Gentiàna coccínea, Ruiz et Pav. Leaves hardly an inch long, with roughish edges. Calycine segments ovate-lanceolate, acute. Corollas scarlet. Filaments channelled; anthers oblong. Ovarium oblong. Style hardly any.

Scarlet-flowered Selàtium. Pl. ½ to 1 foot.

2 S. foliòsum (D. Don, mss.) stem terete, simple, erect, leafy; leaves linear, acute; calycine segments linear, acute, erect, length of corolla; flowers terminal, fascicled, erect; filaments flat, dilated. ♃. F. Native of Peru, on the Cordilleras. Stem the thickness of a writing-quill. Leaves crowded in an interrupted manner, glabrous, 2 inches long, with scabrous edges: radical ones aggregate. Lobes of corolla ovate, acute. Pedicels bractless. Ovarium fusiform.

Leafy Selatium. Pl. ½ foot.

3 S. assu'rgens (D. Don, mss.) stem assurgent, terete; leaves lanceolate, bluntish, 3-nerved, with scabrous edges; flowers terminal, in heaps; peduncles bibracteate; corolla twice the length of the calyx, with ovate-lanceolate segments. ♃. F. Native of Guayaquil. Stem thickness of a writing quill. Leaves 1½ to 2 inches long. Pedicels filiform. Corollas yellow.

Assurgent Selatium. Pl. ½ foot.

4 S. thyrsoídea; stem simple, strong; leaves long, linear, acute; flowers aggregate, axillary, forming altogether a dense raceme; corolla campanulate, hardly exceeding the calyx. ♃. H. F. Native of Peru, at Huay-Huay, near Pasco. Gentiàna thyrsoídea, Hook, bot. misc. 2. p. 227. Root fusiform. Stem naked at top. Leaves 3-4 inches long. Flowers numerous. Anthers oblong, a little longer than the filaments. The plant turns black on drying.

Thyrsoid-flowered Selatium. Pl. 1 foot.

5 S. incu'rvum; stem naked at bottom and leafy at top; leaves elliptic, acute, 3-nerved; flowers axillary, aggregate at the top of the stem; corolla obovate, twice as long as the calyx: with obtuse incurved segments. ♃. F. Native of Peru, along with the preceding. Gentiàna incúrva, Hook, bot. misc. 2. p. 228. Corollas an inch long, yellow.

Incurved-flowered Selatium. Pl. ½ foot.

6 S. attenua'tum (D. Don. mss.) stem erect, terete; leaves linear-lanceolate, acuminated, many-nerved; peduncles angular, elongated, umbellate, bractless; calycine segments ovate-lanceolate; corolla tubular: lobes roundish; seeds roundish. ♃. F. Native of Peru. Leaves 1½ to 2 inches long, with scabrous edges. Pedicels slender, 4 to 5 together, in an umbel. Filaments dilated, channelled. Ovarium oblong. Stigma capitate, 2-lobed, pruinose.

Attenuated Selatium. Pl. 1 foot.

7 S. diffu'sum (D. Don, mss.) stem filiform, branched, diffuse, terete; leaves lanceolate, acute, 3-nerved, attenuated at the base, petiolate; peduncles usually by threes, angular, terminal; calycine segments ovate-lanceolate, acute; corolla rotate: with oblong, obovate, mucronate segments. ♃. F. Native of Peru, at Talcahuano. Root fusiform. Leaves subpetiolate, with scabrous edges. Filaments subulate. Anthers and ovarium oblong. Stigma sessile, 2-lobed, pruinose.

Diffuse Selatium. Pl. ½ foot.

8 S. multicau'lis (D. Don, mss.) stems numerous, ascending, tufted, filiform; radical leaves petiolate, spatulate: cauline ones linear-lanceolate, acutish; peduncles usually solitary, terminal; calyx turbinate: with lanceolate, mucronate segments; corolla funnel-shaped, deeply 5-cleft: lobes elliptic, obtuse, connivent. ♃. F. Native of Peru, Ruiz et Pav. Root long. Plant tufted. Radical leaves crowded, all scabrous on the edges. Corolla pale lilac, twice longer than the calyx. Filaments dilated at bottom. Ovarium fusiform; stigma sessile, 2-lobed.

Many-stemmed Selatium. Pl. tufted.

Cult. For culture and propagation see *Eudoxia*, p. 202.

XVII. ULO'STOMA (meaning unknown to us) D. Don. mss.—Gentiàna species, Ruiz et Pav. in herb. Lamb.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted: with ovate-lanceolate, acute segments. Corolla funnel-shaped, twice longer than the calyx; limb 5-parted; tube bearded with long hairs inside. Stamens 5; filaments dilated, attenuated at the apex; anthers incumbent. Ovarium fusiform. Stigma sessile, 2-lobed.—A perennial, herbaceous, tufted plant. Stems leafy, terete, erect. Leaves opposite, decussate, sessile, linear-lanceolate, acute, obscurely 3-nerved, with scabrous margins; radical ones aggregate. Flowers umbellate, white. ?

1 U. filamentòsa (D. Don, mss.) ♃. F. Native of Peru.

Thready Ulostoma. Pl. tufted, ½ foot.

Cult. For culture and propagation see *Eudoxia*, p. 202.

XVIII. SCHULTE'SIA (named in honour of Joseph Augustus Schultes, M.D. Professor of Botany at Landshut; author of Systema Vegetabilium.) Mart. nov. gen. 2. p. 103.

Lin. syst. *Tetrándria, Monogýnia.* Calyx tubular, 4-cleft, 4-winged; wings running out into erect subulate segments. Corolla salver-shaped; with an equal tube, a quadrifid limb, and naked throat. Stamens 4; filaments filiform: anthers erect, unchangeable in the dried state. Stigma bilamellate. Capsule 1-celled, 2-valved, many-seeded; seeds small, angular.—Slender, glabrous herbs. Stems tetragonal, simple or forked. Leaves sessile, opposite, decussate, lanceolate or linear. Flowers terminal, or in the forks. Pedicels continuous with the calyx. Corollas fine rose-coloured or yellow.

1 S. crenuliflòra (Mart. l. c. p. 104. t. 180.) stem erect, branched; leaves ovate-lanceolate, acute; flowers nearly sessile; wings of calyx broad, half-ovate; segments of corolla nearly orbicular, finely crenulated. ⊙. S. Native of Brazil, in the province of Bahia, in alpine, schistous places, near Villa do Rio de Contas. Corolla fine yellow, an inch long. Branches 1-2-flowered.

Notch-flowered Schultesia. Pl. 1½ foot.

2 S. gra'cilis (Mart. l. c. p. 105. t. 181.) stem straight, simple, or simply branched; leaves thin, erectish, acute: lower ones ovate-lanceolate: upper ones narrow-lanceolate; flowers solitary, on long peduncles, erect or drooping; wings of calyx narrow; segments of corolla almost square, spreading. ⊙. S. Native of Brazil, in the mine provinces, in mountain fields. Corolla rose-coloured; tube yellowish at the base.

Slender Schultesia. Pl. ½ to 1 foot.

3 S. Auble'tii; stem straight, simple, or a little branched; leaves lanceolate, attenuated, the lower ones shorter and acute; flowers solitary, terminal or axillary, on short peduncles; wings of calyx broad; segments of corolla obtuse, undulated, crenulated. ⊙. S. Native of Guiana, Cayenne, Maranham, Trinidad, &c. E'xacum Guianénse, Vahl. symb. 3. p. 16. Aubl. guian. 1. p.

68. t. 26. f. 1. Sebæ'a Guianénsis, Spreng. syst. 1. p. 426. Flowers pale red. Capsule 2-celled, 2-valved. Seeds minute.

Aublet's Schultesia. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

4 S. stenophy'lla (Mart. l. c. p. 106. t. 182.) stem straight, simple or dichotomous; leaves lanceolate or linear, spreading; flowers erect, bifoliate at the base; wings of calyx narrow; segments of corolla, short, broad-ovate. ⊙. S. Native of Brazil, in the province of Pianhia, in moist meadows; and in like places, in the island of Cuba; and of Mexico, on the burning mount Jorullo. Erythræ'a Jorullénsis, H. B. et Kunth, nov. gen. amer. 3. p. 177. E'xacum Cubénse, Poepp. enum. pl. cub. exsic. Sebæ'a Jorullénsis, Spreng. syst. 1. p. 426. Stem 1-3-flowered, when 3 the middle flower is sessile. Corolla rose-coloured; or of a rose-purple colour.

Narrow-leaved Schultesia. Pl. $\frac{1}{4}$ to $1\frac{1}{2}$ foot.

Cult. The seeds of this species should be sown in pots in a mixture of gravel and peat, placing the pots in pans of water, and the plants afterwards thinned if too numerous.

XIX. CALLOPI'SMA (from *καλλος, kallos,* beauty; in reference to the beauty of the species.) Mart. nov. gen. bras. 2. p. 107.—Deianìra Schlecht. in Linnæa, 1. p. 196.

Lin. syst. *Tetrándria, Monogýnia.* Calyx campanulate, 4-parted; segments keeled. Corolla salver-shaped: with an equal cylindrical tube; a 4-parted limb; and a naked throat. Stamens 4; filaments subulate; anthers straight, birimose, opening by a double pore at the apex. Stigma exserted, 2-lobed. Capsule 1-celled, 2-valved, many-seeded; seeds small, oblong, or angular.—Glabrous, glaucous, almost simple herbs. Stems straight, terete. Leaves sessile or perfoliate, opposite, decussate, with pellucid margins: lower and upper ones the smallest, those under the inflorescence very short; inflorescence paniculately corymbose. Peduncles furnished with opposite bracteas. Corollas rose-coloured or white.

1 C. perfolia'tum (Mart. l. c. p. 108. t. 183.) stems simple; leaves ovate, or ovate-oblong, perfoliate and connate. ♃. S. Native of Brazil, in the province of St. Paul, and Minas Geraes, in elevated fields, at the altitude of from 1400 to 3000 feet. Corollas sometimes rose-coloured, and sometimes white. Radical leaves 5-nerved.

Var. α. angustifòlia (Mart. l. c.) plant smaller, slenderer; leaves lanceolate, acuter. ♃. S. Deianìra erubéscens, Schlecht. in Linnæa, 1. p. 196.

Var. β, latifòlia (Mart. l. c.) larger, more robust; leaves ovate, often obtuse. ♃. S. Deianìra palléscens, Schlecht, l. c.

Perfoliate Callopisma. Pl. $\frac{1}{4}$ to $1\frac{1}{2}$ foot.

2 C. amplexifòlium (Mart. l. c. p. 109.) stem simple or branched; leaves oblong-lanceolate, or narrow-oblong, sessile or half stem-clasping at the base. ♃. S. Native of Brazil, in the provinces of Minas Geraes and St. Paul, along with the preceding species. Deianìra nervòsa, Schlecht, in Linnæa, 1. p. 197. Corollas rose-coloured, larger than those of the preceding. Leaves $2\frac{1}{2}$ inches long.

Clasping-leaved Callopisma. Pl. $\frac{1}{4}$ to 1 foot.

Cult. For culture and propagation see *Tàchia* below.

XX. TA'CHIA (*Tachi* is the Guiana name of the first species, which name is said to mean an ants' nest; the trunk and branches are usually full of ants.) Aubl. 1. p. 75. Juss. gen. 142. Mart. nov. gen. bras. 2. p. 118.—Myrmècia, Schreb. gen. no. 177. Lisiánthus, Sal. par. under no. 34.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, 5-angled, 5-toothed. Corolla funnel-shaped: with a 5-cleft limb, and a wide naked throat. Stamens 5, exserted, reclinate; anthers oblong-sagittate, unchanged by drying. Stigma exserted, small, roundish, bilamellate. Capsule 1-celled, 2-valved, tumid; margins of valves bent into the central placenta, many-seeded; seeds small, viscid.—Shrubs or trees. Leaves opposite; petioles combined at the base into a sheath. Flowers lateral, axillary and terminal, yellowish, large.

1 T. Guiane'nsis (Aubl. guian. 1. p. 75. t. 29. Mart. nov. gen. bras. 2. p. 119.) shrubby, glabrous; branches tetragonal; leaves oblong, acuminated, attenuated at the base; flowers axillary, solitary, sessile; segments of corolla acute, revolute. ♄. S. Native of Guiana; and of Brazil, in the province of Rio Negro, in moist woods, at the river Japura. Myrmècia Tàchia, Gmel. syst. 247. Rœm. et Schultes, syst. 3. p. 163. Leaves 8 inches long, and 2-3 broad. Corollas yellow. The natives use the root, which is bitter, as a febrifuge. There are drops of a yellow pellucid gum from the axils of the leaves, beneath the flowers.

Guiana Tachia. Shrub 5-6 feet.

2 T. longifòlia (Mart. nov. gen. bras. 2. p. 118. in a note.) shrubby, downy; branches fastigiate, tetragonal; leaves lanceolate or oblong-lanceolate, acute, downy; flowers on short, axillary, and terminal pedicels; segments of corolla ovate-lanceolate, acute. ♄. S. Native of Jamaica, in woods. Lisiánthus longifòlius, Lin. syst. 197. Lam. ill. t. 107. f. 1.—Browne, jam. p. 137. t. 9. f. 1.—Sloan, jam. p. 58. hist. 1. p. 157. t. 101. f. 1. Leaves tapering into short petioles. Corollas yellow.

Long-leaved Tachia. Fl. June, July. Clt. 1793. Shrub 1-2 feet.

3 T. cordifòlia (Mart. l. c.) leaves cordate; flowers terminal, solitary or twin; segments of corolla lanceolate, acute. ♄. S. Native of Jamaica. Lisiánthus cordifòlius, Lin. syst. 193. mant. 43.—Browne, jam. p. 157. 2. t. 9. f. 2. Flowers yellow. P. Browne remarks that this plant may be deemed a variation of *T. longifòlia*, they being so much alike in habit, the form of the leaves is almost the only difference; that they are always cordate, the upper ones only being ovate and sessile; the corollas are also rather larger.

Heart-leaved Tachia. Fl.? Clt. 1816. Shrub 2-3 feet.

4 T. Swa'rtzii; shrubby, glabrous; branches terete; leaves on long petioles, lanceolate, acute at the base, and acuminated at the apex; peduncles trichotomously corymbose, axillary; segments of corolla ovate, acute, erect; stamens much exserted. ♄. S. Native of Jamaica, on the blue mountains. Lisiánthus exsértus, Swartz. prod. p. 40. fl. prod. occ. 1. p. 346. Corollas yellow.

Swartz's Tachia. Fl. June, July. Clt. 1793. Shrub 10 feet.

Cult. These are elegant shrubs when in blossom. They will grow freely in a mixture of peat and sand, mixed with a little loam; and cuttings strike root readily in sand under a hand-glass, in heat. The species are difficult to keep through the winter in this country, being very apt to damp off; but to prevent this, as much as possible, they should be kept rather dry in damp weather.

XXI. PREPU'SA (from *πρεπουσα, prepousa,* conspicuous; beauty of plant.) Mart. nov. gen. bras. 2. p. 120.

Lin. syst. *Hexándria, Monogýnia.* Calyx large, campanulate, 6-winged, 6-cleft, coloured. Corolla campanulate, 6-cleft, with a swoln tube, and a naked throat. Stamens 6, and as if they were emerging from a duplicature of the corolla. Stigma bilamellate. Capsule 1-celled, 2-valved, many-seeded; margins of valves inflexed, placentiferous; seeds nearly globose, many sided—An erect shrub, with fastigiate branches. Leaves opposite, decussate, crowded at the tops of the branches. Racemes terminal, leafy. Flowers showy.

1 P. monta'na (Mart. nov. gen. bras. 2. p. 121. t. 190.) leaves obovate, emarginate; branches obsoletely tetragonal at

tops; corolla 4 times higher than the calyx. ♄. S. Native of Brazil. Calyx of a yellow straw colour.

Mountain Prepusa. Shrub 8-10 feet.

Cult. See *Tàchia*, p. 197, for culture and propagation.

XXII. ORTHOSTE'MON (from ορθος, *orthos*, straight; and στημων, *stemon*, a stamen; stamens equal.) R. Br. prod. p. 451.

Lin. syst. *Tetrándria, Digýnia.* Calyx tubular, 4-toothed. Corolla with a short, 4-parted limb, and a naked throat, marcescent. Stamens equal, exserted; anthers dehiscing lengthwise, mutic at top, straight in the aged state. Stigmas 2, roundish.—A flaccid herb; with broadish leaves, and terminal flowers. This is an intermediate genus between *Canscòra*, Lam. the *Centaúrium*, Borkh, and *Erythræ'a*, but differs from them, in the limb of the corolla, and equal stamens, and in the anthers being straight, and the flowers being tetramerous.

1 O. ere'ctum (R. Br. l. c) stem straight; leaves broad-ovate, 3-nerved; lower ones petiolate; peduncles sub-corymbose; teeth of calyx hardly exceeding the tube of the corolla. ⊙. ? S. Native of New Holland, within the tropic. E'xacum eréctum, Roth. ex Spreng. syst. 1. p. 425. Habit of *Pládera virgata*.

Erect Orthostemon. Pl.

Cult. For culture and propagation see *Canscòra*, p. 199.

XXIII. CHLO'RA (from χλωρος, *chloros*, pale; because the flowers are of a pale yellow colour.) Renealm, specim. p. 80. t. 76. Schreb. gen. p. 653. Juss. gen. 142. Adans. fam. p. 503. Lam. ill. t. 296. Rchb. icon. 3. t. 206-209. and 5. p. 412.—Blackstònia, Huds. angl. ed. 1st. p. 146.

Lin. syst. *Octándria, Monogýnia.* Calyx of 8 narrow, spreading segments, rarely of 6. Corolla salver-shaped: tube shorter than the calyx, inclosing the ovarium; limb of 8, rarely of 6 deep equal segments. Stamens 8, rarely 6, shorter from the mouth of the tube; anthers linear, erect. Style erect, filiform; stigmas 2, cloven, ovate-oblong. Capsule ovate, with a furrow along each side, invested with the large membranous tube of the corolla, 1-celled, 2-valved; with inflexed edges. Seeds numerous, angular, minutely granulated, inserted in many rows along the inflexed margins of the valves.—Herbaceous, annual, smooth, glaucous, very bitter plants. Leaves opposite, sessile, or perfoliate, entire. Flowers terminal, stalked, aggregate or solitary, yellow.

1 C. perfolia'ta (Lin. syst. 361.) glaucous; leaves perfoliate; stem dichotomous, cylindrical; flowers corymbose, with a flower in each fork. ⊙. H. Native of Europe, in many places; in Britain, in chalky pastures or banks, and limestone and clay soils. Smith, engl. bot. t. 60. Hook. fl. lond. t. 2. Gentiàna perfoliàta, Lin. spec. 335. Sabbat. hort. t. 100.—Mor. hist. 2. p. 565. sect. 5. t. 26. f. 1-2.—Bauh. hist. 3. p. 355, with a figure.—Park, theatr. 273. 7. f. 272. 7.—Column. ecphr. 2. p. 78.—Cam. epit. p. 427. Root leaves oval, sessile, rosulate, the lower stem ones oval-lanceolate, the rest perfoliate. Flowers in a corymb of 2 forks, with a pedicillate flower in each fork. Calycine segments 8-10. Corolla golden yellow; segments sometimes 9, slightly emarginate. Stamens 6-9-10. Stigmas 2, shaped like a horse-shoe. Haller affirms that this plant is more bitter than the *Erythræ'a Centaúrium*, and that it seems to possess the same qualities.

Perfoliate-leaved, or Common Yellow-Wort. Fl. July, Aug. Britain. Pl. ½ to 3 feet.

2 C. imperfolia'ta (Lin. syst. 362. suppl. 218.) green; stem simple, tetragonal; leaves sessile, somewhat stem-clasping, ovate, acute; flowers terminal; calyx bifid beyond the middle, bell-shaped, length of the tube of the corolla; limb of corolla 6-cleft. ⊙. H. Native of the extreme parts of Italy. Chl. dúbia, Lam. ill. t. 296. f. 2. Segments of corolla oval. Anthers roundish beyond the tube. Stigmas 2, obtuse. Corolla deep yellow.

Imperfoliate-leaved Yellow-wort. Fl. June, July. Clt. 1823. Pl. 1 foot.

3 C. quadrifòlia (Lin. syst. 362.) stem simple, slightly tetragonal, jointed; leaves linear, 4 in a whorl, a little broader towards the ends, bluntish, length of internodes; flowers 8-cleft. ⊙. H. Native of the south of Europe, where it was found by Alstrœmer. Peduncles terminal, 5 together, each having 2 small, opposite, bracteas in the middle, and at the top 3 pedicellate flowers. Corolla yellow. Segments of corolla narrower than in *Chlòra perfoliàta*. Said to be a hybrid between *Chlòra perfoliàta* and *Lìnum quadrifòlium*.

Four-leaved Yellow-wort. Pl. 1 foot.

Cult. All the species are beautiful, and may be easily propagated from seeds, and require only common care in the cultivation. They do not seem to thrive in the open border, although they succeed very well in pots.

XXIV. HI'PPION (ιππος, *hippos*, a horse; and ιον, *ion*, a violet; horse violet.) Spreng. syst. 1. p. 505. gen. 1. p. 143. (1824.) E'xacum species, Smith. Gentiàna species, Plum. icon. t. 24.

Lin. syst. *Pentándria, Monogy'nia.* Calyx campanulate, viscid, 5-cleft; segments blunt, with membranous edges. Corolla salver-shaped; tube twice as long as the calyx, swelling at the base, and becoming ovate, where it is filled with the increasing ovarium, contracted at the orifice; limb 5-cleft, spreading, length of tube; segments obovate. Stamens 5, exserted, half as long as the border; filaments inserted in the orifice of the tube, leaning to the upper side of the flower, incurved at the apex; anthers incumbent, bifid at the base, remaining unchanged. Style declinate, glabrous. Stigma capitate, slightly cloven.—An erect, shrubby, glabrous, branched plant. Stem terete; branches slightly quadrangular. Leaves opposite, decussate, 5-nerved, reticulated, with veins, green, sessile, dilated into a cordate base. Panicles terminal, erect, trichotomously divided, many-flowered; pedicels terete, 1-flowered. Bracteas 2, at each division of the panicle, as well as 2 under each flower, formed like the leaves, but smaller, nerved. Flowers of an elegant golden colour, slightly drooping, of the size of those of *Chlòra perfoliàta*. Calyx and corolla clammy.

1 H. viscòsum (Spreng. syst. 1. p. 589.) ♂. G. Native of the Canary Islands. E'xacum viscòsum, Smith, icon. rar. t. 18. Gentiàna viscòsa, Ait. hort. kew. 1. p. 321. Sims. bot. mag. 2135.

Clammy Hippion. Fl. June, July. Clt. 1781. Pl. 1-2 feet.

Cult. This plant grows well in a mixture of peat and sand, and a very little loam. It is only to be increased by seeds, which ripen plentifully in our gardens.

XXV. CANSCO'RA (Kansjan-cora is the Malabar name of *C. perfoliàta*.) Lam. dict. 1. p. 601. Pladèra, Solander, mss. Roxb. fl. ind. 1. p. 416. Hook. bot. misc. 3. p. 89. Spreng. gen. 1. p. 84.—Centaúrum, Borkh. in Rœm. arch. 1. p. 28.—Hóppea, Willd. Hayne, term. t. 30. f. 3.

Lin. syst. *Tetrándria, Monogy'nia.* Calyx tubular, cylindrical or quadrangular, 4-toothed, with a contracted mouth. Corolla funnel-shaped, with a 4-cleft, unequal limb; the 2 upper segments equal, 2 lower ones combined a greater distance. Stamens 4; the 3 longest inserted in the mouth of the tube, the fourth just below the recess which separates the 2 lower segments. Filaments capillary. Anthers remaining unchanged, oblong, linear, erect. Style filiform; stigma 2-lobed: lobes obovate, revolute, minutely papillose above. Capsule cylindri-

cal, 1-celled, 2-valved. Seeds numerous, small, angular, inserted on the inflexed margins of the valves.—Small, erect, simple or branched, annual plants, stems and branches tetragonal. Leaves opposite, decussate, sessile. Flowers terminal or axillary, the terminal ones trichotomous, and the axillary ones solitary.

1 C. sessiliflòra (Schultes, syst. 3. p. 301. Wall. cat. no. 4367.) erect; stem and branches 4-sided; angles winged; leaves ovate, sessile, 3-nerved; flowers solitary, sessile, in the forks of the branches; capsule sub-cylindrical, nearly as long as the calyx. ⊙. S. Native of Coromandel and Bengal; appearing in moist pastures, during the rains, and first part of the cool season. Pládera sessiliflòra, Roxb. fl. ind. 1. p. 416. E'xacum heteroclìtum, Willd. spec. 1. p. 639. Gentiàna heteroclìta, Lin. syst. p. 270. mant. 560. Centaúrium heteroclìtum, Borkh. in Rœm. arch. 1. p. 28. Chiròmia brachiàta, Willd. herb. Largest leaves an inch long. Flowers small, pale red. Teeth of calyx acute. The 2 upper segments of the corolla oblong. Lobes of stigma obovate, thin.

Sessile-flowered Canscora. Pl. ½ foot.

2 C. Schulte'sii (Wall. cat. no. 4368.) stem branched from the base, and are, as well as the branches, tetragonally winged; radical leaves obtuse, few, rosulate; cauline leaves small, subulate, opposite, scale-formed; bracteas large, imbricate, ovate, ending in a hair-like point; calyx large; flowers sessile, in axils of the bracteas, spicate. ⊙. S. Native of the Burmese Empire, at Prome. Pládera pulchélla, Wall. mss. Flowers beautiful red. This is a very remarkable species, with the habit of a species of *Elytrària*.

Schultes's Canscora. Pl. 1 foot.

3 C. diffu'sa (R. Br. prod. p. 451.) erect; stem and branches tetragonal, filiform; lower branches opposite; upper ones alternate; leaves ovate-lanceolate, sessile, 3-nerved, acute; lower ones petiolate; flowers terminal, somewhat panicled, pedicellate; calyx tubular, wingless. ⊙. S. Native of the East Indies, growing on the banks of water courses, and on low fallow lands. Pládera virgàta, Roxb. fl. ind. 1. p. 471. Cham. et Schlecht, in Linnæa, 1. p. 198. Hook. bot. misc. 3. p. 89. t. 25. E'xacum diffùsum, Willd. spec. 1. p. 637. Gentiàna diffùsa, Vahl. symb. 3. p. 47. Flemíngia virgàta, Roxb. herb. Pládera muràlis, herb. Hamilt. Canscòra tenélla, Wall. cat. no. 4361. E'xacum tenéllum, herb. Mad. Centhèra of the Tamuls. Flowers small, rose-coloured. The 2 upper segments of the limb of the corolla equal, orbicular; segments of stigma recurved.

Diffuse Canscora. Fl. July, Aug. Clt. 1820. Pl. 1 to 2 feet.

4 C. foliòsa (D. Don. mss.) stem tetragonal, but not winged; leaves lanceolate, sessile; calyx tubular: with elongated, setaceous teeth. ⊙. H. Native of Nipaul, Royle. Stem 3 inches high. Radical leaves large, spreading.

Leafy Canscora. Pl. ¼ foot.

5 C. decussa'ta (Wall. cat. no. 4364.) erect; stem and branches 4-winged, the latter cross-armed; leaves ovate-lanceolate, acute, 3-nerved, sessile; terminal peduncles, trichotomous; flowers pedicellate; axillary ones solitary. ⊙. S. Native along with *C. diffùsa*, which it very much resembles; but is a little more robust, and seldom so high. Pládera decussàta, Roxb. fl. ind. 1. p. 418. Flemíngia decussàta, Roxb. herb. E'xacum alàtum, Roth. nov. spec. It is called in Bengalese, *Dunkoni*. Flowers larger than those of *C. diffùsa*, white. Peduncles 4-sided, like the stem and branches. Calyx 4-sided, and 4-winged, inflated. Corolla and stamens exactly as in *C. diffùsa*.

Decussate Canscora. Fl. July, Aug. Clt. 1816. Pl. 1 foot.

6 C. perfolia'ta (Lam. dict. 1. p. 601. Wall. cat. no. 4365.) erect; stem and branches 4-winged; cauline leaves lanceolate, 3-nerved: floral ones, or bracteas, perfoliate; flowers terminal, pedicellate; calyx striated; capsule oblong. ⊙. S. Native of India, where it delights in low moist soils. Pládera perfoliàta, Roxb. fl. ind 1. p. 418. Kansjan-Cora, Rheed. mal. 10. p. 103. t. 52. Flowers rather large, pale rose-coloured. Corolla subbilabiate; limb of upper lip largest, and deeply 2-parted; the lower one also consisting of 2 lobes, but smaller.

Perfoliate Canscora. Pl. 1½ foot.

7 C. ala'ta (Roth, ex Wall. cat. no. 4363.) glabrous, erect; stem and branches tetragonally winged; leaves sessile, 3-5-nerved, ovate-lanceolate, acute; wings of calyx very broad; bracteas roundish, peltate, perfoliate under the peduncles and pedicels. ⊙. H. Native of the East Indies. E'xacum alàtum, Heyne, herb. Flowers solitary, or by threes.

Winged-calyxed Canscora. Pl. 1-2 feet.

8 C. pusi'lla (Schultes, syst. 3. p. 301. Wall. cat. no. 4366.) erect; stem and branches tetragonal, the latter cross-armed; leaves sessile, sub-cordate; flowers terminal, sessile, by threes, monandrous; corolla hid in the calyx; capsule globular. ⊙. S. Native of the coast of Coromandel. Pládera pusílla, Roxb. fl. ind. 1. p. 419. Hòpea dichótoma, Vahl. enum. 1. p. 3. E'xacum séssile, Willd. spec. 1. p. 635. Leaves minute. Flowers small, yellow. Calyx sub-cylindrical. Corolla with the tube a little gibbous, and the border 4-toothed. Stamens 4, 3 of which bear minute, abortive anthers, the fourth a large, fertile one.

Least Canscora. Pl. 1 to 2 inches.

Cult. For culture and propagation see *E'xacum*, p. 213.

XXVI. VOHI'RIA (Voyria is the Guiana name of one of the species.) Juss. gen. 141. Lam. ill. 109. Vòyria, Aubl. guian. 1. p. 209. t. 83.—Lìta, Schreb. gen. 1734.

Lin. syst. *Pentándria, Monogýnia.* Calyx short, turbinate, 5-cleft, furnished with 2-3 scales at the base. Corolla salver-shaped, with a long, cylindrical tube, which is tumid at the base and apex, and a 5-cleft limb. Anthers 5, almost sessile, in the throat of the tube of the corolla. Stigma capitate, simple. Capsule oblong, 2-valved, 1-celled; margins of valves seminiferous. Seeds scrobiculate.—Gregarious plants, parasitical on the decayed roots of trees. Roots composed of thickish, white, fleshy fibres. Stems erect, flexuous, almost leafless, terete, articulated or nodose; scaly at the base; with 2 small, opposite scales at each joint of the stem.

1 V. ròsea (Aubl. guian. 1. p. 209. t. 83. f. 1.) flowers twin; segments of corolla ovate, acute; tube ventricose at top. ♃. S. Native of Guiana, in woods, at the roots of trees. Lam. ill. t. 109. Lìta ròsea, Willd. spec. 1. p. 1017. Root tuberous. Stem 3-4-5-cleft, with 2 opposite, fleshy, elliptic, acuminated scales at each joint. Corolla rose-coloured. Stem twice bifid.

Rose-coloured-flowered Vohiria. Fl. July, Aug. Clt. 1822. Pl. ¼ foot.

2 V. cœru'lea (Aubl. guian. 1. p. 211. t. 83. f. 2.) flowers twin; segments of corolla roundish; tube dilated at top. ♃. S. Native of Guiana, in woods, at the roots of trees. Lam. ill. p. 491. Lìta cœrùlea, Willd. spec. 1. p. 1071. Scales at the joints of the stem more leaf-like, and more ovate, than in the preceding, and nearly imbricated; and the segments of the corolla narrower. Flowers purplish, blue. Stem multifid.

Blue-flowered Vohiria. Pl. ¼ foot.

3 V. spatha'cea (Lam. ill. no. 2249. dict. 8. p. 771.) stem many-flowered; bracteas sub-spathaceous; throat of tube funnel-shaped; segments oblong. ♃. S. Native of Guiana. Lìta spathàcea, Spreng. syst. 1. p. 581. Nearly allied to *V. cœrùlea*. Stems ascending, simple, a little furrowed; furnished with 2 opposite, ovate, acute, scale-formed leaves at each joint. Flowers terminal, approximate, probably blue.

Spathaceous-bractead Vohiria. Pl. $\frac{1}{4}$ foot.

4 V. BREVIFLÒRA (Lam. ill. no. 2550. dict. 8. p. 771.) stem usually 3-flowered; tube of corolla 3 times longer than the calyx; segments linear, acute, short. ♃. S. Native of Guiana. Lìta breviflòra, Spreng. syst. 1. p. 581. Stem simple. Scales or leaves ovate, acute, remote. Corolla yellow.

Short-flowered Vohiria. Pl. $\frac{1}{4}$ foot.

5 V. UNIFLÒRA (Lam. ill. no. 2251. Pers. syn. 1. p. 284.) stem 1-flowered; corolla with a very long tube, and ovate-acute segments. ♃. S. Native of Martinique, and St. Vincent, among moss, at the roots of decayed trees. V. aphy'lla, Hook. bot. misc. 1. p. 46. t. 25. f. A. Gentiàna aphýlla, Jacq. amer. p. 87. t. 60. f. 3. Pers. ench. 1. p. 284. Lam. dict. 2. p. 642. E'xacum aphy'llum, Willd. spec. 1. p. 638. Lìta aphýlla, Dietr. gart. lex. 5. p. 531. Spreng. syst. 1. p. 581.—Plum. spec. 9. Root white, fascicled. Stem straw-coloured. Leaves or scales small, remote. Flowers large, for the size of the plant, yellow.

One-flowered Vohiria. Pl. $\frac{1}{4}$ foot.

6 V. TENE'LLA (Guilding, mss. in Hook. bot. misc. 1. p. 47. t. 25. f. B.) stem 1-flowered; corolla with a short tube, and linear-lanceolate segments. ♃. S. Native of St. Vincent, on mount St. Andre, in humid places, at the roots of decayed trees. Seeds furnished with long aril, as in the seeds of Orchideous plants. Leaves or scales small, remote.

Slender Vohiria. Pl. $\frac{1}{4}$ foot.

Cult. Uncultivatable, epiphytical plants.

XXVII. LEIPHAI'MOS (from λειος, *leios*, smooth; and φαιος, *phaios*, brown; this plant is smooth and of a brown colour.) Schlecht, et Cham. in Linnæa, 6. p. 387.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, 5-parted to the middle; segments lanceolate, acute. Corolla tubularly-funnel-shaped, marcescent, 5-cleft; segments of the limb short, ovate-triangular, very acute. Anthers 5, sagittate, on very short filaments. Ovarium lanceolate, tapering into the style. Stigma somewhat peltate, sub-bilabiate. Capsule lanceolate-elliptic, shorter than the tube of the corolla, 1-celled, 2-valved; valves villous inside at the margins, dehiscing in the middle. Seeds scobiform, very slender, minute, numerous, straw-coloured, appearing like congeries of hairs, when the capsule is open.—A parasitical, leafless herb, of the colour of *Hipópitys* (in place of leaves there are triangular, acute, erect, adpressed, membranous scales), with the habit and inflorescence of *Erythræ'a*.

1 L. PARASÍTICA (Schlecht, et Cham. l. c.) ♃.? S. Native of Mexico, growing on rotten trees, in woods, at Papantla. Plant about 3 inches high when in flower, and when in fruit about 6 inches high. Stem simple, terminated by cymose inflorescence.

Parasitical Leiphaimos. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

Cult. Plant not cultivatable.

XXVIII. ENICOSTE'MA (from ενικος, *enikos*, singular; and στημον, *stemon*, a stamen; in reference to the arched filaments.) Blum. bijdr. p. 848.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, unequally 5-cleft. Corolla funnel-shaped, 5-cleft, equal. Stamens 5, inclosed; filaments dilately-fornicated. Style shorter than the stamens; stigma capitate, sub-emarginate. Capsule oblong, 1-celled, 2-valved; valves inflexed on both margins. Seeds numerous, scrobiculate.- A plant with opposite, linear-lanceolate, 3-nerved, stem-clasping leaves, and axillary heads of flowers.

1 E. LITTORA'LE (Blum. bijdr. p. 848.) ♃.? S. Native of Java, on the shore, near Pamanukan, in the province of Krawang.

Sea-shore Enicostema. Fl. Aug. Sept. Pl.

Cult. For culture and propagation see *Hippion*, p. 198.

XXIX. CRAWFU'RDIA (named by Dr. Wallich, in honour of John Crawfurd, formerly governor of the island of Singapore; author of a history of the Indian Archipelago.) Wall. tent. fl. nep. p. 63.—Tripterospérmum, Blum. bijdr. p. 849.

Lin. syst. *Pentándria, Monogy'nia.* Calyx tubular, 5-toothed. Corolla tubular or campanulate, 5-cleft, with or without accessory lobes or segments. Stamens 5; filaments dilated, from the base of the corolla; anthers erect. Hypogynous disk 5-lobed. Style erect; stigmas 2, recurved. Capsule clavate, compressed, pedunculate, covered by the decayed calyx and corolla, 1-celled, 2-valved, even to the base; valves seminiferous near the edges. Seeds vertical, imbricate, with membranous edges, 2-lobed at one end.—Glabrous, twining herbs; with elongated, slender branches. Leaves opposite, 3-nerved, acuminated. Flowers axillary, solitary, or in fascicles, large, showy, pale blue. This genus appears to be the connecting link between the present order and *Apocýneæ*, through tribe *Gelsemie'æ*, which again connects that order with *Bignoniàceæ*.

1 C. FASCICULA'TA (Wall. tent. p. 63. t. 47.) leaves lanceolate, acuminated, 3-nerved; peduncles short, fascicled, bibracteate; teeth of calyx elongated, subulate; corolla tubular; limb furnished with accessory segments; capsule obovate, 3 times longer than its stipe. ⊙. ◠. G. Native of Nipaul, on Sheopore, and of Silhet. Gentiàna volùbilis, D. Don, prod. fl. nep. p. 126. Crawf. affìnis, Wall. cat. no. 4370. Plant green.

Fascicled-flowered Crawfurdia. Pl. twining.

2 C. SPECIÒSA (Wall. tent. p. 64. t. 48.) leaves ovate, acuminated, 5-nerved; flowers on long, nearly naked pedicels, solitary; teeth of calyx short; corollas campanulate, without accessory lobes or segments; capsule elliptic, shorter than its stipe. ♃.? ⊙.? ◠. G. Native of Nipaul, on Sheopore. Plant glaucescent.

Showy Crawfurdia. Pl. twining.

3 C. BLU'MII; leaves ovate, acute, 3-nerved; pedicels axillary, 1-flowered, bibracteate in the middle; calyx 5-cleft. ♃.? ⊙.? ◠. S. Native of Java, in the higher woods, on mounts Gede and Salak, where it is called *Tjoppi tuhur* by the natives. Tripterospérmum trinérve, Blum. bijdr. p. 849. Corolla tubular. Anthers sagittate. Seeds crested, fixed to the three sides of the berry, ex Blume.

Blume's Crawfurdia. Pl. twining.

4 C.? LOURE'IRI; leaves ovate-lanceolate, 3-nerved?; flowers lateral, disposed in elongated, drooping panicles; corolla campanulate; calyx 5-toothed. ♄. ◠. G. Native of China, and Cochinchina. Gentiàna scándens, Lour. coch. p. 171. Stem large, woody; branches long, scandent. Corolla with a large tube, which is grey outside, with distinct white dots, and furnished with dense purple hairs inside; limb short, spreading, white, bluntly 5-cleft; segments for the most part laciniately plicate. Capsule roundish.

Loureiro's Crawfurdia. Shrub climbing.

Cult. Crawfúrdia is a genus of very showy, twining plants. They will grow very well in a mixture of loam, sand, and peat; and may either be increased by cuttings or seeds. Should the seeds of any of the species ever be introduced to our gardens, we would recommend their being reared on a hot bed in spring, and in the middle of May the plants so reared to be transplanted out in the open border, against a south wall, and otherwise treated as the hardy species of *Convólvulus*.

Sub-Tribe II. COUTOU'BEÆ (this sub-tribe agrees with

the genus Coutoúbea ; in the capsule being 2-celled.) Capsule 2-celled, in consequence of the edges of the valves being bent into the central placenta ; margins of valves placentiferous. Anthers remaining unchanged even in the old state.

XXX. COUTOU'BEA (the Caribbean name of one of the species.) Aubl. guian. 1. p. 72.—Cotùbea, Mart. nov. gen. bras. 2. p. 110.—E'xacum species, Vahl.

LIN. SYST. *Tetrándria, Monogýnia.* Calyx campanulate, 4-parted. Corolla salver-shaped, with an equal cylindrical tube, a naked throat, and a 4-parted limb. Stamens 4, exserted ; filaments bidentate at the base ; anthers sagittate, unchanged in the dried state. Stigma bilammellate. Capsule 2-celled, 2-valved, many-seeded ; seeds very minute.—Glabrous herbs or subshrubs, erect, rarely twining. Stems obscurely tetragonal, usually branched ; branches opposite, and thickened at the nodi. Leaves opposite, decussate, sessile, 1-nerved, thinnish, veined. Flowers disposed in terminal and lateral spikes or racemes, dense or loose, tribracteate, white.

* *Flowers tetramerous.*

1 C. DENSIFLÒRA (Mart. nov. gen. bras. 2. p. 111. t. 185.) stem simple at bottom ; leaves sessile, rounded at the base, and half stem-clasping, lanceolate, long-acuminated ; spikes terminal and lateral, cylindrical, dense-flowered : throat of corolla irrorate. ⊙. S. Native of Brazil, in the province of Bahia, in dry fields, at Villa da Caxoeira, at the altitude of from 200 to 400 feet. Corolla with a green tube ; throat bedewed with black ; limb white.

Dense-flowered Coutoubea. Pl. 2-3 feet.

2 C. SPICA'TA (Aubl. guian. 1. p. 72. t. 27.) stem erect, branched ; leaves lanceolate, acuminated at both ends ; spikes terminal, elongated, loose ; flowers decussate, rather close together. ⊙. S. Native of Cayenne, Guiana ; in the northern part of Brazil, as of Maranham and Para, &c. Meyer, ess. p. 87. Cotùbea spicàta, Mart. nov. gen. bras. 2. p. 112. Coutoúbea álba, Lam. ill. 2. p. 319. t. 79. E'xacum spicàtum, Vahl. symb. 3. p. 17. Corollas white, reddish in the throat.

Spicate-flowered Coutoubea. Fl. July, August. Clt. 1823. Pl. 2-3 feet.

3 C. RAMÒSA (Aubl. guian. 1. p. 74. t. 28.) stem divaricately branched ; leaves oblong-lanceolate, acuminated at both ends ; spikes terminal and axillary, the lower part leafy ; flowers decussate, remote. ⊙. S. Native of Guiana and Brazil, in dry fields. Cotùbea ramòsa, Mart. nov. gen. bras. 2. p. 112.—E'xacum ramòsum, Vahl. symb. 3. p. 17. Corollas white.

Branched Coutoubea. Fl. June, July. Clt. 1824. Pl. 1-2 feet.

4 C. MÌNOR (H. B. et Kunth, nov. gen. amer, 3. p. 181.) stem dichotomous ; branches tetragonal ; leaves oblong, acute ; spikes terminal, flowers decussate. ⊙ S. Native in humid places, on the banks of the Orinoco, near the falls of Ature. Corolla white.

Smaller Coutoubea. Pl. ½ foot.

* * *Flowers pentamerous.*

5 C. VERTICILLA'TA (G. Don, in Loud. hort. brit. p. 48.) stem simple ; leaves lanceolate, acuminated at both ends, nerved ; flowers verticillate, axillary : calycine segments longer than the capsule. ⊙. S. Native of the West Indies. Gentiàna verticillàris, Lin. spec. 333. E'xacum verticillàtum, Willd. spec. 1. p. 640.—Plum. icon. 81. f. 2. Corollas white.

Whorled-flowered Coutoubea. Fl. June, July. Clt. 1818. Pl. 1½ foot.

6 C. VOLU'BILIS (Mart. nov. gen. bras. 2. p. 112.) stem twining, rather scandent, slender ; leaves lanceolate, long-acuminated, acute at the base ; spikes terminal, few-flowered ; flowers pentandrous, pentamerous, remote. ♃. ◡. S. Native of St. Domingo. Lisiánthus scándens, Spreng. syst. 1. p. 587. Corollas cream-coloured.

Twining Coutoubea. Shrub twining.

Cult. The species of *Coutoúbea* are of easy culture, requiring the same treatment as other tender annuals.

XXXI. ADENE'MA (from *αδην, aden*, a gland ; and *νημα, nema*, a filament ; filaments furnished with a swelled gland at the insertion of each). Gentiàna and E'xacum species of authors.

LIN. SYST. *Pentandria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped, 5-cleft. Stamens 5 ; filaments short, each furnished with a gland at its insertion ; anthers incumbent, inclosed. Style single, length of filaments ; stigma large, 2-lobed. Capsule 1-celled, 2-valved ; seeds scobiform, fixed to parietal, linear placentas, which adhere to the margins of the valves. An erect, perennial plant, with creeping roots ; sessile, lanceolate, opposite, decussate, 3-nerved leaves ; tetragonal, simple stems ; and axillary, sessile, small white flowers, generally 3 in the axils of each leaf, and therefore appearing as if they were verticillate.

1 A. HYSSOPIFÒLIUM ; ♃. S. Native of the East Indies, in moist uncultivated grounds, flowering during the wet season. Gentiàna verticillàta, Linn. suppl. 174. E'xacum hyssopifòlium, Willd. spec. 1. p. 640.—Burm. afr. t. 74. f. 3.

Hyssop-leaved Adenema. Pl. ½ to 1 foot.

Cult. This is a plant of easy culture. Any light rich soil will suit it ; and it will be readily increased by dividing the plant at the root. It should have plenty of water given to it when in a growing state.

XXXII. SCHUBLE'RIA (named after Gustavus Schubler, professor of botany at Tubingen). Mart. nov. gen. bras. 2. p. 113.—Cúrtia, Schlecht, in Linnæa, 1. p. 209.—Thurnhausèra, spec. Pohl. in litt.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla tubularly-subcampanulate, equal, with a 5-cleft limb, and a naked throat. Stamens 5, minute ; anthers oblong. Stigma simple, penicillately glandular. Capsule 2-valved, 2-celled, many-seeded. Seeds ovate or obovate, minute, angular.—Annual, erect, glabrous, slender herbs. Stems tetragonal, simple, or branched ; branches opposite, dichotomous. Leaves sessile, opposite, or verticillate, narrow. Inflorescence panicled, loose, or crowded, terminal and lateral ; peduncles bracteolate. Flowers small, rose-coloured, or yellow.

1. S. DIFFU'SA (Mart. l. c. p. 114. t. 186. f. 1.) stem slender, spreadingly panicled ; leaves subpetiolate, 3-4 in a whorl, ovate, acute ; corollas hardly twice longer than the calyx ; segments ovate-roundish. ⊙. S. Native of Brazil, on the ascent of high mountains, in marshy, grassy places, at the altitude of 4000 feet. E'xacum brachiàtum, Spix et Mart. reis. 1. p. 397. Corollas yellow ; throat constricted, downy inside.

Diffuse Schubleria. Pl. ¼ to ¾ foot.

2 S. CONFE'RTA (Mart. l. c. p. 115. t. 186. f. 2.) stem straight, terminated by a short, crowded, panicle ; leaves sessile ; 3-4 in a whorl, broad, ovate, acute ; corolla hardly twice as long as the calycine segments, which are setaceous ; segments of corolla ovate, obtuse. ⊙. S. Native of Brazil, in the mine provinces, in marshes, particularly on Serro Frio. Corollas yellow.

Crowded Schubleria. Pl. ½ foot.

3 S. STRÍCTA (Mart. l. c. p. 116. t. 187.) stem straight, simple at bottom ; leaves 4-6 in a whorl, ovate, acuminated, 3-nerved ; panicles corymbose, coarctate ; corolla more than twice as long as the calyx : with rounded segments. ⊙. S. Native of Brazil, in humid places, near Tejuco, and elsewhere in the diamond district ; also on Serra de St. Antonia. Sabbàtia verti-

cillàris, Spreng. syst. 1. p. 580. Cúrtia gentianoìdes, Schlecht. in Linnæa, 1. p. 210. Corolla rose-coloured.

Straight Schubleria. Fl. May, June. Pl. 1-2 feet.

4 S. pa'tula (Mart. l. c. p. 117. t. 188.) stem dichotomous, spreading; branches slender; leaves opposite, linear; panicles spreading; corolla 3 times higher than the calyxes, with acutish segments. ⊙. S. Native of Brazil, in the mine provinces, especially in marshy, grassy places, at the altitude of 2900 feet, on Serra do Itambe, and in the province of Goyaz, between Carretao and Crixas. Corolla having the tube white at the base, and a rose-coloured limb.

Spreading Schubleria. Fl. May. Pl. 1 to 1½ feet.

5 S. tene'lla (Mart. l. c. p. 117.) stem filiform, nearly simple; leaves opposite, narrow-linear, or subulate; panicles corymbose; corolla hardly twice the height of the calyx. ⊙. S. Native of Brazil, in the province of Goyaz. Corollas yellow.

Weak Schubleria. Pl. ¼ to ¾ foot.

6 S. tenuifòlia; stem simple; leaves linear-lanceolate, opposite; panicles dichotomous; calycine segments lanceolate-subulate; flowers small. ⊙. S. Native of Guiana. Exácum tenuifòlium, Aubl. guian. 1. p. 68. t. 26. f. 2. Flowers small, red.

Fine-leaved Schubleria. Pl. ½ foot.

Cult. For culture and propagation see *Schultèsia*, p. 196.

XXXIII. HE'LIA (from ἕλος, *helos*, a marsh; habitation of species). Mart. nov. gen. bras. 2. p. 122.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, 5-parted; segments erect, with membranous margins. Corolla salver-shaped, with a sub-oblique, 5-parted, marcescent limb; a cylindrical tube, which is inflated in the middle, or unequal; throat naked. Anthers oblong, emarginate at both ends. Stigma of 2 cylindrical legs, not bilamellate. Capsule 2-valved, 2-celled, many-seeded. Seeds small, nearly globose, or angular.—Glabrous herbs, with perpendicular roots. Stems terete, fistular, simple. Leaves opposite, decussate, sessile, confluent at the base, marginated, quite entire, having the middle nerve running out, and the lateral ones vanished. Flowers cream-coloured or green, disposed in coarctate, bracteate, few-flowered panicles.

1 H. oblongifòlia (Mart. nov. gen. bras. 2. p. 123. t. 191.) leaves oblong or oblong-lanceolate, obtuse; tube of corolla slender, 3 times longer than the limb, which is finely denticulated. ⊙. S. Native of Brazil, in the province of St. Paul, in marshes. Panicle dichotomous. Corollas pale cream-coloured. Stem quite simple.

Oblong-leaved Helia. Pl. 3 feet.

2 H. spatula'ta (Mart. l. c. p. 124.) leaves oblong-spatulate; tube of corolla twice as long as the limb, which is quite entire. ⊙. S. Native of the south of Brazil; and of the island of Pararuma, in the Orinoco, in hot humid places. Lisiánthus spatulàtus, H. B. et Kunth, nov. gen. 3. p. 181. Corollas green. Stem quite simple.

Spatulate-leaved Helia. Pl. 2-3 feet.

Cult. For culture and propagation see *Schultèsia*, p. 196.

XXXIV. EUDO'XIA (from εν, *eu*, well, and δοξα, *doxa*, glory, in reference to the beauty of the species). D. Don, mss. Gentiàna species, Ruiz et Pav. in herb. Lamb.

Lin. syst. *Pentándria, Digýnia.* Calyx campanulate, membranous, semiquinquifid; segments lanceolate, acute, 3-nerved. Corolla campanulate, 5-parted; segments elliptic, obtuse, nerved, convolutely imbricated in æstivation. Stamens 5, adnate to the tube of the corolla, at the base, inclosed; filaments channelled inside; anthers linear, incumbent. Ovarium fusiform, 2-celled, 2-valved, 2 inches long. Stigma 2-lobed, sessile; lobes dilated, roundish, revolute. Ovula disposed in one series in each cell, orbicular, peltate, concave on one side, with membranous edges.—Perennial, erect herbs. Leaves opposite or verticillate, nerved. Flowers large, drooping, showy, disposed in terminal, thyrsoid panicles.

1 E. formosíssima (D. Don, mss.) stems erect, angular, solid; lower leaves opposite; upper ones as if they were 5 in a whorl, sessile at intervals of 2 inches, all 5 nerved; flowers numerous, disposed in terminal, oblong, thyrsoid panicles. ♃. F. Native of Peru, Ruiz et Pav. Stem an inch thick. Leaves 2 inches long, lanceolate, acute, distant, glabrous, greyish green. Pedicels 1-flowered, 1½ to 2 inches long. Corollas large, scarlet. Ovarium fusiform.

Most showy Eudoxia. Pl. erect.

2 E. pe'ndula (D. Don. mss.) stems erect, terete; leaves opposite, ovate-lanceolate, acuminated, many-nerved; flowers numerous, disposed in thyrsoid, oblong panicles. ♃. F. Native of Peru. Very nearly allied to the preceding, but differing in the leaves and calycine segments being broader, long-acuminated, and many-nerved, and in the stamens and peduncles being terete. Corolla violaceous, barely longer than the calyx. Stem purplish, thickness of a writing quil.

Pendulous-flowered Eudoxia. Pl. erect.

Cult. Should either of the species of *Eudóxia* ever be introduced to our gardens, we would recommend their being grown in pots, in a mixture of peat and sand, with the addition of a little loam; and in winter to be placed on a shelf in a greenhouse or frame until their hardiness be ascertained.

Sub-tribe III.

CHIRO'NIÆ (this tribe agrees with the genus *Chirònia*, in the anthers being changed in the old state.) Capsule 1-celled, 2-valved; margins of valves inflexed, seminiferous. Anthers changed in the old state.

XXXV. CHIRO'NIA (from the centaur Chiron). Lin. gen. no. 255. Schreb. 349. Jus. gen. p. 142. Gærtn. fruct. 1. t. 114. Lam. ill. t. 108. Chirònia, sect. vèræ, Cham. in Linnæa, 6. p. 343.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla salver-shaped, with a narrow tube and a spreading limb, which is longer than the tube. Stamens 5; filaments broad, short, rising from the top of the tube; anthers oblong, erect, connivent, at length spirally twisted. Style declinate, a little longer than the stamens. Stigma capitate, assurgent. Capsule ovate, 1-celled, 2-valved. Seeds numerous.—Small shrubs. Stems simple, or branched. Leaves sessile, opposite, decussate. Flowers terminal, red, or white.

1 C. jasminoìdes (Lin. spec. 272. amœn. 4. p. 84. Cham. in Linnæa, 6. p. 344.) glabrous; stem tetragonal; leaves lanceolate, linear; panicles dichotomous, or flowers terminal, solitary on the tops of the branches; calycine segments acute, keeled, much shorter than the capsule, which is cylindrically oblong. ♄. G. Native of the Cape of Good Hope. Thunb. prod. 1. p. 35, and in Lin. trans. 7. p. 251. Ker. bot. reg. t. 197. Lodd. bot. cab. 27. Ch. uniflòra, Link. Lam. dict. 1. p. 737. ill. t. 108. f. 3. Segments of calyx lanceolate, acuminated, length of the tube of the corolla. Corolla red or purplish; segments ovate, acuminated, length of tube.

Jasmine-like Chironia. Fl. April, July. Clt. 1812. Shrub 1-2 feet.

2 C. lychnoìdes (Lin. syst. p. 229. mant. 207.) glabrous; stem simple, terete; leaves linear, lanceolate; peduncles terminal, elongated, usually by threes. ♄. G. Native of the Cape of Good Hope, on the summits of mountains. Thunb. prod. p. 35. and in Lin. trans. 7. p. 252. Berg. cap. p. 45. Lateral bracteas subulate. Calycine segments lanceolate-subu-

late keeled. Corolla purple; tube length of calyx; segments of the limb ovate, acute, longer than the tube.

Lychnis-like Chironia. Fl. May, July. Clt. 1816. Shrub 1-2 feet.

3 C. melampyrifòlia (Lam. ill. p. 479. no. 2175.) stem nearly simple, terete; leaves lanceolate, with decurrent sides, as in the preceding; flowers pedicellate, axillary, disposed in a terminal panicle. ♄. G. Native of the Cape of Good Hope. Calycine segments straight, acute, shorter than the tube of the corolla. Segments of corolla longer than the tube. Perhaps only a variety of *C. lychnoìdes*.

Melampyrum-leaved Chironia. Shrub 1-2 feet.

4 C. nudicau'lis (Lin. syst. p. 229. suppl. 151. Cham. in Linnæa, 6. p. 344.) herbaceous; glabrous; leaves of different forms, ovate-oblong, bluntish: radical ones often rosulate; stems many, simple, subtetragonal, bearing each 2 opposite lanceolate leaves, and 1 flower; superior internodes elongated; segments of calyx subulate, equal in length to the capsule, which is cylindrically oblong. ♃. G. Native of the Cape of Good Hope, on the top of the Table Mountain. Thunb. prod. 1. p. 35. and in Lin. trans. 7. p. 249. t. 12. f. 3. C. jasminoìdes, Lam. dict. 1. p. 736. ill. t. 108. f. 2. Corolla purple. Calycine segments length of the tube of the corolla.

Var. α, tabulàris (Cham. in Linnæa, 6. p. 344.) lower leaves elliptic, bluntish.

Var. β, elongàta (Eklon, mss. Cham. l. c.) lower leaves linear-lanceolate.

Naked-stemmed Chironia. Fl. July, Aug. Clt. 1816. Pl. 1 foot.

5 C. linoìdes (Lin. hort. cliff. 54. spec. 272.) glabrous; stem branched; branches terete, fastigiate; leaves linear, erect, fleshy, acute; peduncles terminal, elongated; calycine segments acute, 1-nerved; capsule elliptic. ♄. G. Native of the Cape of Good Hope, Thunb. prod. p. 35. and in Lin. trans. 7. p. 252. Curt. bot. mag. t. 511. Ch. vulgàris, Cham. in Linnæa, 6. p. 343.—Breyn. cent. p. 175. t. 90. Calycine segments lanceolate, shorter than the tube of the corolla. Corolla red, with ovate-oblong, obtuse segments. Anthers not spiral, but incurved. Stem nodulose.

Var. α, linoìdes (Cham. l. c.) shrub taller, looser; leaves broader, flat; calycine segments narrow, 1-nerved.

Var. β, intermèdia (Cham. l. c.) dwarfer; leaves narrower; calycine segments triangular, 1-3 nerved, sometimes short, and sometimes drawn out.

Var. γ, lychnoìdes (Cham. l. c.) calycine segments dilated, subauriculate, short. Ch. lychnoìdes, Cham. et Schlecht, in Linnæa, 1. p. 190. Var. β, and γ, α, probably of Lin. and Thunb. Ch. emarginàta, Jarouz, pl. nov. cap. 1821. p. 11.

Flax-like Chironia. Fl. July, Sept. Clt. 1787. Sh. 1 to 2 feet.

6 C. serpyllifòlia (Lehm. sem. hort. Hamb. 1828. p. 16. Linnæa, 5. p. 362.) stems weak, tetragonal, glabrous; leaves ovate, nearly sessile, thick, dotted beneath; peduncles terminal, solitary; calycine segments subulate. ♄. G. Native of the Cape of Good Hope. Stems many from the same root; corymbose at top. Corolla rose-coloured, about the size of those of *Ch. baccífera*. Perhaps a species of *Roslínia*.

Wild Thyme-leaved Chironia. Fl. July, Sept. Clt. 1829. Shrub 1 foot.

7 C. tetragòna (Lin. syst. 229. supp. 151.) glabrous; branches tetragonal; leaves ovate, 3-nerved, bluntish; flowers terminal, solitary; calycine segments bluntish, keeled, clammy, 3 times shorter than the corolla. ♄. G. Native of the Cape of Good Hope, Thunb. in Lin. trans. 7. p. 249. t. 12. f. 2. Corollas purple. Perhaps a species of *Roslínia*.

Tetragonal-branched Chironia. Fl. July, Aug. Clt. 1824. Shrub 1-2 feet.

Cult. Peat with a little loam is the best soil for the species of this genus; and young cuttings planted in the same kind of soil, with a hand-glass placed over them, strike root readily. Although said to be shrubs, none of the species are long lived; and therefore frequently require to be raised from seeds or cuttings. They are all pretty plants when in blossom.

XXXVI. ROSLI'NIA (meaning unknown to us). Mœnch, meth. supp. p. 211.—Chirònia species, Lin. and others.—Chirònia, sect. Spùriæ, Cham. in Linnæa, 6. p. 344.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, with short, subulate segments. Corolla salver-shaped, with ovate, acute, short segments. Stamens 5; filaments short; anthers oblong, spiral. Style declinate; stigma peltate. Berry fleshy, 1-celled, many-seeded. Seeds rather compressed, nearly globose, dark, wrinkled from dots. Small shrubs, with opposite, decussate leaves, and terminal, solitary, rose-coloured, or yellow flowers.

1 R. baccífera (Mœnch, l. c.) branches subtetragonal; leaves opposite, decussate, glabrous, linear-lanceolate, sessile, decurrent, with reflexed edges, longer than the internodes; flowers terminal, solitary; calycine segments 1-nerved, acute, propping the much larger globose berry. ♄. G. Native of the Cape of Good Hope. Chirònia baccífera, Lin. spec. 273. Thunb. prod. p. 33. and in Lin. trans. 7. p. 255. Curt. bot. mag. 233.—Commel. rar. t. 9. Flowers red.

Berry-bearing Roslinia. Fl. June, July. Clt. 1759. Shrub 1-2 feet.

2 R. angustifòlia; glabrous; branches terete?; leaves linear, spreading; calyx ovate; corollas clammy: segments cuneated, acuminated; calycine segments acute, conniving at the points; flowers solitary, terminal. ♄. G. Native of the Cape of Good Hope. Chirònia angustifòlia, Hort. Kew. ex. Sims, bot. mag. t. 818. Flowers red, large.

Narrow-leaved Roslinia. Fl. June, July. Clt. 1800. Shrub 1 foot.

3 R. frute'scens; downy; stem and branches terete; leaves lanceolate, obtuse, rather tomentose, as well as the branches and calyxes; flowers terminal, corymbose; calycine segments obtuse, almost nerveless, inclosing a lanceolate, elliptic berry. ♄. G. Native of the Cape of Good Hope, Chirònia frutéscens, Lin. spec. 270. amœn. 4. p. 308. Mill. fig. t. 97. Lam. ill. t. 108. f. 1. Curt. bot. mag. t. 37.—Commel. rar. t. 8. Corolla large, of an elegant red.

Var. β; leaves narrow-linear; flowers large, red. ♄. G. Chirònia frutéscens, β, Lam. dict. 1. p. 737.—Burm. afr. 205. t. 74. f. 1.

Var. γ, decussàta; plant more tomentose; leaves more crowded; branches very short; flowers rather larger. ♄. G. Chirònia decussàta, Vent. cels. t. 31. Curt. bot. mag. t. 707. Chirònia frutéscens β, latifòlia, Wendl. coll. t. 4.

Var. δ, glàbra (Cham. in Linnæa, 6. p. 344.) plant glabrous.

Var. ε, albiflòra; flowers pure white.

Frutescent Roslinia. Fl. July, Sept. Clt. 1756. Shrub, 1-2 feet.

Cult. See *Chirònia* above for culture and propagation.

XXXVII. ERYTHRÆ'A (from ερυθρος, *erythros*, red flowers). Renealm, spec. 77. t. 76. Borkh. in Rœm. arch. 1. p. 28. Richard in Pers. ench. 1. p. 283. R. Br. prod. p. 45. Schkuhr, handb. t. 59. Chirònia and Gentiàna species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx subpentagonal, 5-cleft. Corolla funnel-shaped, marcescent, with a short limb. Anthers spiral, in the old state; style erect. Stigmas 2, roundish. Capsule linear, 2-valved.—Small annual glabrous plants. Leaves

sessile, opposite, decussate; radical ones rosulate, 3-5 nerved. Flowers terminal, sessile, or pedicillate, red or yellow.

§ 1 *Flowers sessile, or on very short, hardly evident pedicels.*

1 E. Centau'rium (Pers. ench. 1. p. 283.) stem tetragonal, dichotomously panicled, corymbose; leaves ovate-lanceolate, 3-nerved; calyx shorter than the tube of the corolla. ⊙. H. Native throughout Europe, in dry gravelly pastures; in several parts of Britain, common. Willd. enum. 1. p. 247. Chirònia Centaúrium, With. p. 237. Curt. fl. lond. t. 247. Smith, fl. brit. p. 257. engl. bot. t. 417. Heyne, getr. darst. t. 29. Jaume St. Hil. fasc. 24. t. 1. Wood. med. bot. 435. t. 157. Mayerhoffer, fl. monac. t. 5. Gentiàna Centaúrium, Lin. spec. 332. Oed. fl. dan. 617. Bull. herb. t. 253. Plenck. off. t. 175. Centaúrium vulgàre, Rafin. sœl. p. 68. Hippocentaúrium Centaúrium, Schult. œstr. fl. ed. 2. vol. 1. p. 283. Centaúrium mìnus, Cam. epit. 428, &c. Calycine segments subulate. Corollas rose-coloured; segments elliptic. This is a pure bitter, and agrees, in this respect, with other Gentianeous plants.

Var. β, màjus (Schmidt, fl. boh. 2. p. 31.) radical leaves spatulate; stem 2 feet high, branched; branches all axillary, twiggy, trichotomous at the apex; branchlets dichotomous, 3-flowered; calyx 3 times shorter than the tube of corolla. ⊙. H. Bohemia.

Var. γ, mèdium (Schmidt, l. c.) radical leaves broader, obovate-roundish, 5-nerved: cauline ones half stem-clasping, ovate-obtuse; stem a foot high, branched at the base; branches erect, simple, trichotomous at the apex; branchlets trifid, 3-flowered; bracteas setaceous; calyx length of the tube of the corolla. ⊙. H. Bohemia.

Var. δ, mìnus (Schmidt, l. c.) radical leaves obovate; lower cauline ones oblong: superior ones linear, all obtuse; stem simple, erect, a finger in height, bi-trichotomous, 2-3-flowered, one of the flowers sessile, and the other pedicellate. ⊙. H. Bohemia.

Var. ε, palústre (Schmidt, l. c.) radical leaves as in var. γ; stem a hand high, and the branches dichotomous; cauline leaves oblong, acutish. ⊙. H. Bohemia.

Var. ϛ, collìnum (Schmidt, l. c.) radical leaves rather scabrous. ⊙. H. Bohemia.

Var. η, Brotèrii; leaves 3-nerved: lower ones oblong: upper ones lanceolate-linear; calyx much shorter than the tube of the corolla, which is filiform; segments of corolla bluntish. ⊙. H. Native of Portugal. Gentiàna Centaúrium, Brot. fl. lus. 1. p. 276. This differs from the species, in the superior leaves being narrower, and in the filiform tube of the corolla.

Var. θ, grandiflòra; larger than the species; limb of corolla larger, concave; segments broad. ⊙. H. Native of Europe, in moist places. E. Centaúrium *β*, Pers. ench. 1. p. 283. Centaúrium erythræ'a, Rafin and Schousboe.

Var. ι, albiflòra; flowers white.

N. B. See Wallr. ann. bot. p. 34. and Spreng. obs. bot. p. 10. in which Chirònia Centaúrium, Ch. pulchélla, and Ch. mapérta, are found under one specific name.

Centaury Gentian, or Lesser Centaury. Fl. July, Aug. Britain. Pl. $\frac{1}{4}$ to 1 foot.

2 E. Cachanlahu'an (Rœm. et Schultes, syst. 4. p. 167.) branches spreading; leaves ovate-lanceolate, veinless; calyx angular, quinquifid, length of the tube of the corolla; calycine segments connivent; segments of corolla suberose at the apex. ⊙. H. Native of Chili. Cachanlahùan, Molin. chil. ed. 2d. p. 124. Chirònia Chilénsis, Willd. spec. 1. p. 1667. Gentiàna Peruviàna, Lam. dict. 2. p. 642. Cahan Laguen, Feuill. per. 2. t. 35. Stem dichotomous, and corymbose at the top. This is the Cahan Laguen of Chili, a famous stomachic medicine of that country. Arnott does not think that the *E. Quiténsis* is specifically distinct from the present, although the flowers are said to follow the quaternary division. Though it is medicinally used in Peru, Humboldt never saw it while there; but it was cultivated in the plains of Chiloe, the inhabitants of which may have originally brought it with them from Chili, where it is a native.

Cachanlahuan Lesser Centaury. Fl. July, Aug. Clt. 1825. Pl. $\frac{1}{2}$ to 1 foot.

3 E. Quite'nsis (H. B. et Kunth, nov. gen. amer. 3. p. 178.; much branched; branches dichotomous; leaves 3-nerved, lower ones oblong, upper ones lanceolate; flowers terminal, lateral, and axillary, on long pedicels; calyx equal in length to the tube of the corolla; parts of flower quaternary. ⊙. H. Native of Quito, in temperate places, where it is called Cachanlagua; and of Chiloe. E'xacum Quiténse, Spreng. syst. 1. p. 425. Stem and branches tetragonal. Calycine segments linear, acute, furnished with a narrow membraneous line on the back, and diaphanous margins. Corolla rose-coloured, with a cylindrical tube, and oblong, obtuse, equal segments. Capsule oblong, 2-celled, 2-valved. This differs from the preceding in the tetramerous flowers.

Quito Lesser Centaury. Pl. $\frac{1}{2}$ to 1 foot.

4 E. latifòlia (Smith, engl. fl. 1. p. 321.) stem 3-cleft at top; leaves roundish-elliptic, 5-7-nerved; flowers terminal, fasciculate; tube of corolla equal in length to the calyx; segments of the limb lanceolate. ⊙. H. Native of England, on the sea-shore of Lancashire, and to the north of Liverpool; and of the county of Down, Ireland. Chirònia Centáurium, var. 2. Smith. fl. brit. p. 1393. Corollas pink.

Broad-leaved Lesser Centaury. Fl. July, Aug. Britain. Pl. $\frac{1}{2}$ foot.

5 E. capita'ta (Willd. ex Rœm. et Schultes, syst. 4. p. 168.) leaves elliptic-lanceolate or obovate, 3-5-nerved; flowers capitate, bracteate. ⊙. H. Native, country unknown. This is said to be a very showy species.

Capitate-flowered Lesser Centaury. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

6 E. confe'rta (Pers. ench. 1. p. 283.) plant erect, dwarf, branched; leaves ovate, obtuse, 3-nerved; flowers sessile, fascicled, crowded; calyx about equal in length to the middle of the tube of the corolla. ♃. H. Native of Spain. Corollas red. Very nearly allied to *E. spicàta*.

Crowded-flowered Lesser Centaury. Fl. July, Aug. Clt. 1821. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

7 E. aggrega'ta (Sweet, fl. gard. t. 137.) stems tetragonal, much branched, decumbent; branches dichotomous, aggregate, few-flowered; flowers sessile; leaves spatulate, obtuse, 1-nerved, tapering into the petioles at the base; bracteas linear, obtuse, rather longer than the calyx; calyx twice shorter than the tube of the corolla. ♂. S. Native of the south of Europe. Flowers beautiful, rose-coloured. Segments of corolla oval, obtuse. Stem and branches tetragonal.

Aggregate Lesser Centaury. Fl. March, June. Clt. 1824. Pl. $\frac{1}{4}$ foot.

8 E. littora'lis (Fries. nov. fl. suec. p. 30.) stem simple or branched, dwarf, tetragonal; leaves ovate-oblong, obtuse; flowers crowded, sessile, fasciculate; calyx about equal in length to the tube of the corolla. ⊙. H. Native of Britain, on the sea coast; and of Sweden, near Gottenburg, and of Holland. Chirònia littoràlis, Turn. and Dillw. guide, p. 469. Smith, engl. bot. 2305. Chirònia pulchélla, Don, fl. brit. fasc. 1. no. 7. Corollas pink. This species differs from *E. conférta* in the shape of the leaves and length of the tube of the corolla.

Sea-shore Lesser Centaury. Fl. June, July. England. Pl. $\frac{1}{4}$ foot.

9 E. spica'ta (Pers. ench. 1. p. 283. Smith, fl. græc. t. 238.) branches dichotomous, tetragonal; leaves lanceolate-

oblong, obtuse, 3-nerved; flowers subsecund; calyxes and bracteas about equal in length to the tube of the corolla. ⊙. H. Native of Italy, Greece, and France, in humid places. Gentiàna spicàta, Lin. spec. p. 333. Chirònia spicàta, Willd. spec. 1. p. 1069.—Barrel. icon. t. 1242. Flowers alternate, spicate; segments of corolla ovate-lanceolate. Corollas red or pink.

Var. β, flòre-álbo; flowers white. Matth. comm. p. 488. f. 2. C. Bauh. prod. 130.

Spike-flowered Lesser Centaury. Fl. July, Aug. Clt. 1820. Pl. ½ to 1 foot.

10 E. alopecuroìdes; stems somewhat tetragonal, dichotomously branched; leaves oblong-lanceolate, 1-nerved; lower ones spatulate: upper ones narrower, acute; flowers sessile, secund, crowded, subspicate; corolla funnel-shaped, with an acute, spreading-limb. ⊙. H. Native country unknown. Gentiàna alopecuroìdes, Lam. dict. 2. p. 643. Calyx angular at the base, with linear-subulate, erect segments, length of tube of the corolla. Very like *E. spicàta*.

Fox-tail-like Lesser Centaury. Pl. ⅓ foot.

11 E. austra'lis (R. Br. prod. p. 451.) leaves oval-lanceolate, obtuse, 3-nerved; flowers subsecund, almost sessile; superior bracteas shorter than the calyx. ⊙. H. Native of Van Diemen's Land. Very nearly allied to *E. spicàta*.

Southern Lesser Centaury. Pl. ½ foot.

12 E. uliginòsa (Waldst. et Kit. pl. rar. hung. 3. t. 258.) stem simple, tetragonal, compressed, dichotomously corymbose at top, scabrous from pubescence, as well as the leaves and calyxes; leaves 3-nerved; radical ones obovate-spatulate: cauline ones linear, acute; calyx length of the tube of the corolla. ⊙. H. Native of Pannonia, and several other parts of the south of Europe, in humid meadows. E. paludòsa, Schrad. E. compressa, Hayne. E. angustifolia, Wallr. Hippocentaúria uliginòsa, Schultes, œstr. fl. 1. p. 389. Stem simple and branched. Calyx sometimes shorter than the tube of the corolla. The roughness all over the plant from short hairs is perfectly manifest under a microscope.

Bog Lesser Centaury. Fl. Ju. July. Pl. ½ to 1 foot.

§ 2. *Flowers pedicellate.*

13 E. emargina'ta (Waldst. et Kit. pl. rar. hung. 3. t. 275.) stem tetragonal, dichotomous at top; angles diaphanous; leaves oblong-ovate, obsoletely 5-nerved; flowers pedicellate; segments of corolla oblong, emarginate at the apex. ⊙. H. Native of Pannonia, about Pesth. Hippocentaúria emarginàta, Schultes, œstr. fl. ed. 2. vol. 1. p. 390. Leaves shorter than the internodes, with diaphanous edges. Calycine segments subulate. Corolla with a white or pale purple limb.

Emarginate-petalled Lesser Centaury. Fl. Pl. ½ foot.

14 E. pulche'lla (Fries, nov. fl. suec. p. 30.) dwarf, much branched; branches tetragonal; leaves short, ovate or oval, 3-nerved: cauline ones equal in length to the internodes; flowers in loose panicles, destitute of scales at the base; calyx nearly as long as the tube of the corolla; style simple. ⊙. H. Native throughout Europe, in the sand by the sea-side, and in moist meadows; as well as of Caucasus. In Britain, on the sandy sea-coast of England and Scotland. E. ramosíssima, Pers. ench. 1. p. 283. E. palústris, Schrad. new journ. 4. p. 78. E. pulchélla α and β inapérta, Link et Hoffmans. fl. port. 1. p. 253. Chirònia pulchélla, Smith, fl. brit. 258. engl. bot. t. 458. Chirònia pulchélla β, D. C. fl. fr. no. 2781. Gentiàna ramosíssima, Vill. delph. 2. p. 530. Chirònia Gerárdi, Schmidt, fl. bohem. 2. no. 131. Chirònium centaúrium of many authors. Gentiàna Centaúrium β, Lin. spec. p. 333. Chirònia Centaúrium β, Willd. spec. 1. p. 1068. Chirònia inapérta of many authors. Hippocentaúria pulchélla, Schultes, œstr. fl. ed. 2d. 1. p. 389.—Vaill. bot. par. 32. t. 6. f. 1. Corollas slender, rose-coloured. From the flowers closing at 11 o'clock in the evening, it has been confused with *Chirònia inapérta*, or *E'xacum pusíllum*.

Var. β; stem simple, few-flowered. ⊙. H. Native along with the species. Chirònia pulchélla, Willd. spec. 1. p. 1067. Gentiàna pulchélla, Swartz, act. holm. 1783. p. 84. t. 3. f. 8-9. Willd. spec. 1. p. 1067. Erythræ'a pùmila, Dietr. gart. lex. suppl. 2. p. 249.? Gentiàna palústris, Lam. ill. no. 2221. Chirònia pulchélla γ, D. C. l. c. Flowers rose coloured.

Neat Lesser Centaury. Fl. Aug. Sept. Britain. Pl. ⅛ to ½ foot.

15 E. tenuiflòra (Link et Hoffmans. fl. port. 1. p. 354.) stem erect, dichotomously branched at top, tetragonal; leaves oblong and lanceolate, 3-nerved, acute; tube of corolla much longer than the calyx; segments of corolla very narrow, acute. ⊙. H. Native of Portugal, on the sea-shore, near Acosta. Gentiàna ramosíssima, Brot. fl. lus. 1. p. 279. Flowers in the forks hardly pedicellate. Calycine segments linear, unequal. Corolla with a red limb, and whitish, filiform tube.

Slender-flowered Lesser Centaury. Pl. ½ foot.

16 E. pyrena'ica (Pers. ench. 1. p. 285.) leaves ovate-lanceolate, erect; segments of corolla lanceolate. ⊙. H. Native of the Pyrenees. Said by D. C. fl. fr. suppl. no. 2781, to be a variety of *E. pulchélla*.

Pyrenean Lesser Centaury. Pl. ⅛ to ¼ foot.

17 E. linariæfòlia (Pers. ench. 1. p. 283.) stem simple or branched; leaves linear, obtuse, usually sub-one-nerved; corolla funnel-shaped; calyx shorter than the tube; style very long, simple; flowers sub-corymbose. ♂. H. Native of the south of Europe, on the banks of the Durance, near Avignon. D. C. fl. fr. suppl. no. 2781, a. Lois, not. 155. E. linearifòlia, Dietr. gart. lex. suppl. 2. p. 248. Gentiàna linariæfòlia, Lam. dict. 2. p. 641.—Bocc. mus. 2. t. 43.—Barrel. icon. 423. Nearly allied to *E. pulchélla*. Corolla purplish or rose-coloured. Calycine segments linear.

Toad-flax-leaved Lesser Centaury. Pl. ¼ foot.

18 E. occidenta'lis (Rœm. et Schultes, syst. 4. p. 171.) stem branched from the base: branches short; leaves ovate or oblong; flowers longer than the branches; segments of calyx acute. ⊙. H. Native on the sea-shore, about Bayonne. Chirònia occidentàlis, D. C. fl. fr. suppl. no. 2782. Gentiàna marítima, Thore, chlor. land. p. 94. Habit of *E. pulchélla*, but dwarfer. Corollas yellow.

Western Lesser Centaury. Pl. ⅛ to ¼ foot.

19 E. marítima (Pers. ench. 1. p. 283.) stem branched at top, dichotomous, corymbose, tetragonal; leaves oblong-lanceolate, 3-nerved; flowers pedicellate; segments of corolla ovate-bluntish; calyx length of the tube of the corolla; style bipartite. ⊙. H. Native of Italy, France, Greece, and Spain, by the sea-side. Chirònia marítima, Willd. spec. 1. p. 1069, exclusive of the syn. Barrel. icon. t. 468. Smith, fl. græc. t. 237. Chirònia marítima angustifòlia, D. C. fl. fr. no. 2782. suppl. p. 428. Gentiàna marítima, Lin. mant. p. 55. Lam. dict. 2. p. 642. Cav. icon. 3. p. 49. t. 296. f. 1.—Bocc. mus. 2. p. 83. t. 76.—Barrel. icon. t. 467, not 469. —Column. ecphr. 78. t. 77. Calycine segments linear. Very like *E. Centáurium*, but differs in the flowers being pedicellate and yellow. It differs from *E. lùtea*, in the flowers being twice the size, in the segments being lanceolate-linear, acuminated.

Var. β; Tingitàna (Schousb. mar. p. 85.) stem a little compressed; leaves 3-nerved. ⊙. H. Native of Tangiers, by the sea-side.

Sea-side Lesser Centaury. Fl. July, Aug. Clt. 1777. Pl. ¼ to ½ foot.

20 E. Meye'ri (Bunge, in Led. fl. alt. ill. t. 159. fl. alt. 1. p. 220.) stems erect, 2-edged, dichotomous at top; leaves ovate-oblong, somewhat 3-nerved; flowers bractless; peduncles about

equal in length to the flowers; tube of corolla exceeding the calyx, which is 5-parted: with subulate segments; corolline segments obtuse, crenulated at the apex. ⊙. H. Native of Altaia, in humid meadows, at the river Irtysch, near Ablaikit, and elsewhere. Stem obsoletely tetragonal, 2-10 inches high. Lower leaves obovate-obtuse. Flowers solitary, pedicellate, in the forks. Peduncles tetragonal. Tube of corolla slender. Anthers hardly twisted.

Meyer's Lesser Centaury. Pl. $\frac{1}{4}$ to $\frac{3}{4}$ foot.

21 E. Roxbu'rghii; stems dichotomously branched, terete; lower leaves rosulate, spatulate, obtuse, 3-nerved: cauline leaves lanceolate, obtuse, 3-nerved; calycine segments linear, much shorter than the tube, which is terete and slender; segments of corolla ovate-lanceolate, acute.? ⊙. H. Native of the East Indies. Chirònia centaurioìdes, Roxb. Chirònia jasminoìdes, and E'xacum diffùsum, Heyne, herb. Plant much branched from the base. Flowers rose-coloured, pedicellate.

Roxburgh's Lesser Centaury. Pl. $\frac{1}{3}$ foot.

22 E. lu'tea (Rœm. et Schultes, syst. 4. p. 171.) stem tetragonal, dichotomously-panicled; leaves many-nerved; lower ones ovate, superior ones oblong-lanceolate; segments of corolla elliptic; calyx length of the tube of the corolla; style bifid. ⊙. H. Native of Italy and France, on the mountains. Chirònia lùtea, Bertol. rar. pl. dec. 2. p. 32. Chirònia marítima, var. a, D. C. fl. fr. no. 2782. suppl. p. 32. Gentiàna marítima, Savi, pis. 1. p. 274.—Barrel. icon. t. 468. Gentiàna pùmila, Gouan, fl. monsp. p. 33. Leaves acute, ? shining. Pedicels thick, angular, sometimes the length of calyx. Calyx tubular; with acutely keeled linear-subulate segments. Corolla salver-shaped; with bluntish segments. Capsule cylindrical.

Yellow-flowered Lesser Centaury. Fl. July, Aug. Clt. 1824. Pl. $\frac{1}{2}$ to 1 foot.

23 E. elòdes (Rœm. et Schultes, syst. 4. p. 172.) stem nearly simple, tetragonal: angles winged, pellucid; leaves roundish, 5-nerved, downy, stem-clasping; calycine segments obtuse, addressed, glandular; limb of corolla connivent. ⊙. H. Native of the lower Pyrenees, in the valley d'Ossau, in boggy meadows. Chirònia uliginòsa, Lapeyr. abr. suppl. p. 39. Very nearly allied to *E. marítima*. Root of many capillary fibres. Peduncles axillary, sub-divided, 6-10-flowered. Tube of corolla inclosed in the calyx. Limb of corolla golden yellow.

Marsh Lesser Centaury. Pl. $\frac{1}{2}$ to 1 foot.

24 E. Porte'nsis (Link. et Hoffmans. fl. port. 1. p. 351. t. 66. a.) stems prostrate, tetragonal; branches assurgent; leaves ovate-roundish, obtuse, generally 3-nerved; tube of corolla longer than the calyx; segments of corolla acutish. ⊙. H. Native of Portugal, in humid places, about Oporto, and elsewhere. Gentiàna Portènsis, Brot. fl. lus. 1. p. 278. Habit of *Verónica serpyllifòlia*. Flowers terminal, usually 3, rarely 7, those in the forks sessile. Calycine segments scarious on the edges. Corolla yellow (reddish or whitish, ex Link. fl. port. l. c.), with long, narrow segments. Style bifid. Stems filiform, creeping, ex Brot.

Oporto Lesser Centaury. Pl. prostrate.

25 E. cæspitòsa (Link. et Hoffmans. fl. port. 1. p. 352. t. 66. b.) stem branched, tufted, prostrate; leaves 1-nerved, lanceolate-spatulate, fleshy; flowers terminal, 3 together, nearly sessile, capitate; tube of corolla hardly exceeding the calyx; segments of corolla acutish. ♂.? H. Native of Portugal, in marshes and bogs, near Figueira. Gentiàna chloòdes, Brot. fl. lus. 1. p. 276. Tops of branches tetragonal. Flowers colour of those of *E. Centáurium*. This is easily distinguished from the other species in the fleshy leaves.

Tufted Erythræa. Pl. prostrate.

26 E. grandiflòra (Bivon. sic. cent. 3.) stem tall, straight, rather tetragonal; leaves oblong, obtuse, 3-nerved; flowers corymbose, bracteate; calyx much shorter than the tube of the corolla, with subulate segments; segments of corolla bluntish. ⊙. H. Native of Sicily, on the mountains.

Great-flowered Lesser Centaury. Pl. 1 foot.

27 E.? Cochinchine'nsis (Spreng. syst. 1. p. 580.) stem quite simple; leaves ovate-oblong; flowers axillary, solitary, pedicellate; calyx tubular, slightly 5-cleft; stigma turbinate-roundish. ⊙. F. Native of Cochinchina. Hottònia littoràlis, Lour. coch. p. 105. Anthers twisted.

Cochinchina Lesser Centaury. Pl. $\frac{1}{2}$ foot.

28 E. cómpar (R. Br. in. append. to Salt. abyss. p. 476.) this species has not yet been described. ⊙.? H. Native of Abyssinia.

Equal Lesser Centaury. Pl.

Cult. All the species of this genus are elegant, delicate little plants. The seeds should be sown in small pots, well drained with sherds, in a mixture of gravel and peat, or sand, loam, and peat; and those species, natives of the sea-shore, may be watered occasionally with salted water.

XXXVIII. SABBA'TIA (in honour of L. Sabbati, a celebrated Italian botanist.) Adans. fam. p. 503. Sal. par. lond. t. 32. Pursh, fl. amer. sept. 1. p. 123. Rchb. hort. bot. 2. t. 118. Chirònia species, Lin. Michx. and others. Swértia species, Mill. dict. no. 2.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla with an urceolate tube; and a 5-12-parted limb. Stigma 2-parted; segments spiral. Stamens 5; anthers at length revolute. Capsule 1-celled, 2-valved; margins of valves seminiferous.—Biennial herbs, with angular stems and branches. Leaves opposite, sessile, decussate. Flowers terminal, solitary or corymbose. Corollas rose-coloured or white.

1 S. gra'cilis (Sal. par. lond. t. 32.) weak; branches loose, elongated, 1-flowered; leaves linear-elliptic, or lanceolate; calycine segments linear, equal in length to the tube of the corolla; segments of corolla obovate; stem angular. ♂. F. Native from Pennsylvania to Carolina, and of Canada, in wet pastures, on the banks of rivers. Chirònia grácilis, Michx. fl. bor. amer. 1. p. 146. Chirònia campanulàta, Lin. spec. p. 272. Flowers rose-coloured.

Slender Sabbatia. Fl. July, Aug. Clt.? Pl. 1 foot.

2 S. stella'ris (Pursh, fl. amer. sept. 1. p. 137.) erect; branches dichotomous, elongated, 1-flowered; leaves lanceolate, acute; segments of calyx subulate, shorter than the tube of the corolla; segments of corolla obovate; stem terete. ♂. H. Native of New York, New Jersey, &c. in salt marshes. Bartram, icon. ined. t. 13, in the Banksian Library. The flowers are large, and of a beautiful rose-colour, with an elegant yellow star in the centre, which is surrounded by a deep red border. This plant is extremely shy of cultivation, though very desirable for that purpose. It varies with white flowers.

Starry-flowered Sabbatia. Fl. Aug. Pl. 1 foot.

3 S. angula'ris (Pursh, l. c.) erect; leaves ovate, stem-clasping; peduncles elongated, corymbose; calyx half shorter than the corolla: with lanceolate segments; stem marginately quadrangular. ♂. H. Native from Canada to Carolina, in shady woods, on grassy hills; and of the Arkansas. Chirònia angulàris, Michx. fl. bor. amer. 1. p. 146. Lin. spec. 272. Willd. spec. 1. p. 1067. Habit of *Erythræ'a Centaúrium*. Flowers crowned as in *Hypéricum;* purplish red. It varies with longer and shorter, broader and narrower leaves. It is used by the inhabitants of North America, for the same purposes, and in the same way, as *Erythræ'a Centaúrium* is in this country.

Angular-stemmed Sabbatia. Fl. July, Aug. Clt. 1826. Pl. 1 foot.

4 S. campe'stris (Nutt. in amer. phil. trans. vol. 5. n. s. p. 197.) erect; branches dichotomous; leaves ovate, stem-clasp-

ing; peduncles elongated, sub-fastigiate: calyxes winged, with linear segments, which exceed the 5-parted corolla. ⊙. H. Native of North America, in the open prairies of the Arkansas, and red river. Plant bitter. Stem and branches angular. Peduncles forming a loose corymb. Leaves acute, 3-5-nerved. Corollas rose-coloured, size of those of *S. angulàris;* the segments obovate, and the base marked by a 5-rayed, greenish star.

Field Sabbatia. Fl. June, July. Pl. 1 foot.

5 S. calycòsa (Pursh, l. c. p. 138.) erect, leafy; leaves oblong-oboval; flowers solitary, with usually a 5-7-parted limb; calyx foliaceous, exceeding the corolla: with broad oblanceolate segments. ♂. H. Native from New York to Carolina, in wet meadows, Sims, bot. mag. 1600. Chirònia dichótoma, Walt. fl. car. 95.? Bartram, icon. ined. t. 10. in the Banksian Library. Chirònia calycòsa, Michx. fl. bor. amer. 1. p. 147. Corolla large, rose-coloured, with obovate segments. Calyx involucra-formed.

Calycose Sabbatia. Fl. Ju. Aug. Clt. 1812. Pl. 1 foot.

6 S. chloroìdes (Pursh, l. c.) weak; leaves lanceolate, erect; branches few, 1-flowered; corollas 7-13-parted, large; calycine segments linear, shorter than the corolla. ♂. H. Native from New York to Carolina, in bogs. Chirònia chloroìdes, Michx. fl. bor. amer. 1. p. 147. Chirònia dodecándra, Walt. fl. car. p. 95. Chlòra dodecándra, Lin. syst. p. 299. Willd. spec. 2. p. 341. Stem decumbent or weak. Corollas large, rose-coloured, with oblong segments.

Chlora-like Sabbatia. Fl. Aug. Sept. Clt. 1817. Pl. decumbent.

7 S. panicula'ta (Pursh. l. c.) erect; leaves lanceolate-linear; panicle many-flowered, bracteate, sub-fastigiate; calycine segments subulate, thrice shorter than the corolla; stem tetragonal. ♃. F. Native of New Jersey and Carolina, in bogs and cedar swamps. Chirònia paniculàta, Michx. fl. bor. amer. 1. p. 146 Swértia diffórmis, Lin. spec. p. 328. Mill. dict. no. 2. Willd. spec. 1. p. 1330. Flowers white, with oblong segments. Lower leaves sometimes ovate-lanceolate: superior ones subulately setaceous.

Var. α, latifòlia (Pursh, l. c.) leaves short-ovate; panicles few-flowered. ♃. H. Chirònia lanceolàta, Walt. fl. car. p. 95.

Var. β, angustifòlia (Pursh, l. c.) leaves linear; panicle corymbose, many-flowered. ♃. H.

Panicled-flowered Sabbatia. Fl. July, Aug. Clt. 1817. Pl. $1\frac{1}{2}$ foot.

8 S. Austra'lis (Cham. et Schlecht. in Linnæa, 1. p. 194.) erect; stem quadrangular; angles winged; leaves linear-lanceolate, 3-nerved; peduncles elongated, 1-flowered; calycine segments 3-nerved, acute, the middle nerve keeled, equal in length to the tube of the corolla; segments of corolla lanceolate, acuminated. ♂. F. Native of Brazil, in the province of Cisplatine. Plant glabrous. Lower leaves obovate, obtuse, the rest linear-lanceolate, with revolute edges. Plant often 1 or 2 flowered; or terminated by a few-flowered panicle. Corolla white, salver-shaped, with a 5-cleft limb. Anthers twisted. Stigmas bipartite, flat, at length elongated, and more or less twisted. Capsule half 2-celled. Seeds wrinkled.

Southern Sabbatia. Pl $\frac{1}{2}$ to 2 feet.

† *Species not sufficiently known.*

9 S. amœ'na; erect; leaves linear-lanceolate, acute; flowers terminal; calyx length of corolla, which is rotate; stem terete, dichotomous. ♂. H. Native of Maryland, Delaware, New Jersey. Chirònia amœ'na, Rafn. in Desv. journ. bot. 1. p. 224. Perhaps the same as *S. grácilis.*

Pleasant Sabbatia. Pl. 1. foot.

10 S. cymòsa; erect; leaves lanceolate, obtuse; cymes terminal; corolla longer than the calyx; stem tetragonal: angles membranous; calycine segments linear-obtuse. ♂. F. Native of Carolina. Chirònia cymòsa, Lam. ill. 1. p. 479. no. 2178. Poir. suppl. 2. p. 234. Leaves as if they were truncate at the base; upper ones almost linear; radical ones ovate-roundish, petiolate; and the bracteas linear, ex Poir. Perhaps the same as *S. angulàris*, or *S. paniculàta*, var. *α, latifòlia.*

Cymose-flowered Sabbatia. Pl. 1 foot.?

Cult. The species of *Sabbàtia* are very elegant plants, when in blossom, and are therefore worth cultivating in every collection. The seeds should be sown thinly in pots, in the same way as recommended for the species of *Erythræ'a;* but the pots require to be placed in shallow pans of water, the species being natives of marshes and bogs.

Sub-tribe IV.

LISIA'NTHEÆ (this sub-tribe agrees with the genus *Lisiánthus*, in the capsule being 2-celled, and in the anthers being changed in the old state.) Capsule 2-celled, in consequence of the margins of the valves being bent into the central column; margins of valves placentiferous. Anthers changed in the old state.

XXXIX. LISIA'NTHUS (from λυσις, *lysis*, dissolution; and ανθος, *anthos*, a flower; a name given to the plant, on account of medical virtues possessed by it, of dissolving humours, being a powerful cathartic.) Browne, jam. p. 157. t. 9. f. 1. Schreb. gen. no. 274. Lin. suppl. 135. mant. p. 6. Juss. gen. 142. Aubl. guian. 1. p. 204. Gærtn. fruct. suppl. 1. p. 23. t. 183. H. B. et Kunth, nov. gen. amer. 3. p. 180. Mart. nov. gen. bras. 2. p. 92. Ruiz. et Pav. fl. per. 2. p. 114. Cullùmia, Sal. par. lond. under no. 34.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, 5-cleft; segments erect, with membranous, diaphanous, and incumbent edges. Corolla funnel-shaped, marcescent; tube unequal, on one side, or ventricose above; limb equal, 5-cleft; throat beardless or naked. Stamens 5, rather unequal, ascending; anthers sagittate, fixed by the base, for the most part revolute, especially in the dried state. Style elongated; stigma bilamellate. Capsule 2-celled, 2-valved, many-seeded; margins of valves inflexed, placentiferous. Seeds angular.—Herbaceous or suffruticose, erect, glabrous plants. Roots perpendicular. Stems subtetragonal, simple or divided at top. Leaves decussately opposite, sessile, or on short petioles; petioles usually more or less combined into a short sheath, quite entire, usually marginated, 3-5-nerved. Flowers axillary, among the superior leaves, or terminal, racemose; racemes bifid, with a flower in the fork, or dichotomous or panicled. Corollas of various beautiful colours. Pedicels continuous with the calyx, bracteolate, sub-opposite.—Inhabitants of tropical America, in fields and alpine pastures.

§ 1. *Flowers blue or purple.*

1 L. alpe'stris (Mart. nov. gen. bras. 2. p. 93. t. 171.) stem finely 4-winged; leaves ovate-orbicular, obtuse, marginate; flowers solitary, axillary, drooping; calycine segments ovate, acutish; corolla campanulately tubular, with ovate, orbicular, acutish segments. ⊙. S. Native of Brazil, in the mine provinces, in pastures, on the mountains, particularly between Villa da Campanha and Villa Rica. Corolla pale violet, above an inch long. Leaves 1 or $1\frac{1}{2}$ inch in diameter.

Alp Lisianthus. Fl. Jan. Feb. Pl. 1 to $1\frac{1}{2}$ foot.

2 L. pe'ndulus (Mart. l. c. 2. p. 94. t. 172.) leaves oblong, acute, sessile at the bottom of the stem, and running down it; stem tetragonal, submarginate; racemes terminal, on long peduncles; calycine segments acuminated; corolla campanulately funnel-shaped: with deep, oblong, acute, erectish segments. ⊙. S. Native of Brazil, on mountains, near Villa Rica, and St. Joao del Rey. Leaves 1 to $1\frac{1}{2}$ inch long. Corollas $1\frac{1}{2}$ inch long, of a beautiful, pale violet. The roots are very bitter, and are used in decoction by the natives as a febrifuge.

Pendulous Lisianthus. Pl. 1-2 feet.

3 L. ala'tus (Mart. l. c. p. 95. t. 174.) stem tetragonal; with the angles a little winged; leaves sessile, ovate, obtuse, marginate; flowers racemose; calycine segments ovate-roundish; corolla from a slender tube to ventricose: with ovate segments. ♃. S. Native of Brazil, in alpine pastures, near Villa Rica, Sabara, and on the range of mountains called Serra de St. Antonio, in the mine provinces. L. speciòsus, Schlecht, in Linnæa, 1. p. 198. Racemes sometimes simple, and sometimes crowded, coarctate. Flowers drooping. Corolla 1½ to 2 inches long, pale violet.

Winged-stemmed Lisianthus. Pl. 1½ to 2 feet.

4 L. amplíssimus (Mart. l. c. p. 96. t. 175.) stem tetragonal; having the angles a little winged; leaves sessile, ovate, acute, a little margined; flowers racemose; calycine segments ovate; corollas very large, campanulate, with ovate-orbicular segments. ♃. S. Native of Brazil, in alpine pastures, near Villa Rica, Villa do Principe, and elsewhere, in the mine provinces. Racemes twin, 2-flowered, with a flower in the fork. Corolla large, purple or blue. The roots are very bitter, and are used in decoction as a febrifuge, like those of *L. péndulus*, by the inhabitants of the mine provinces of Brazil.

Very large-flowered Lisianthus. Pl. 2 feet.

5 L. cœrule'scens (Aubl. guian. 1. p. 207. t. 82. Mart. l. c. p. 100. t. 178. f. 2.) stem tetragonal, leafless a long way at the top: leaves narrow-lanceolate: lower ones ovate, acute, few; flowers bifidly racemose or solitary, drooping; calycine segments ovate, acute; corolla funnel-shaped; with a short, gibbous tube: and ovate, acute, erectish segments. ⊙. S. Native of Brazil, in the province of St. Paul, in moist fields; and of Guiana, in humid meadows. Leaves small. Corolla small, blue, a nail in length.

Bluish-flowered Lisianthus. Pl. ½ to 1 foot.

6 L. prate'nsis (H. B. et Kunth, nov. gen. amer. 3. p. 180.) stem simple, tetragonal; angles a little winged; leaves linear, obtuse, sessile, remote; flowers few, terminal; calycine segments ovate, obtuse; corolla funnel-shaped, with ovate, acute segments. ⊙. S. Native of grassy places, near Esmeraldo, on the Orinoco. Flowers unequally pedicellate. Corolla blue. Nearly allied to *L. cœruléscens*, Aubl.

Meadow Lisianthus. Fl. May. Pl. 1 to 1½ foot.

7 L. purpura'scens (Aubl. guian. 1. p. 205. t. 81.) stem branched, obsoletely tetragonal; leaves sessile, ovate, acuminated; racemes terminal, dichotomous, on long peduncles; calycine segments roundish, obtuse; corolla campanulately funnel-shaped: with roundish-ovate, acutish segments. ⊙. S. Native of the Missions of the Orinoco, in inundated places, between St. Fernando de Atabapo, and the falls of Maypure; and of Guiana. Lam. ill. t. 107. f. 2. H. B. et Kunth, nov. gen. amer. 3. p. 182. Flowers solitary, remote, secund, at length drooping. Corolla purplish, 9 lines long. Stamens equal to the corolla in length, or a little exserted. Leaves reticulately veined.

Purplish-flowered Lisianthus. Fl. May. Pl. 1 foot.

§ 2. *Flowers scarlet.*

8 L. pulche'rrimus (Mart. l. c. p. 97. t. 176.) stem sub-tetragonal, finely winged; leaves sessile, ovate, acuminated; or broad-elliptic, revolute, with membranous margins; panicles terminal, dichotomous; calycine segments ovate, acute; corollas large, campanulately funnel-shaped, from a slender tube. ♃. G. Native of Brazil, in the mine provinces, especially near Villa Rica, Sabura, Tepanhoa, Villa do Principe, Tejuco, &c. Corolla large, nearly 3 inches long, scarlet. Peduncles twin, dichotomous; with a flower in each fork.

Very fair Lisianthus. Pl. 3 feet.

9 L. e'legans (Mart. l. c. p. 98. t. 177.) stem sub-tetragonal; leaves sessile, ovate, short-acuminated, with sub-revolute edges; racemes on long peduncles; flowers drooping; calycine segments ovate, acute; corolla funnel-shaped, from an elongated tube: with ovate-acute segments. ♃. G. Native of Brazil, in the mine provinces, in alpine pastures, especially near Villa Rica, Pires, Villa do Principe, and on mount Itambe, &c. Peduncles 2-3-flowered. Corolla 1½ inch long, fine scarlet.

Var. α, *robústa* (Mart. l. c.) stem 2-3-feet, branched, leafy; flowers large, red, more remote.

Var. β, *símplex* (Mart. l. c.) stem almost simple, leafy at bottom, and elongated at top into an almost 1-flowered pedicel; flowers smaller.—Lis. pedunculàtus, Schlecht, in Linnæa, 1. p. 199.

Elegant Lisianthus. Pl. 1 to 2 feet.

10 L. angustifòlius (Mart. l. c. p. 99. t. 178. f. 1.) stem tetragonal; angles slightly winged; leaves sessile, narrow-linear-lanceolate, acute, with revolute edges; flowers drooping, usually solitary; calycine segments ovate, short-acuminated; corolla funnel-shaped, with a slender tube, and narrow, ovate, acute, erectish segments. ⊙. S. Native of Brazil, in the mine provinces, in elevated fields, near St. Domingo, &c. Corolla fine scarlet, an inch and more long.

Narrow-leaved Lisianthus. Pl. 1 to 1½ foot.

§ 3. *Flowers yellow, or greenish yellow, or altogether green.*

11 L. infla'tus (Mart. l. c. p. 94. t. 173.) leaves ovate-oblong, acute, on short petioles; stems terete; racemes terminal, few-flowered, sub-secund, drooping; calycine segments ovate, obtuse, apiculated; corolla with a narrow base, and a ventricosely campanulate top: with ovate, obtuse, spreading segments. ⊙. S. Native of Brazil, in subalpine fields, near Villa Rica, Sabura, and elsewhere, in the mine provinces. Racemes twin, 2-4-flowered, with or without a flower in the fork. Flowers pendulous. Corolla more than an inch long, pale greenish.

Inflated-flowered Lisianthus. Fl. Feb. March. Pl. 2 to 2½ feet.

12 L. Ku'nthii; stem branched, terete; leaves lanceolate-linear, nearly sessile; racemes terminal, simple; calycine segments roundish, obtuse, concave; corolla funnel-shaped: with ovate, acute segments. ⊙. S. Native of grassy places, at the foot of mount Duida, near Esmeralda, in the missions of the Orinoco. L. angustifòlius, H. B. et Kunth, nov. gen. amer. 3. p. 181. Leaves 1-nerved, obsoletely veined. Flowers solitary, or twin, secund, lower ones remote. Calyx quadrifid.? Corolla green.

Kunth's Lisianthus. Fl. May. Pl. 1 to 2 feet.

13 L. bífidus (H. B. et Kunth, nov. gen. amer. 3. p. 181.) stem simple, obsoletely tetragonal; leaves nearly sessile, lanceolate, acute; racemes terminal, bifid; calycine segments roundish-elliptic, obtuse; corolla funnel-shaped: with ovate-obtuse segments. ⊙. S. Native of New Granada, near the mine of Santanna. L. racemòsus, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 788. Leaves remote. Flowers solitary, secund. Corollas green. Stamens exserted.

Bifid-racemed Lisianthus. Fl. June. Pl. 1 to 2 feet.

14 L. macrophy'lla (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 788. H. B. et Kunth, nov. gen. 3. p. 183.) shrubby; branches tetragonal; leaves ovate, acute, on short petioles; corymbs terminal, paniculately disposed; calycine segments roundish; corolla funnel-shaped: with ovate, obtuse segments. ♄. S. Native of New Granada, on the declivity of Panama de Almaguer, between Pansitara and the river Ruiz. Stem articulated, rather hairy, having 2 of the sides convex, and the other 2 furrowed. Floriferous branches sub-fastigiate. Leaves reticulately veined; having the nerves and veins hairy on the under side. Corollas yellow. Leaves 7-8 inches long.

Long-leaved Lisianthus. Fl. Nov. Shrub 6 feet.

15 L. trífidus (H. B. et Kunth, nov. gen. amer. 3. p. 182.)

stem branched, tetragonal: having the angles winged; leaves on short petioles, ovate, acute; racemes terminal, trifid; calycine segments oblong, obtuse; corolla funnel-shaped: with roundish obtuse segments. ⊙. S. Native of New Granada, between Mariquita and the mine of Santanna. Leaves quintuple-nerved, and reticulately veined, 3 inches long. Petioles connate at the base. Flowers secund, solitary, hardly an inch long. Corolla greenish. Branches of racemes fastigiate.

Trifid-racemed Lisianthus. Fl. June. Pl. 1 foot.

16 L. GLA'BER (Mutis, in Lin. suppl. 134. Smith, icon. 1. p. 29. t. 29.) shrubby; branches tetragonal; leaves elliptic or ovate-lanceolate, acute; corymbs terminal and axillary, few-flowered, involucrated by 2 or 3 leaves. ♄. S. Native of Peru; and New Granada, at Santa Fe de Bogota. H. B. et Kunth, nov. gen. amer. 3. p. 183. L. corymbòsus, Ruiz. et Pav. fl. per. 2. p. 14. t. 124. Corolla campanulately funnel-shaped, yellow.

Glabrous Lisianthus. Shrub.

17 L. ALA'TUS (Aubl. guian. 1. p. 204. t. 80.) stem tetragonal; angles winged; leaves oblong, acuminated, nearly sessile; cymes terminal, racemose, dichotomous, loose; calycine segments yellowish; genitals exserted. ⊙. S. Native of Cayenne and Guiana, in waste places. Lam. dict. 3. p. 661, exclusive of *L. chelonoìdes*, Lin. Stem articulated. Leaves obliquely nerved. Pedicels each furnished with a gland-like body and a scale-like bractea. Corolla white, with a furrowed tube; segments of the limb marked with a green spot on both sides at apex. Plant bitter like the rest.

Wing-stemmed Lisianthus. Fl. July, Aug. Clt. 1824. Pl. 2-3 feet.

18 L. CHELONOÌDES (Lin. suppl. 134, exclusive of the syn. of Aubl. syst. 197.) stem terete; leaves oval-oblong, rather connate at the base, bluntish; panicle terminal, dichotomously branched, racemose; racemes long; calyx globose. ⊙.? S. Native of Surinam and Cayenne. Flowers alternate, remote, secund. Corolla greenish yellow, with a sub-recurved tube. Plant bitter, and purgative. Stem sub-tetragonal at the base, becoming gradually terete to the top. Lower leaves connate; upper ones only sessile.

Chelone-like Lisianthus. Pl. 2 to 3 feet.

19 L. GRANDIFLÒRUS (Aubl. guian. 1. p. 201. t. 79.) stem simple, tetragonal at the base, and terete at apex; leaves ovate, acuminated, connate at the base, beset with short hairs on both surfaces, but especially on the margins and middle nerve; panicle dichotomous; corolla with an undulated limb, and reflexed, roundish, sinuated segments. ⊙. G. Native of Guiana, and Cayenne, in humid places. Desf. in Lam. dict. 3. p. 661. Leaves rather large. Flowers large, solitary, greenish-yellow. Three of the stamens are exserted.

Great-flowered Lisianthus. Fl. July, Aug. Clt. 1818. Pl. 2 to 3 feet.

20 L. LONGIFLÒRUS (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 787.) leaves lanceolate, rugosely nerved beneath, scabrous on both surfaces. ⊙.? S. Native of South America, Humb. et Bonp. Kunth knows nothing of this plant.

Long-flowered Lisianthus. Pl.

21 L. FRÍGIDUS (Swartz. prod. p. 40. fl. ind. occ. 1. p. 352.) stem tetragonal; leaves petiolate, ovate, acuminated; panicles terminal, trichotomous; corollas ventricose: with roundish obcordate segments. ♃. S. Native of St. Dominica, on mount Soufriere; and of Guadaloupe. L. acuminàtus, Desf. in Lam. dict. 3. p. 660.? Flowers yellow, erect. Segments of calyx obtuse.

Frigid Lisianthus. Pl. 2 to 3 feet.

22 L. FISTULÒSUS (Poir. suppl. 3. p. 564.) stem terete, striated, fistular; leaves sessile, ovate, acute, 3-nerved; corymbs dichotomous, many-flowered; calycine segments very blunt; segments of corolla short, obtuse; stamens length of corolla. ⊙. S. Native of Cayenne. Leaves 2-3 inches long. Flowers on short pedicels. Corolla yellow, an inch long, with a sub-inflated throat. Capsule ovate.

Fistular-stemmed Lisianthus. Pl. 1 to 2 feet.

23 L. LATIFÒLIUS (Swartz, prod. p. 40. fl. ind. occ. 1. p. 348.) branches obsoletely tetragonal; leaves petiolate, lanceolate-ovate, acuminated; peduncles simple, trichotomous; calycine segments acute, unequal; segments of corolla erect, lanceolate, acute. ♄. S. Native of Jamaica, on high mountains. Corolla yellow, an inch long. Very like *L. exsértus*, but differs in the stamens being inclosed. Corymbs hardly longer than the leaves.

Broad-leaved Lisianthus. Fl. July, Sept. Clt. 1821. Shrub 5 to 6 feet.

24 L. UMBELLA'TUS (Swartz. prod. p. 40. fl. ind. occ. 1. p. 350.) branches tetragonal; leaves petiolate, long, obovate, sub-acuminated; peduncles terminal and axillary, a little compressed, bearing each an umbel of 20-30 pedicellate flowers; calycine segments lanceolate; segments of corolla short, obtuse, erect; stamens sub-exserted. ♄. S. Native of the west of Jamaica, on hills. Leaves a foot long. Corolla ½ an inch long, yellow.? Capsule ovate.

Umbellate-flowered Lisianthus. Fl. July, Aug. Clt. 1822. Shrub 6 to 7 feet.

25 L. VISCÒSUS (Ruiz, et Pav. fl. per. 2. p. 14. t. 125.) stem obsoletely tetragonal, furrowed, branched at top; leaves oblong, on short petioles, very veiny; corymbs ample, terminal, clammy; calycine segments concave; segments of corolla roundish, cordate, spreading. ♄. S. Native of Peru, in high places, at Munna. Leaves entire, and sub-sinuated, obtuse, shining. Bracteas ovate, recurved. Corolla greenish yellow. Capsule 3 inches long.

Clammy Lisianthus. Shrub.

26 L. REVOLU'TUS (Ruiz, et Pav. fl. per. 2. p. 14. t. 127.) stem branched, tetragonal, striated; leaves lanceolate, petiolate, with revolute margins, beset with recurved pili on the nerves beneath; corymbs terminal and axillary, bearing each 4-6 1-flowered pedicels. ♄. S. Native of Peru, on cold mountains of Munna. Lower leaves approximate; superior ones remote, ovate-oblong, 4-5 inches long. Bracteas lanceolate. Corolla yellowish-red.

Revolute-leaved Lisianthus. Shrub 6 feet.

27 L. PARVIFÒLIUS (Desf. in Lam. dict. 3. p. 660. ill. 476.) stem filiform, tetragonal; leaves linear, sessile, mucronate, adpressed to the stem; corymbs terminal, few-flowered; calyx cleft even to the middle, with sub-carinated segments; corolla 3 times longer than the calyx. ⊙.? S. Native of South America.? Root fibry. Stem yellowish.

Small-leaved Lisianthus. Pl. 1 foot.

28 L. ACUTA'NGULUS (Ruiz, et Pav. 2. p. 14. t. 122. f. a.) stem fistular, tetragonal; angles acute; leaves distant, connivent at the base; lower ones cordate, upper ones ovate; peduncles dichotomous, panicled; calycine segments ovate; corolla subringent: with an incurved tube, and roundish, revolute segments. ♃.? S. Native of Peru, in the mountains of Panatahua. Pedicles short, thick, 1-flowered. Calyx short. Stem dichotomous. Corollas yellow. Capsules pendulous.

Acute-angled-stemmed Lisianthus. Fl. July. Aug. Clt. 1820. Pl. 6 feet.

29 L. OVA'LIS (Ruiz, et Pav. fl. per. 2. p. 13.) stem twiggy, terete, fistular, branched at top; peduncles axillary and terminal, corymbose, dichotomous; pedicles secund; leaves òvate, veinless, on short petioles. ♄. S. Native of Peru, in groves. Corollas greenish yellow. Capsule pendulous.

Oval-leaved Lisianthus. Shrub 10 to 12 feet.

30 L. CAMPANULA'CEUS (Lam. dict. 3. p. 660. ill. p. 476. no. 2161.) stem slender, simple, obsoletely tetragonal; leaves ovate,

acute, petiolate, with 2 oblique nerves; peduncles solitary or twin, long, bracteolate under the flower; calyx turbinate; corolla with a short tube, a ventricose sub-campanulate, inflexed limb; and ovate, obtuse, rather irregular segments. ⊙. S. Native of South America. Leaves 12-20 lines long, and 5-6 broad. Bracteas minute. Corolla yellow.?

Campanulate-flowered Lisianthus. Pl. 1 to 1½ foot.

31 L. nigre'scens (Cham. et Schlecht, in Linnæa, 6. p. 388.) stem and branches terete; leaves of the sterile branches half stem-clasping, ovate, with rounded, stem-clasping auricles, which are lanceolate at the base, acuminated, pale green above, but paler beneath; panicle large, loose-flowered; calycine segments narrow-lanceolate, acuminated; corolla almost funnel-shaped; with elliptic-acuminated segments. ⊙. G. Native of Mexico, in woods, at Papantla. Leaves 6 inches long, and 2 inches broad. Corolla blackish in the dried state, but probably greenish yellow in the recent state. Capsule elliptic.

Blackish-flowered Lisianthus. Pl. 1 to 2 feet.

32 L. saponarioìdes (Cham. et Schlecht. l. c. p. 389.) stem branched, nearly terete at bottom, but obsoletely tetragonal at top; leaves nearly sessile, ovate-lanceolate, acuminated, with rather scabrous edges; inflorescence a compound cyme. ♃ G. Native of Mexico, at Papantla, on the edges of woods. Leaves 5 inches long. Calycine segments lanceolate, acuminated. Corolla white, salver-shaped; with ovate, acuminated segments. Capsule elliptic or ovate.

Saponaria-like Lisianthus. Pl. 1 to 2 feet.?

† *Species not sufficiently known; and probably not belonging to the genus.*

33 L. carina'tus (Desr. in Lam. dict. 3. p. 659. ill. t. 107. f. 3.) glabrous; stem branched; branches tetragonal; leaves roundish-ovate, sessile, 3-nerved; calyx prismatic, having the segments keeled upwards; corolla with a slender tube, and ovate, spreading segments. ♄. S. Native of Madagascar. Leaves sub-connate. Flowers erect, pedicellate, terminal and axillary. Corolla 3 times longer than the calyx. Capsule ovate-oblong.

Keeled-calyxed Lisianthus. Shrub.

34 L. trine'rvis (Desr. in Lam. dict. 3. p. 659. ill. p. 476.) downy; stem sub-tetragonal; leaves ovate, mucronate, on short petioles; flowers in loose terminal, trichotomous panicles, pedicellate; calyx deeply divided, with keeled segments; limb of corolla parted nearly to the base into narrow segments. ♃. S. Native of Madagascar. Leaves beset with short hairs on both surfaces; bracteas short, lanceolate, acute. Capsule ovate.

Three-nerved-leaved Lisianthus. Pl. 1½ foot.

35 L. tubiflòrus (Pet. Th. in Willd. mss. ex Rœm. et Schultes, syst. 4. p. 788.) glabrous; stem terete; leaves ovate, acuminated, petiolate, 3-nerved; umbels terminal, few-flowered; calyx ventricose, contracted at top; tube of corolla 6 inches long; limb wide: with ovate, acuminated segments. ♄.? S. Native of Madagascar. Superior leaves lanceolate, 4 inches long, longer than the internodes.

Tube-flowered Lisianthus. Shrub.?

Cult. Most of the species of *Lisiánthus* are very handsome when in blossom. A mixture of loam, sand, and peat is a good soil for them; and cuttings of the shrubby and perennial species strike root readily in sand, under a hand-glass. The annual kinds require the same as that recommended for *E'xacum*, p. 213.

XL. IRLBA'CHIA (named by Martius, in honour of Gabriel, Count de Bray, of the dynasty of Irlbach, ambassador from the King of Bavaria to the Court of Spain.) Mart. nov. gen. bras. 2. p. 101.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, 5-cleft; segments erect, with membranous margins. Corolla funnel-shaped, equal, deciduous; limb 5-cleft; throat naked. Anthers revolute when dry. Stigma bifid; segments cylindrical, not bi-lamellate. Capsule 2-celled, 2-valved, many-seeded; margins of valves placentiferous. bent inwards.—An erect, glabrous herb. Stems tetragonal, fistular. Leaves opposite, decussate, petiolate, triple or quintuple-nerved. Flowers alternate, disposed in dichotomous panicles. This genus differs from *Lisiánthus* in the regular corolla, and structure of the stigma.

1 I. e'legans (Mart. l. c. p. 102. t. 179.) leaves lanceolate, acuminated; rachis of panicle geniculately bent. ⊙. S. Native of Brazil, in the province of Rio Negro, near Ega, in moist, sylvan meadows. Corolla blue, a nail in length. Racemes long, twin, with a flower in the fork between them.

Elegant Irlbachia. Pl. 1½ to 2 feet.

Cult. For culture and propagation see *E'xacum*, p. 213.

XLI. SYMBOLA'NTHUS (from *συμβολον, symbolon*, a ring; in reference to the ring at the base of the filaments.) Lisiánthus species, Ruiz. et Pav. and H. B. et Kunth.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, pentagonal; segments with membranous margins. Corolla salver-shaped, with a cylindrical tube, 3 times longer than the calyx; and a 5-parted limb; segments with crenulately fringed edges. Stamens inserted in the tube, hardly exserted; anthers sagittate, at length convolute, having a short, ring-formed, crenulated, membrane at the base of the filaments. Ovarium ovate, compressed, 1-celled, 2-valved; placentas 2, parietal, bilamellate, bearing seeds on the back. Stigma 2-lobed; lobes linear-oblong, flat, blunt. Capsule ovate.—Glabrous, branched shrubs; branches tetragonal. Leaves opposite, decussate, on short petioles, with a prominent middle nerve, obsoletely veined; petioles round at the base. Flowers axillary, solitary, or 2-3 terminal, rose-coloured.

1 S. Ku'nthii; leaves oblong, acute; flowers pedicellate, axillary ones solitary, and terminal ones 2-3 together; corolla salver-shaped, with fringed segments. ♄. S. Native of New Granada, on mountains between Honda and Mariquita. Lisiánthus anómalus, H. B. et Kunth, nov. gen. amer. 3. p. 184. Branches sub-dichotomous. Leaves 2½ inches long. Flowers size of the following species. Bracteas oblong, sub-spathaceous.

Kunth's Symbolanthus. Shrub 5 to 6 feet.

2 S. Pavònii; leaves ovate-lanceolate; flowers pedicellate, axillary, solitary; calyx pentagonal; corolla sub-ringent. ♄. S. Native of Peru, on the mountains. Lisiánthus calygònus, Ruiz, et Pav. fl. per. 2. t. 126. Leaves 2-3 inches long. Pedicels curved, furnished with 3 ovate, concave, acuminated, bracteas each. The 3 outer segments of the calyx are lanceolate, and 2 inner, sub-sagittate, all with membranous, fringed edges. Corolla rùb-ringent, rose-coloured, large, with acuminated, reflexed segments.

Pavon's Symbolanthus. Shrub 5 to 6 feet.

Cult. For culture and propagation see *Tàchia*, p. 197.

XLII. EU'STOMA (from *ευστομος*, a beautiful mouth; in reference to the fair corollas). Sal. par. lond. t. 34.—Lisiánthus species of authors.

Lin. syst, *Pentándria, Monogýnia.* Calyx deeply 5-cleft, having the backs of the segments more or less winged. Corolla with a funnel-shaped tube, which is contracted a little at the apex; and a deeply 5-cleft limb, which is longer than the tube, and is variegated below the middle above. Stamens 5, inserted near the middle of the tube, and a little longer than it; filaments erect, linear-lanceolate; anthers rather sagittate. Ovarium

oblong, 1-celled, ex Sal. and 2-celled, ex Nutt. succulent; with short, stipitate placentas. Style short, erect; stigma large, deeply 2-lobed. Seeds scrobiculate.—Annual herbs, with the habit of *Pneumonánthe*. Leaves glaucous, oblong, opposite, decussate, perfoliate. Corymbs few-flowered, dichotomous, terminal. Flowers blue. The plants have glaucous, perfoliate leaves, not unlike those of Lobel's Catchfly, the *Silène Armèria*.

1 E. SILENIFOLIA (Sal. par. t. 34.) stems terete; leaves obovate-lanceolate; segments of calyx winged on the back. ⊙. H. Native of Providence, and of North America, on the sandy banks of the great salt river of the Arkansas; and at sources of the Canadian river. Lisiánthus glaucifòlius, Lam. dict. 660. Jacq. col. 1. p. 64. icon. rar. 1. t. 33. Nutt. in amer. phil. trans. vol. 5. n. s. p. 177. Corolla purple: anthers yellow.

Catchfly-leaved Eustoma. Fl. July. Clt. 1804. Pl. 1-2 foot.

2 E. EXALTA'TA (Sal. l. c.) stem slightly tetragonal; leaves spatulate or oblong-lanceolate; calycine segments winged on the back. ⊙. S. Native of St. Domingo and Vera Cruz. Lisiánthus exaltàtus, Lam. 3. p. 662. ill. p. 478. Gentiàna exaltàta, Lin. spec. 231. Lam. dict. 2. p. 636. Erythræ'a Plumièri, H. B. et Kunth. nov. gen. amer. 3. p. 176.—Plum. spec. 3. Burm. amer. icon. t. 81. f. 1. Leaves 3-nerved. Segments of corolla crenated. Fruit full of clammy seeds. This species differs from the preceding, in having a more angular stem, and a greater number of flowers; in the wings of the calyx being broader, and in the filaments being inserted a little higher up.

Var. β, albiflòra; herb more glaucous than the species: and the flowers white and more expanded. ⊙. F. Native of Mexico, at Papantla, on the banks of rivulets. Cham. et Schlecht, in Linnæa, 6. p. 387.

Tall Eustoma. Pl. 2 to 3 feet.

Cult. The seeds of the species of *Eústoma* require to be reared on a hot-bed, and otherwise treated like other tender annuals.

Tribe II.

EXACIE'Æ (the plants contained in this section agree with *E'xacum*, in having a 2-celled capsule.) Capsule 2-celled; margins of valves bent into the central placenta, which is at length free, and bears the seeds.

XLIII. SEBÆ'A (named in memory of Alb. Seba, an apothecary of Amsterdam, author of Locupletissimi rerum naturalium thesauri descriptio, 4 vol. fol. Amsterdam, 1734—1765.) Solander mss. R. Br. prod. p. 451. E'xacum species of Lin. and others.

Lin. syst. *Tetra-Pentándria, Monogýnia.* Calyx 4-5-parted; segments keeled or winged on the back. Corolla 4-5-cleft, salver-shaped, marcescent. Stamens 4-5, exserted; anthers dehiscing lengthwise: when old, recurved, with a callous apex. Stigmas 2. Capsule 2-celled, 2-valved; valves with inflexed edges inserted into the central placenta, which is at length free.—Erect annual glabrous herbs, with tetragonal stems and branches; opposite, decussate, sessile leaves; and usually terminal, corymbose panicles of flowers.

1 S. CORDA'TA (R. Br. prod. p. 452.) stem dichotomous, tetragonal; leaves sessile, cordate; flowers 5-cleft in the forks, on short pedicels, or in corymbs; stamens inclosed; segments of calyx cordate, furnished each with a keel on the back. ⊙. G. Native of the Cape of Good Hope. E'xacum cordàtum, Lin. syst. 155. suppl. 124. Cham. et Schlecht in Linnæa, 194. Gentiàna exacoìdes, Lin. spec. p. E'xacum grandiflòrum, Gærtn. fruct. 2. p. 158. t. 114.—Burm. afr. t. 74. f. 5. Corolla yellow, with a cylindrical tube and obovate segments. Habit of *Erythræ'a Centaúrium*. In all the varieties the stamens are said to be inclosed in the throat of the corolla.

Var. α, macrántha (Cham. et Schlecht in Linnæa, 1. p. 191.) keels of the calyx, which is large, broadly winged, smooth, or scabrous; corollas large, an inch long: more than twice longer than the calyx.

Var. β, intermèdia (Cham. et Schlecht, l. c.) keels of calyx with narrow, smooth, almost evanescent wings; corolla smaller, half an inch long, twice as long as the calyx.

Var. γ, micrántha (Cham. et Schlecht. l. c. p. 192.) keels of calyx winged, nerved, having the nerves ending in teeth; corolla minute, 4 lines long, not quite twice the length of the calyx.—Plukn. alm. p. 94. t. 275. f. 4.

Cordate-leaved Sebæa. Fl. July, Aug. Clt. 1815. Pl. $\frac{1}{4}$ to $\frac{3}{4}$ foot.

2 S. SULPHU'REA (Cham. et Schlecht. in Linnæa, 1. p. 192.) stem dichotomously and corymbosely branched, sub-tetragonal; leaves sessile, broad, ovate, acute, 1-nerved; calyx nearly globose, with acute segments, which are winged by a narrow keel on the back; flowers 5-cleft; stamens exserted. ⊙. G. Native of the Cape of Good Hope, on the top of the Table Mountain. S. tabulàris, Ecklon, mss. Leaves 3 lines long and two broad. Corolla sulphur coloured, with elliptic, acute segments. Calyx much shorter than the tube of the corolla.

Sulphur-coloured flowered Sebæa. Pl. $\frac{1}{3}$ foot.

3 S. CRASSULÆFÒLIA (Cham. et Schlecht, l. c. p. 193.) stem corymbosely branched; angles winged; branches straight; leaves cordate, roundish, acute, sessile, 3-5-nerved; flowers quinquefid; calyx ovoid, with acute, sharply keeled segments; stamens exserted. ⊙. G. Native of the Cape of Good Hope, at Plettenbergsbay Poort. Stem naked at the base. Branches floriferous at top. Leaves 4-5-lines broad, and 3 lines long, with the margins and apexes inflexed. Flowers crowded, yellow.

Crassula-leaved Sebæa. Pl. 1 to $1\frac{1}{2}$ foot.

4 S. CAPITA'TA (Cham. et Schlecht, l. c.) stem crowded with leaves at bottom, the rest naked and simple, terminated by a coarctate panicle; leaves sessile, ovate, attenuated at the base, 3-nerved; flowers quadrifid; calyx ovate, with keeled segments; stamens exserted. ⊙. G. Native of the Cape of Good Hope, on the top of the Table Mountain. Leaves with revolute edges. The superior part of the stem often furnished with one or two pairs of minute, stem-clasping leaves. Corolla yellow, much longer than the calyx, with obtuse segments.

Capitate-flowered Sebæa. Pl. $\frac{1}{2}$ foot.

5 S. AU'REA (R. Br. prod. p. 452.) stem dichotomous, slightly tetragonal; leaves sessile, cordate, ovate, 3-nerved; panicle corymbose, terminal; flowers quadrifid: calycine segments with winged keels; stamens inclosed. ⊙. H. Native of the Cape of Good Hope. Gentiàna aúrea, Thunb. E'xacum aúreum, Lin. syst. 155. suppl. 123. Lam. ill. t. 80. f. 2. E'xacum séssile, Lin.—Plukn. phyt. t. 275. f. 3. Corolla golden yellow, with lanceolate, acute segments. Habit of *Erythræ'a Centaúrium*.

Var. β; flowers pale yellow. Cham. in Linnæa, 6. p. 646.

Golden-flowered Sebæa. Fl. Ju. Aug. Clt. 1824. Pl. $\frac{1}{4}$ foot.

6 S. A'LBENS (R. Br. l. c.) stem tetragonal, dichotomously branched, fastigiate; leaves cordate, decurrent, 3-nerved; flowers 5-cleft, terminal; calycine segments keeled on the back; stamens exserted. ⊙. G. Native of the Cape of Good Hope. E'xacum álbens, Lin. syst. 155. suppl. 123. E'xacum pedunculàtum, Lin. Gentiàna álbens, Thunb. Corolla whitish; tube longer than the calyx; and the limb length of the tube.—Burm. afr. p. 207. t. 74. f. 4.

White-flowered Sebæa. Fl. Aug. Clt. 1820. Pl. $\frac{1}{3}$ foot.

7 S. OVATA (R. Br. prod. p. 452.) stem branched, dichoto-

mous; leaves sessile, ovate, 3-nerved; flowers quinquefid; segments of calyx acuminated, with simple keels on the back, about equal to the segments of corolla in length. ⊙. G. Native of Van Diemen's Land, and of New South Wales. E'xacum ovàtum, Labill. nov. holl. 1. p. 38. t. 52. Corolla red.?

Ovate-leaved Sebæa. Fl. Aug. Clt. 1820. Pl. ½ foot.

8 S. ambígua (Cham. in Linnæa, 6. p. 346.) stem fastigiately cymose, dichotomous; leaves broad-ovate, rather fleshy; flowers quadrifid; stamens exserted; calyx obconical, with diaphanous, obtuse, rounded, toothed segments. ⊙. G. Native of the Cape of Good Hope.

Var. α, grácilis (Cham. l. c.) outer branches of cyme evolute.

Var. β, crássa (Cham. l. c.) outer branches of cyme contracted; flowers glomerate.

Ambiguous Sebæa. Pl. ½ foot.

9 S. pusílla (Ecklon, mss. Cham. in Linnæa, 6. p. 346.) flowers quinquefid; stamens inclosed; calyx cylindrical, with narrow-lanceolate, keeled, acute segments, which are shorter than the tube of the corolla. ⊙. G. Native of the Cape of Good Hope. This species comes nearest to *S. ovàta;* but differs from it in the tube of the corolla, being longer in the inclosed stamens, and whole habit.

Small Sebæa. Pl. small.

Cult. These are elegant plants while in blossom. They should be treated like other tender annuals, by being reared on a hot bed, and afterwards planted out into a warm, sheltered border, about the end of May.

XLIV. E'XACUM (from *ex*, out; and *ago*, to drive; expels poison.) Spreng. gen. 1. p. 8.—E'xacum species, Lin. gen. 141. Juss. gen. 142.—Centaúrium, Plukn. mant. t. 343. f. 3.

Lin. syst. *Tetrándria, Monogýnia.* Calyx campanulate, 4-cleft; segments winged on the back. Corolla salver-shaped, or sub-rotate, with a globose or ventricose tube, and a 4-cleft limb. Stamens 4, declinate; filaments terete; anthers long, somewhat tetragonal, emarginate at the base, erect, dehiscing by 2 pores at the apex. Style filiform, declinate, flexuous; stigma undivided, clavate, furnished with minutely papillose furrows on all sides. Capsule globose, crustaceous, 2-celled, with a septicidal dehiscence; placentas 2, adnate to a double dissepiment, thick. Seeds very minute, scrobiculate.—Erect, branched, annual herbs. Leaves opposite, decussate, sessile, 3-5-nerved. Flowers terminal and axillary.

1 E. se'ssile (Lin. spec. 163.) stem erect, tetragonal, simple, dichotomous at top; flowers solitary, from the forks of the stem, and tops of the branches; leaves sessile, ovate-cordate, obtuse, fleshy; capsule drooping. ⊙. S. Native of the East Indies. Flowers larger than the leaves.

Sessile-flowered Exacum. Pl. ½ foot.?

2 E. puncta'tum (Lin. syst. 155. suppl. 124.) leaves nearly sessile, oblong, 3-nerved, dotted like *Hypéricum;* stamens exserted. ⊙. S. Native of the East Indies. Corolla bluish. Stamens yellow.

Dotted-leaved Exacum. Pl. ½ to 1 foot.

3 E. bi'color (Roxb. fl. ind. 1. p. 413.) erect; stem and branches tetragonal: angles a little winged; leaves sessile, ovate, 5-nerved; flowers axillary, solitary, on short pedicels; anthers erect. ⊙. S. Native of Cuttack, in the East Indies. Root almost simple. Leaves variable in size; floral ones small and narrow. Corollas large, white, having the segments tipped with blue.

Two-coloured-flowered Exacum. Pl. 1 to 2 feet.

4 E. teragònum (Roxb. l. c. Wall. pl. rar. asiat. 3. p. 47. t. 276.) stem simple, erect, tetragonal; leaves sessile, ovate-lanceolate, 5-nerved; flowers numerous, terminal; stamens and style declinate. ⊙. S. Native of Bengal, where it is called Koochuri; Silhet, Nipaul, Kamaon, &c. E. Chulèsium, Ham. herb. Leaves 2-4 inches long. Flowers large, of a most beautiful blue colour. Calycine segments dagger-shaped. Segments of corolla acute. Anthers linear. This is a most elegant, robust plant.

Tetragonal-stemmed Exacum. Fl. July, Sept. Clt. 1820. Pl. 3 to 4 feet.

5 E. stylòsum (Wall. cat. no. 4355.) glabrous; stem tetragonal; leaves ovate-lanceolate, acute, 3-nerved; peduncles axillary and terminal, corymbose; style longer than the stamens; segments of corolla obtuse. ⊙. S. Native of the East Indies, about Prome.

Long-styled Exacum. Pl. 2 to 3 feet.

6 E. te'res (Wall. in Roxb. fl. ind. 1. p. 414.) stem and branches terete; leaves lanceolate, acuminated, tapering at the base, nearly sessile, 3-nerved; peduncles opposite, 3-flowered, forming a terminal corymb; segments of corolla lanceolate, acuminated. ⊙. S. Native of Silhet, and Lower Nipaul. Leaves 3-4 inches long, and ½ an inch broad in the middle. Flowers dark blue, large. Habit of the preceding.

Terete-stemmed Exacum. Pl. 2 feet.

7 E. Zeyla'nicum (Roxb. fl. ind. 1. p. 414.) erect; stem and branches tetragonal: angles slightly winged: leaves nearly sessile, ovate-lanceolate, acuminated, 3-nerved; racemes terminal and axillary, forming an expanded, terminal, corymb-formed panicle; flowers pentamerous; calyx with 5 broad, membranous wings, with subulate points. ⊙. H. Native of Ceylon, and the Neelgherries. Chirònia trinérva, Lin. fl. zeyl. p. 90. Willd. spec. 1. p. 1065.—Burm. zeyl. p. 145. t. 67. Leaves 1-3 inches long. Peduncles and pedicels tetragonal. Segments of calyx furnished with a broad, membranous wing on the back of each. Tube of corolla gibbous. Limb of corolla of 5 obovate, mucronate, beautiful, violet-coloured divisions. Anthers linear, straight, and hard, with 2 pores at the apex, and also opening on the sides.

Ceylon Exacum. Pl. 1 to 2 feet.

8 E. grandiflòrum (Wall. cat. no. 4358.) stem tetragonal; leaves ovate-lanceolate to lanceolate, acute, 3-5-nerved; peduncles axillary and terminal, trichotomous, or 3-flowered, corymbose. ⊙. S. Native of the East Indies, at Courtallum. Flowers large; segments of corolla ovate-oblong, acute.

Great-flowered Exacum. Pl. 1 to 2 feet.

9 E. pedunculà'tum (Lin. spec. 163. Vahl, symb. 1. p. 15.) erect; stem with 1-2 pairs of opposite branches, then dichotomous, slightly tetragonal; leaves nearly sessile, oblong-lanceolate, obtuse, 3-nerved; segments of calyx membranously winged on the back; stamens exserted; style declinate. ⊙. S. Native of Ceylon. E. carinàtum, Roxb. fl. ind. 1. p. 415. Sebæ'a carinàta, Spreng. syst. 1. p. 426. Root branched. Flowers terminal, numerous, pretty large, yellow, collected in dichotomous corymbs, with a single, long, pedicellate flower in each fork. Filaments inserted on a membranous rim, round the inside of the mouth of the tube. Anthers erect, opening at the sides, yellow. Perhaps a species of *Sebæ'a*.

Peduncled Exacum. Pl. ½ foot.

10 E. ptera'nthum (Wall. cat. no. 4360.) stem and branches tetragonal; leaves elliptic-oblong, tapering to both ends, 3-5-nerved; flowers pedicellate, dichotomously cymose: with a flower in each fork; alternate wings of calyx the largest. ⊙. H. Nàtive of Tavoy.

Wing-flowered Exacum. Pl. 1 foot.

11 E. Hamiltònii; stem 4-winged; leaves elliptic-oblong, acute, 5-nerved; flowers terminal, corymbose; segments of calyx ovate, acuminated, each furnished with a membranous wing on the back. ⊙. G. Native of Nipaul, where it is called

Kashwa-swa. E. tetragònum, D. Don, prod. fl. nep. p. 128, but not of Roxb. Stamens exserted. Flowers large, yellow.

Hamilton's Exacum. Pl. 1 to 2 feet.

12 E. sulca'tum (Roxb. fl. ind. 1. p. 415.) erect, branched, furrowed on the opposite sides of the stem and branches; leaves nearly sessile, lanceolate, fleshy, 3-nerved; flowers terminal, numerous, trichotomously corymbose; segments furnished each with a keel on the back; stamens erect; stigma bifid; capsule globular. ♂. S. Native of Bengal. Sebæ'a sulcàta, Spreng. syst. 1. p. 426. E. dichótomum, Herb. madr. E. stellàtum, Hamilt. herb. Root fibrous. Leaves from 1 to 2 inches long. Flowers bright blue, those on the forks solitary, and on long pedicels. Peduncles 4-sided. Bracteas ovate, recurved. Anthers ovate-oblong, connivent. This appears to be intermediate between *Sebæ'a* and *E'xacum*, from the bifid stigma.

Furrowed-stemmed Exacum. Pl. ½ to 1 foot.

Cult. All the species of this genus are very showy when in blossom. The seeds should be reared on a hot bed, like those of other tender annuals; and about the end of May the plants may be planted out in the open border, in a warm, sheltered situation; and some of the larger, showy kinds may be planted in pots, and otherwise treated like Balsams.

XLV. MICROCA'LE (from μικρος, *micros*, small, and καλος, *kalos*, pretty; plants small and very pretty). Link.—E'xacum species, Smith.—Gentiàna species, Lin.

Lin. syst. *Tetrándria Monogýnia.* Calyx divided about half way into 4 equal acute segments, permanent. Corolla with a swelling tube, length of calyx; and a 4-parted, spreading limb; segments equal, imbricate in the bud. Stamens 4, inclosed, filiform, erect; anthers roundish-oblong. Ovarium oval. Style filiform, inclining a little, as long as the limb. Stigma capitate, undivided. Capsule filling the tube of the corolla, which gradually enlarges with it; elliptic, compressed, imperfectly 2-celled. Seeds small, rough, attached to a fixed or finally separated double placenta. — Herbaceous, glabrous, intensely bitter plants. Leaves simple, entire, and are, as well as the branches or flower-stalks, opposite. Flowers terminal, yellow, or rose coloured.

1 M. filifórme (Link. l. c.) stem dichotomous from the bottom, filiform; leaves chiefly radical, lanceolate, or spatulate, 1-nerved, sessile; flowers terminal, on long pedicels. ⊙. H. Native of Europe, in sandy, turfy bogs; in England, in Hampshire, Devonshire, Cornwall, Dorsetshire, and Sussex, in rotten, marshy, sandy, turfy ground; in Ireland, in Dursey Island, Cork; in Chili, about Conception. Gentiàna filifórmis, Lin. spec. 335. With. 263. Oed. fl. dan. 324. Ehrh. phyt. 43. E'xacum filifórme, Smith, fl. brit. 182. engl. bot. t. 235. Hook. fl. lond. fasc. 2. p. 91. t. 8.—Vaill par. p. 32. t. 6. f. 3. Root fibrous. Leaves an inch long. Corollas small, yellow.

Filiform Microcale. Fl. Ju. July. England. Pl. ¼ foot.

2 M. pulche'llum; leaves lanceolate?; sessile; panicle corymbose; pedicels filiform; calycine segments subulate. ⊙. H. Native of New Jersey, on the sea coast. E'xacum pulchéllum, Pursh, fl. amer. sept. 1. p. 100. Sabbàtia pulchella, Spreng. syst. 1. p. 581. Flowers rose coloured. Plant resembling very much the preceding.

Neat Microcale. Fl. May. Cult. 1826. Pl. ½ foot.

3 M. pusíllum; stem much branched, dichotomous; leaves oblong, 3-nerved; peduncles short, crowded; segments of corolla connivent. ⊙. H. Native of Europe, in inundated places. Gentiàna pusílla, Lam. dict. 2. p. 645. Chirònia inapérta, Willd. E'xacum pusíllum, D. C. fl. franc. no. Spreng. syst. 1. p. 425.—Vaill. par. t. 6. f. 2.

Small Microcale. Pl. ¼ foot.

Cult. Sow the seed in a moist situation, in peat earth, or in pots, which should be kept moist, by being placed in pans of water.

Tribe III.

DESFONTAINIE'Æ. Calyx 4-5-parted; segments nearly equal, obtuse, cartilaginous, nerved, imbricate in æstivation. Corolla tubular, cartilaginous, 5-nerved; nerves running through the axis of the segments; limb 4-5-lobed: lobes very veiny, roundish, retuse, with ciliated edges, imbricate in æstivation. Stamens 4-5, inclosed, glabrous, combined with the tube of the corolla nearly their whole length, free at apex, thick convex on one side and flat on the other; anthers erect, innate 2-celled: cells linear, parallel, separated by narrow intervals, inserted in a large fleshy connective (continuation of the filaments), which is shorter than them, dehiscing longitudinally. Ovarium globose, 1-celled; ovula very numerous, horizontal, without order, adnate to septiform placentas. Style filiform, glabrous; stigma capitate. Berry globose, 1-celled, many-seeded. Placentas 4-5, parietal, hence the berry appears many-celled; free from the inner margin; thickened, trigonal, having reflexed, seminiferous sides. Column none. Seeds numerous, disposed without order, erect, obovate, ventricose, angular; furnished with an umbilicus at the base, a dark brown dilated chalaza at apex, and a prominent, calious raphe on the inner side. Outer testa coriaceous, fulvous, full of pellucid dots: inner one membranous, paler, adhering to the nucleus. Albumen copious, fleshy, white. Embryo very minute, roundish, milk coloured, erect in the umbilical end of the seed, with very short cotyledons, and a thick, very blunt radical.— Evergreen shrubs, natives of South America, having a very bitter taste. Leaves opposite, petiolate, spinosely toothed: petioles articulated with the branches. Flowers terminal, solitary, pedunculate; peduncles bibracteate. Corollas scarlet, with a yellow limb. Berries white.

Some groups of plants exist in whose external features there is nothing that can lead to a knowledge of their affinities; and among these may be ranked the remarkable genus under consideration. From observing the similarity in the disposition of the veins of the calyx and corolla, and the consistence of these organs, as well as the nervation and dentation of the leaves, I was led to conclude that it might be allied to *Theophrásta;* but a closer examination did not confirm that conjecture; although from remarking the nature of the albumen, and the structure and position of the embryo, I was afterwards induced to compare it with the *Gentiàneæ*, to which family I am now fully persuaded it must be referred, notwithstanding its toothed leaves, and the greater number of its placentæ.—D. Don, in edinb. phil. journ. July, Sept. 1831.

XLVI. DESFONTA'INIA (for derivation see Fontanèsia, p. 51. of the present volume.) Ruiz, et Pav. fl. per. syst. 1. p. 59. fl. per. 2. p. 47. t. 186. gen. t. 5. Humb. et Bonpl. pl. æquin. 1. p. 157. t. 45. H. B. et Kunth. nov. gen. amer. 7. p. 274. syn. 4. p. 267. D. Don, in edin. phil. journ. July, Sept. 1831.—Línkia Pers. ench. 1. p. 219.

Lin. syst. *Tetra-Pentándria Monogýnia.* Character the same as that of the tribe.

1 D. spinòsa (Ruiz, et Pav. l. c.) calycine segments lingulate, and are, as well as the leaves, glabrous. ♄. G. Native of Peru, in forests, at Churupallana, Tarma, and betwixt Munna and Pozuzo, Ruiz, et Pav.; and on the Andes of Quindiu, and in Parama de Almaguer, Humb. et Bonpl. D. spléndens, Humb. et Bonpl. pl. æquin. amer. 1. p. 157. t. 45. H. B. et Kunth. nov. gen. 7. p. 274. Línkia Peruviàna, Pers. ench. 1. p. 219. An erect, much branched, evergreen, glabrous shrub. Leaves elliptic-oblong, coriaceous, glabrous, shining above, cuneated,

and quite entire at the base, with spiny-toothed margins; teeth large, 7-14 in number. Calyx glabrous, hardly shorter than the peduncles. Corolla 4 times longer than the calyx. Berries white, size of cherries.

Spiny-toothed leaved Desfontainia. Shrub 10 feet.

2 D. parvifòlia (D. Don, in edinb. phil. journ. July, Sept. 1831.) ribs of leaves pilose beneath; calycine segments oval, ciliated. ♄. G. Native of Peru, on the mountains at Munna, Ruiz. D. spinòsa, Ruiz, herb. but not of fl. per. A much branched, compact, evergreen shrub, with quadrangular branches; angles prominent. Leaves cuneated, 5-7-toothed, rarely tricuspidate, shining above; teeth spiny. Bracteas connate at the base, having the edges and ribs pilose. Lobes of corolla ciliated. Stigma furnished with 4 tubercles, pruinose.

Small-leaved Desfontainia. Shrub 5-10 feet.

Cult. The species of *Desfontàinia* are shrubs worth cultivating in every collection, for the elegance of their foliage, as well as the brilliancy of their flowers. We would recommend them to be grown in pots filled with a mixture of peat, loam, and sand, if they ever should be introduced to our gardens. Young cuttings will probably strike root in sand under a bell-glass.

XLVII. PALLA'DIA (meaning unknown to us.) Lam. ill. t. 285.—Blackwéllia, Gærtn. fruct. 2. t. 117.

Lin. syst. *Octándria, Monogýnia.* Calyx funnel-shaped, coloured; with a short tube, and 4 obovate segments. Corolla funnel-shaped; tube long, with 8 plaits; limb in 8 oblong segments. Stamens 8, united to the tube of the corolla for more than half its length, permanent; anthers unknown. Ovaria 2; style simple, compressed, situated between the ovaria, and parallel to them, and connected with their base; its edges finely-toothed; stigmas 2, spreading. Capsules 2, club-shaped, prismatic, erect, parallel, close together, membranous, stiff, obscurely angular at one side, and marked with a deep furrow on the other, each of 1-cell, and 2 finally spiral valves. Seeds numerous, minute, roundish, rather angular; placentas spongy, as long as the capsule, to the edges of whose valves, at the furrowed side, it is attached, being marked there by a similar furrow; while its other side is convex, and its whole surface rough with minute tubercles.

1 P. Anta'rctica (Lam. l. c. Smith, in Rees' cycl.) Native at Cape Horn.?

Antarctic Palladia. Pl. small.

Cult. For culture and propagation see *Gentiàna*, p. 183.

Order CLVIII. BIGNONIA'CEÆ. R. Br. prod. p. 470. H. B. et Kunth. nov. gen. amer. 3. p. 132. D. Don, in edinb. phil. journ. july, sept. 1823.—Bignòniæ, sect. II. Juss. gen. 139. edit. Usteri, p. 154.

Calyx divided or entire, sometimes spathaceous. Corolla monopetalous, hypogynous, usually irregular, with a 4-5-lobed limb. Stamens 5; filaments unequal, 4 of which usually bear anthers, and sometimes only 2 of them, seldom all fertile, therefore there are either 1 or 3 of them sterile; anthers 2-celled; cells equal in insertion, usually divaricate. Ovarium girded by a glandular disk, 2-celled, or falsely 4-celled, many-seeded. Style 1; stigma bilamellate. Capsule 2-valved, 2-celled, sometimes falsely 4-celled; dissepiment parallel or contrary, at length free, bearing the seeds at the commissures with the valves. Seeds transversely foliaceous, compressed. Albumen none. Embryo straight, foliaceous; with a centrifugal radicle.—Trees or shrubs often twining or climbing. Leaves opposite, rarely alternate, usually compound, rarely simple, exstipulate. Inflorescence terminal and axillary, somewhat panicled.

This is readily distinguished from the allied orders, in the fruit, structure, and placentation of the seeds. The showy, trumpet-shaped flowers of all the species render them objects of admiration. The greater number of them are tropical. *Técoma* is a hardy, climbing shrub, of great beauty when in blossom; and the species of *Jacaránda* are resplendent with blue or purple flowers, and elegant supra-decomposed leaves, which emulate those of *Acacia*. The wood is said to resist the attack of worms. Nothing is known of their qualities.

Among the numerous tribes of vegetables which people the regions of equinoxial America, the *Bignoniàceæ* hold a distinguished rank, whether as regarded for the beauty of their flowers, and the diversity of their forms, which give to the vegetation peculiar features, or as objects highly deserving the attention and investigation of the botanist. Perhaps in no tribe of plants, does the form of vegetation assume such variety as in this family. In the beautiful genus *Jacaránda* are contained the loftiest trees to be met with either in this or any of the neighbouring orders. These splendid trees, which are entirely wanting in the ancient continents, form one of the brightest ornaments of the forests of tropical America. The genus *Bignònia*, as constituted by Linnæus, contained an assemblage of plants, which, generically considered, were widely different from each other. To Jussieu we are indebted for having set us an example worthy of imitation, by his judicious division of this overgrown genus. It is the great advantage which a natural system possesses over all artificial methods in the studying of vegetables, that it teaches us to examine and group them according to their respective affinities; and to give to the different parts their relative importance, in characterizing genera. Willdenow, and almost all those botanists who have followed the Linnæan artificial method of classification, have left the genus *Bignònia* untouched, without even adopting the important divisions proposed by M. de Jussieu.

Synopsis of the genera.

Tribe I.

Bignonie'æ. Capsule 2-valved, 2-celled, sometimes falsely 4-celled. Dissepiment parallel or contrary to the valves, at length free, bearing the seeds at the commissures with the valves. Seeds transverse, compressed, winged on the margins.

§ 1. *Stamens 4, didymous, with the rudiment of a sterile one.*

1 Bignònia. Calyx 5-toothed. Corolla with a short tube, a campanulate throat, and a 5-lobed limb. Stamens 4, didynamous, with a fifth sterile one. Lobes of anthers divaricate. Capsule silique-formed; dissepiment parallel.

2 Spathòdea. Calyx spathaceous, cleft on one side, and toothed or entire on the other. Corolla funnel-shaped, with a 5-lobed, somewhat bilabiate limb. Stamens 4, didynamous, with a fifth sterile one. Lobes of anthers divaricate. Capsule

silique-formed, falcate, falsely 4-celled; dissepiment contrary, corky.

3 Te'coma. Calyx 5-toothed. Corolla with a short tube, a campanulate throat, and a 5-lobed sub-bilabiate limb. Stamens 4, didynamous, with a fifth sterile filament. Lobes of anthers divaricate. Capsule silique-formed; dissepiment contrary.

4 Jacara'nda. Calyx 5-toothed, rarely entire. Corolla with a short tube, a campanulate throat, and a 5-lobed, bilabiate limb. Stamens 4, didynamous, with the rudiment of a fifth; anthers usually 1-lobed, rarely 2-lobed. Capsule broad, compressed; dissepiment contrary; valves woody.

5 Amphilòphium. Calyx with a double limb; inner one bilabiate; outer one undulately curled. Corolla sub-coriaceous; with a short tube, a large ventricose throat, and a bilabiate limb; upper lip galeate, bidentate; lower one tridentate. Stamens 4, didynamous; with the rudiment of a fifth. Lobes of anthers divaricate. Capsule ovate, rather ligneous; dissepiment parallel. ?

6 Zeyhe'ria. Calyx spathaceous, closed, at length bipartite. Corolla with a short tube, and a 5-lobed, somewhat bilabiate limb.? Stamens 4, didynamous, with the rudiment of a fifth. Capsule echinated, orbicular, compressed; dissepiment contrary.

7 Frederícia. Calyx coloured, pentagonal, 5-toothed. Corolla salver-shaped, with a cylindrical tube, and a spreading, 5-6-cleft, equal border. Stamens 4, didynamous, with the rudiment of a fifth. Capsule oblong, compressed, acutish; dissepiment contrary.

8 Ferdinandu'sia. Calyx 4-toothed. Corolla funnel-shaped, 4-parted; segments bifid, bearded.? Stamens 4, didynamous, with the rudiment of a fifth. Capsule compressed, elliptic, 2-celled, 4-valved; dissepiment contrary. ?

9 Stenolòbium. Calyx 5-toothed, small. Corolla with a narrow tube, a dilated, campanulate throat, and a 5-lobed, bilabiate limb. Stamens 4, didynamous, with the rudiment of a fifth; lobes of anthers linear, divaricate. Capsule linear, silique-formed; dissepiment parallel.

10 Delóstoma. Calyx 3-lobed, coriaceous. Corolla funnel-shaped, with a dilated throat, and a spreading, bilabiate limb. Stamens 4, didynamous, with the rudiment of a fifth. Lobes of anthers parallel. Capsule lanceolate, compressed; valves coriaceous; dissepiment parallel.

11 Astia'nthus. Calyx tubular, 5-toothed. Corolla with a short tube, a campanulate throat, and a 5-lobed, bilabiate limb. Stamens 4, didynamous, with the rudiment of a fifth. Lobes of anthers confluent. Capsule silique-formed; dissepiment parallel. Seeds winged, and pappose.

12 Chilópsis. Calyx ventricose, membranous, cleft even to the base on the lower side; limb oblique, tridentate. Corolla with a short tube, a campanulate throat, and a 5-lobed, bilabiate limb. Stamens 4, didynamous, with the rudiment of a fifth. Lobes of anthers equal, divaricate. Capsule short, silique-formed; dissepiment contrary.

13 Oxe'ra. Calyx 4-parted. Corolla with a short tube, a dilated throat, and a 4-cleft, nearly equal limb. Stamens 4, didynamous, 2 of which are sessile. Ovarium 4-lobed, seated on a glandular disk. Fruit unknown. Probably a genus of *Cyrtandràceæ*.

§ 2. *Stamens 5, all fertile.*

14 Platyca'rpum. Calyx 5-parted. Corolla with a short tube, a funnel-shaped throat, and a 5-lobed, nearly equal limb. Stamens 5, equal, fertile. Capsule didymous, ligneous, compressed; dissepiment contrary; cells 2-seeded.

15 Calosa'nthes. Calyx entire. Corolla with a short tube, a campanulate throat, and a 5-cleft, curled, bilabiate limb. Stamens 5, all fertile, the exterior pair the longest. Capsule silique-formed, compressed; dissepiment contrary.

§ 3. *Stamens 4, didynamous, without the rudiment of the sterile one.*

16 Millingtònia. Calyx slightly 5-parted. Corolla with a long, slender tube; a funnel-shaped, 4-parted limb; the upper segment broadest, and nearly half 2-cleft. Stamens 4, didynamous, without any rudiment of a fifth. Capsule silique-formed, slender; dissepiment parallel.

17 Argy'lia. Calyx 5-cleft. Corolla with a short tube, a campanulate throat, and a 5-lobed, somewhat bilabiate limb. Stamens 4, didynamous, without any rudiment of a fifth. Anthers bearded; lobes equal, divaricate. Capsule silique-formed, compressed; dissepiment parallel.

18 Incarvíllea. Calyx tri-bracteate, 10-cleft; the 5 outer segments subulate; the 5 inner shorter and bifid. Corolla with a short tube, a ventricose throat, and a 5-lobed, bilabiate limb. Capsule silique-formed, 6-ribbed; dissepiment bilamellate, contrary.

19 Wíghtia. Calyx 4-toothed. Corolla funnel-shaped; limb 4-cleft, upper segment 2-lobed. Stamens 4, didynamous, without any rudiment of a fifth. Hypogynous disk wanting. Stigma clavate, undivided. Capsule silique-formed; dissepiment parallel. Seeds imbricated lengthwise.

§ 4. *Stamens 5, 2 of which fertile, and 3 sterile.*

20 Cata'lpa. Calyx 2-parted. Corolla with a short tube, a ventricose, campanulate throat, and an unequal, 4-lobed limb. Stamens 5, 2 fertile, and 3 sterile. Capsule silique-formed; dissepiment parallel.

21 Schrebe'ra. Calyx tubular, bilabiate; lips nearly equal, emarginate. Corolla salver-shaped, with a cylindrical tube, and a spreading, 5-6-7-cleft border. Stamens, 2 fertile, and 3 sterile. Capsule pear-shaped, woody; dissepiment parallel.

Tribe II.

Tourretie'æ. Capsule 1-celled, 2-valved; valves placentiferous in the middle. Placentas 2, large and fleshy. Seeds imbricated, horizontal, flattened, girded by a membranous margin.

22 Tourre'ttia. Calyx bilabiate; upper lip acuminated; lower one 4-notched. Corolla with the tube equal in length to the calyx, and a unilabiate limb; upper lip drawn out into a

hollow; lower lip wanting. Stamens 4, didynamous. Capsule ovate, or oblong, echinated, 2-celled; dissepiment prismatic, central, seminiferous.

23 Eccremoca'rpus. Calyx membranous, 5-cleft, coloured. Corolla tubular, with an equal throat, and a 5-lobed, equal limb. Stamens 4, didynamous, with the rudiment of a fifth; anthers versatile; cells parallel, combined; wings of seeds repandly sinuated, nerved.

24 Cala'mpelis. Calyx semi-5-cleft. Corolla with a tubular base, a ventricose throat, and a contracted, 5-lobed limb. Stamens 4, didynamous, without any rudiment of a sterile one. Lobes of anthers obtuse, divaricate, distinct at apex. Wings of seeds repandly sinuated, emarginate at the base.

Tribe III.

Crescentie'æ. Fruit a large, melon-shaped, 1-celled berry; with a solid rind, pulpy inside. Seeds nestling in the pulp.

25 Cresce'ntia. Calyx bipartite or bilabiate. Corolla large, campanulate, with a short tube, a ventricose throat, and an erect, 5-lobed, cleft, unequal limb. Stamens 4, didynamous, with the rudiment of a fifth. Berry large, many-seeded.

26 Tanæ'cium. Calyx cylindrical, truncate. Corolla with a very short tube, a large, ventricose throat, and a nearly equal, 5-lobed limb. Stamens 4, didynamous; with the rudiment of a fifth. Berry large, corticate.

27 Tripinna'ria. Calyx cup-shaped, 5-crenate. Corolla sub-campanulate; tube longer than the calyx; throat widened; limb 5-cleft, spreading; upper segment the largest. Stigma bifid, acute. Berry large, fleshy. Seeds compressed.

Tribe I.

BIGNONIE'Æ (this tribe contains genera agreeing with the genus *Bignònia* in important characters.) Capsule 2-celled, 2-valved, sometimes falsely 4-celled. Dissepiment parallel or contrary to the valves. Seeds transverse, compressed, winged on the edges.

§ 1. *Stamens 4, didynamous, with the rudiment of a sterile one.*

I. BIGNO'NIA (so named by Tournefort, in compliment to the Abbé Bignon, Librarian to Louis IV.) Tourn. inst. 72. Juss. 139. Gærtn. fruct. t. 52. H. B. et Kunth, nov. gen. amer. 3. p. 132. D. Don, in edinb. phil. journ.—Bignònia species of Lin. and others.

Lin. syst. *Didynàmia, Angiospérma.* Calyx campanulate, 5-toothed, rarely entire. Corolla with a short tube, a campanulate throat, and a 5-lobed, bilabiate limb. Stamens 4, didynamous, that is, 2 long, and 2 short, with the rudiment of a fifth. Lobes of anthers divaricate. Stigma bilamellate. Capsule silique-formed, 2-celled; having the dissepiment parallel with the valves; seeds disposed in 2 rows, imbricate, transverse, with membranous wings.—Usually scandent shrubs, furnished with tendrils; rarely erect trees or shrubs. Leaves opposite, simple, conjugate, ternate, digitate or pinnate. Flowers axillary and terminal, usually panicled. Corollas trumpet-shaped, white, yellow, orange-coloured, purple, violaceous, or rose-coloured.

§ 2. *Leaves simple.*

1 B. vimina'lis (H. B. et Kunth, nov. gen. 3. p. 132.) arboreous; leaves simple, usually by threes, linear, narrowed at both ends, glabrous; panicles terminal, sessile; corollas glabrous. ♄. S. Native of Mexico, on the western declivities of mountains, betwixt Mescala and Estola, at the altitude of 360 hexapods. A tall tree, with a dense, pyramidal head. Leaves 8-10 inches long, and 5 lines broad. Calyx 5-toothed; teeth acute. Corolla yellow, campanulately funnel-shaped; limb downy outside, with undulated margins.

Twiggy Trumpet-flower. Tree tall.

2 B.? tomentòsa (Thunb. jap. 252.) arboreous; leaves simple, cordate, tomentose, opposite; flowers in axillary panicles. ♄. H. Native of Japan. Too-vulgo Kiri, Kæmpf. amœn. 859. t. 860. Incarvíllea tomentòsa, Spreng. syst. 2. p. 836. Lower leaves cordate; upper ones ovate-acute, 5-nerved, downy above, and tomentose beneath, as well as the peduncles and pedicels. Panicles at first trichotomous, then dichotomous. Perhaps a species of *Catálpa*.

Tomentose Trumpet-flower. Fl.? Clt. 1820. Tree.

3 B.? tenuisíliqua (Vahl. eclog. 2. p. 43.) climbing; leaves simple, lanceolate, acuminated, glabrous, opposite; panicles terminal; corolla glabrous. ♄. ⏑. S. Native of South America. Branches beset with white dots. Leaves 2-3 inches long, and 1 broad. Capsule or follicle $1\frac{1}{2}$ foot long.

Slender-podded Trumpet-flower. Shrub cl.

4 B. floribu'nda; leaves opposite, simple, ovate-roundish, acuminated, sub-cordate, 3-nerved, petiolate; flowers crowded, panicled. ♄. S. Native of Maranham, in low, bushy places. Flowers very showy, flesh-coloured, in great profusion.

Bundle-flowered Trumpet-flower. Shrub straggling.

5 B. pa'llida (Lindl. bot. reg. 965.) erect, glabrous; leaves simple, opposite, oblong, obtuse, rather cordate at the base; flowers axillary, usually solitary; pedicels and calyxes lepidoted; calyx turbinate, irregularly 5-toothed. ♄. S. Native of St. Vincent. Branches terete. Corolla 2 inches long, funnel-shaped: with a yellow tube, and a pale lilac limb; lobes crenately ciliated.

Pale-flowered Trumpet-flower. Fl. July. Clt. 1823. Shrub 6 feet.

6 B.? obtusifòlia (Lam. dict. 1. p. 418.) leaves alternate, simple, ovate-oblong, obtuse; corymbs small, terminal; calyx 4-lobed, unequal; corolla tubular: with a 4-lobed, unequal, reflexed limb. ♄. S. Native of Brazil. Leaves tapering into the petioles. Flowers large. This differs from all the rest, in the leaves being alternate, and in the corolla and calyx being 4-lobed.

Blunt-leaved Trumpet-flower. Shrub.

7 B.? illicifòlia (Pers. ench. 2. p. 170.) leaves nearly opposite, ovate, mucronate, coriaceous, glabrous: with revolute margins. ♄. S. Native of Madagascar, Commers. There is also a variety of this, with emarginate leaves.

Holly-leaved Trumpet-flower. Shrub.

§ 3. *Leaves conjugate, that is, one pair of leaflets at the top of each petiole, which is extended into a tendril.*

8 B. u'nguis (Lin. spec. 869.) scandent, glabrous; branches terete?; leaves conjugate; leaflets ovate, acuminated; tendrils bent, tripartite; peduncles axillary, 1-flowered. ♄. ⏑. S. Native of Barbadoes, St. Domingo, &c. Mill. dict. no. 5.—Tourn. inst. 164.—Sloane, jam. 90. hist. 1. p. 208.—Plum. amer. 80. p. 94.—Plukn. alm. 109. t. 163. f. 2. Flowers yellow. Follicles long.

Claw Trumpet-flower. Fl.? Clt. 1759. Shrub cl.

9 B. uncina'ta (Meyer, prim. esseq. p. 210.) scandent, glabrous; leaves conjugate; leaflets oval, drawn out into a cuspidate point; tendrils trifid; peduncles axillary. 1-flowered; calyx bilabiate. ♄. ⏑. S. Native of about the Essequibo. Spathòdea uncinàta, Spreng. syst. 2. p. 835. Leaflets $2\frac{1}{2}$ inches long, and $1\frac{1}{2}$ broad, glabrous, shining above, having the veins red beneath. Peduncles short, rising from 2 ovate-acute brac-

teas. Corolla an inch long, yellow. Capsule a span long, Seeds 2-lobed, acute, acuminated at both ends by a wing. Very nearly allied to *Bignònia únguis-càti.*

Hooked Trumpet-flower. Shrub cl.

10 B. stamínea (Lam. dict. 1. p. 416. Willd. spec. 3. p. 293.) scandent; leaves conjugate; leaflets ovate-oblong; tendrils simple, convolute; peduncles axillary, 1-flowered; stamens and style exserted. ♄. ◡. S. Native of St. Domingo.—Plum. spec. 5. icon. t. 56. f. 2. Flowers yellowish purple, scentless. Fruit hard, ovate. It differs from the rest, in the stamens being longer than the corolla, in the style being very long, and clavate.

Long-stamened Trumpet-flower. Fl.? Clt. 1825. Shrub cl.

11 B. capreola'ta (Lin. spec. 870. hort. cliff. 317.) scandent; leaves conjugate; leaflets cordate-oblong: lower ones simple; tendrils small, trifid: lobes bifurcate; peduncles axillary, 1-flowered, crowded. ♄. ◡. H. Native of North America, in the more southern parts. Sims, bot. mag. 864.—Breyn. icon. 33. t. 25.—Duham. arb. 1. p. 104. t. 40.—Bocc. sic. 31. t. 15. f. 31.—Zan. hist. 74. f. 2. ed. 2d 49. t. 33. Calyx entire. Corollas reddish yellow. Follicles flattened, a foot long.

Tendrilled Trumpet-flower. Fl. June, July. Clt. 1710. Shrub cl.

12 B. longiflòra (Cav. icon. 6. p. 58. t. 581.) scandent; branches terete; leaves conjugate; leaflets lanceolate, glabrous, shining; tendrils simple; peduncles terminal, twice trifid; corolla funnel-shaped: upper lip erect, deeply emarginate; lower lip tripartite. ♄. ◡. S. Native of Guayaquil. Corolla 3 inches long, scarlet, copper-coloured inside.

Long-flowered Trumpet-flower. Shrub cl.

13 B. Chamberla'ynii (Sims, bot. mag. 2148.) branches terete, glabrous; leaves conjugate; leaflets ovate, acuminated, glabrous, shining above; tendrils strong, simple; racemes axillary, 6-8-flowered. ♄. ◡. S. Native of Brazil. B. æquinoxiàlis, *β*, Chamberlàynii, Ker. bot. reg. t. 741. Calyx cupulate, entire, or obsoletely 5-toothed. Corolla funnel-shaped, yellow; segments obtuse.

Chamberlayne's Trumpet-flower. Fl. April, Oct. Clt. 1820. Shrub cl.

14 B. æquinoxia'lis (Lin. spec. 869. Meyer, esseq. p. 210.) scandent; branches terete, glabrous; leaves glabrous, conjugate; leaflets oblong-lanceolate; tendrils simple, axillary; peduncles 2-flowered: terminal ones racemose; follicles linear. ♄. ◡. S. Native of Cayenne, and the island of Arrowabisch. —Plum. spec. 5. icon. 55. f. 1.—Sabb. hort. 2. t. 85. Mill. dict. no. 6. Flowers yellow. Calyx 5-toothed. Anthers hairy, and peduncles 5. Vahl, l. c.

Equinoxial Trumpet-flower. Fl. April, Oct. Clt. 1768. Shrub cl.

15 B. allia'cea (Swartz, prod. p. 91. fl. ind. occ. 2. p. 1039. Lam. dict. 1. p. 421.) branches tetragonal; leaves conjugate; leaflets elliptic, coriaceous; tendrils simple; peduncles axillary, 2-flowered; calyx 5-toothed. ♄. ◡. S. Native of Guiana & Cayenne, and the West Indies. Barrel, æquin. 23. Aubl. guian. 2. p. 659. Leaflets large, acute at both ends, smelling of garlic. Flowers large, white. The garlic scent of this species is sufficient to distinguish it from all others, hence its trivial name, and its name in French, *liane a l'ail.*

Garlic-scented Trumpet-flower. Fl.? Clt. 1790. Shrub cl.

16 B. rige'scens (Jacq. schœnbr. 2. p. 44. t. 210.) scandent; leaves conjugate; leaflets elliptic, retuse; flowers racemose; peduncles 3-flowered; tendrils simple, short; calyx 5-toothed. ♄. ◡. S. Native of the Spanish Main, at Caraccas, Willd. spec. 3. p. 294. Leaflets ovate, stiffish, ex Jacq. Corollas white, with a tinge of red, yellow inside; tube incurved; segments of the limb obcordate. Branches terete.

Stiffish-leaved Trumpet-flower. Fl. Ju. July. Clt. 1823. Shrub cl.

17 B. salicifòlia (H. B. et Kunth, nov. gen. amer. 3. p. 133.) scandent; branches terete, sulcate, glabrous; branchlets hairy; leaves conjugate; leaflets lanceolate, acute at both ends, quite glabrous, shining; tendrils simple; peduncles axillary, 3-6-flowered, downy. ♄. ◡. S. Native on the banks of the Orinoco, near Carichana, and of Trinidad. Leaflets membranous, 3 inches long. Calyx quite entire. Corollas funnel-shaped, 1½ inch long, copper-coloured; with a white limb.

Willow-leaved Trumpet-flower. Clt. 1824. Shrub cl.

18 B. chrysoleu'ca (H. B. et Kunth, nov. gen. amer. 3. p. 134.) scandent; branches tetragonal, sulcately striated, glabrous; leaves conjugate; leaflets oblong, acuminated, glabrous, rounded at the base, shining; tendrils undivided; peduncles 3-5-flowered. ♄. ◡. S. Native on the banks of the river Magdalena, betwixt Rio Viego, and Bogorgne. Leaflets 5-6-inches long, and 2 broad. Common petioles puberulous. Calyx quite entire. Corolla glabrous, yellow, with a white limb, 1½ inch long.

Yellow and White-flowered Trumpet-flower. Fl. Ju. July. Clt. 1824. Shrub cl.

19 B. lactiflòra (Vahl, symb. 3. p. 80. t. 66.) scandent, glabrous; leaves conjugate; leaflets cordate, ovate, glabrous; tendrils trifid; racemes leafy at bottom; limb of calyx quite entire. ♄. ◡. S. Native of the Island of Santa Cruz. Branches striated. Leaflets 2 inches long. Racemes twin; with a petiolate bractea at the base of each pedicel. Corolla 1½ inch long, milk white, villously tomentose on the outside. Follicles lanceolate, 2 inches long, acute at both ends.

Milk-flowered Trumpet-flower. Fl. Ju. July. Clt. 1823. Shrub cl.

20 B. crucígera (Lin. spec. 869.) scandent, glabrous; leaves conjugate, lower ones ternate; leaflets ovate-cordate, acuminated; racemes axillary; stem muricated; tendrils simple. ♄. ◡. G. Native of Virginia, Mexico, &c. Lin. hort. cliff. 317. Mill. dict. no. 12.—Grov. virg. p. 73.—Plum. icon. 48. t. 58.—Morr. hist. 3. p. 672. sect. 15. t. 3. f. 16. Leaflets large. Flowers yellow, whitish beneath. A transverse section of the stem represents a cross, hence the trivial name. Follicles a foot long.

Cross-bearing Trumpet-flower. Fl.? Clt. 1759. Shrub cl.

21 B. grandifòlia (Jacq. schœnbr. 3. p. 19. t. 287.) scandent; petioles and branches scabrous; leaves conjugate; leaflets oblong or ovate, acute at both ends; tendrils simple; corymb terminal, trifid; peduncles 3-flowered, scabrous. ♄. ◡. S. Native of the Spanish Main, about Caraccas, Willd. spec. 3. p. 296. Ker. bot. reg. 418. Hook. bot. mag. 3011. Leaflets large, a foot long. Calyx bluntly 4-toothed. Corollas yellow, 2 inches long.

Great-leaved Trumpet-flower. Fl. April, July. Clt. 1816. Shrub cl.

22 B. latifòlia (Rich. in act. soc. hist. nat. par. 1. p. 11.) scandent, glabrous; leaves conjugate; leaflets ovate, nerved, membranous; tendrils? spikes or racemes lateral; calyx inflated. ♄. ◡. S. Native of Cayenne. Flowers crowded. large, yellow.

Broad-leaved Trumpet-flower. Fl.? Clt. 1823. Shrub cl.

23 B. pube'scens (Lin. spec. p. 870.) leaves conjugate, cirrhose; leaflets cordate-ovate, downy beneath. ♄. ◡. S. Native of Campeche. Flowers yellow.

Downy Trumpet-flower. Fl. June, July. Clt. 1759. Shrub cl.

24 B. affìne; leaves binate, cirrhose?; leaflets ovate-lanceolate, cordate at the base, downy beneath; racemes terminal, compound. ♄. ◡. S. Native of Maranham. Flowers middle-sized, yellow. Nearly allied to *B. pubéscens.*

Allied Trumpet-flower. Shrub cl.

25 B. pícta (H. B. et Kunth, nov. gen. amer. 3. p. 136.)

erect; branches compressed, striated, glabrous; leaves conjugate; leaflets ovate, obtuse, roundish at the base, rather coriaceous, glabrous, shining; panicles terminal, few-flowered; corollas glabrous. ♄. S. Native of the province of Guayana, between the town of Angostura and Farrera. Leaflets about 4 inches long, and $2\frac{1}{2}$ broad. Calyx quite entire. Corolla funnel-shaped, white, striped with red; throat yellow.

Painted-flowered Trumpet-flower. Clt. 1823. Shrub 4 feet.

26 B. MAGNOLIÆFÒLIA (H. B. et Kunth, nov. gen. amer. 3. p. 136.) creeping; leaves conjugate; leaflets elliptic, short-acuminated, rounded at the base, glabrous, shining; panicles terminal, simple; corollas glabrous. ♄. S. Native of the Missions of Orinoco, in woods near Javita, on the banks of the rivers Tuamini and Temi. Leaflets coriaceous, reticulately veined. Panicles spike-formed, nearly a foot long. Corolla white, with a yellow throat.

Magnolia-leaved Trumpet-flower. Shrub creeping.

27 B. SPECTA'BILIS (Vahl, symb. 3. p. 80.) scandent, glabrous; leaves conjugate; leaflets ovate-oblong, acuminated, obtuse; tendrils simple; flowers racemose, glabrous; calyx quite entire. ♄. ◡. S. Native of the Island of Santa Cruz. Willd. spec. 3. p. 294. Racemes terminal, short, having the 2 lower pedicels 3-flowered, and the rest 1-flowered. Bracteas setaceous. Corolla 3 inches long, rather coriaceous, glabrous, purple; segments obovate. Anthers glabrous. Stigma oblong.

Showy Trumpet-flower. Clt. 1820. Shrub cl.

28 B. ELONGA'TA (Vahl, ecl. 2. p. 45. t. 16.) scandent; leaves conjugate; leaflets oval, tomentose beneath; racemes very long, terminal; peduncles dichotomous; tendrils strong, simple? ♄. ◡. S. Native of South America. Leaflets membranous, 3 inches long, ending in a blunt acumen, clothed with yellowish tomentum beneath. Calyx truncate, entire. Corolla purple?, $1\frac{1}{2}$ inch long, clothed with fine tomentum, as well as the calyxes.

Elongated-racemed Trumpet-flower. Fl.? Clt. 1820. Shrub climbing.

29 B. CORYMBÍFERA (Vahl, eclog. 2. p. 45. t. 17.) leaves conjugate, without tendrils; leaflets sub-cordate, ovate, acuminated, glabrous; corymbs axillary and terminal; calyx quite entire. ♄. S. Native of South America. Corymbs trichotomous. Corollas an inch long, downy.

Corymb-bearing Trumpet-flower. Shrub.

30 B. LAURIFÒLIA (Vahl, eclog. 2. p. 44.) leaves conjugate; leaflets oblong, glabrous; racemes terminal; branches dichotomous; corollas clothed with soft tomentum outside. ♄. S. Native of Cayenne. Tendrils none.

Laurel-leaved Trumpet-flower. Fl.? Clt. 1804. Shrub.

31 B. MOLLÍSSIMA (H. B. et Kunth, nov. gen. amer. 3. p. 133.) scandent; branches terete, striated, downy; leaves conjugate; leaflets ovate, acute, cordate, clothed with soft hairs above, and fuscescent tomentum beneath; tendrils undivided; panicles axillary; corollas downy ouside. ♄. ◡. S. Native of the province of Caraccas, in the valleys of Aragua, where it is called *Vejuco* by the natives. Leaflets 2-3 inches long, and $1\frac{1}{2}$ to 2 broad. Branches of panicle dichotomous, downy. Calyx 5-toothed. Corollas somewhat funnel-shaped. Follicles 7 inches long, downy.

Very soft Trumpet-flower. Clt. 1820. Shrub cl.

32 B. DIVERSIFÒLIA (H. B. et Kunth, nov. gen. amer. 3. p. 133.) scandent; branches quadrangular, striated, glabrous; leaves conjugate and simple; leaflets roundish-ovate, acuminated, sub-cordate, glabrous, shining; tendrils undivided; panicles terminal; corollas glabrous. ♄. ◡. S. Native of Mexico, near Campeche. Leaflets reticulately veined, and somewhat 5-nerved, membranous, $2\frac{1}{2}$ inches long, and $1\frac{1}{2}$ broad. Partial petioles downy inside. Calyx 5-toothed. Corollas campanulately funnel-shaped.

Diverse-leaved Trumpet-flower. Clt. 1825. Shrub cl.

33 B. FLORIBU'NDA (H. B. et Kunth, nov. gen. amer. 3. p. 134.) scandent; branches tetragonal, striated, warted; leaves conjugate; leaflets oblong-elliptic, acuminated, acute at the base, glabrous, shining; tendrils undivided; panicles axillary; corollas downy outside. ♄. ◡. S. Native of Mexico, near Campeche. Branches beset with white warts and fine powder. Leaflets $2\frac{1}{2}$ inches long, and 15-16 lines broad. Panicle powdery, with opposite branches, and dichotomous branchlets. Calyx obsoletely 5-toothed. Corolla funnel-shaped, 8 lines long.

Bundle-flowered Trumpet-flower. Clt. 1824. Shrub cl.

34 B. OBLÌQUA (H. B. et Kunth, nov. gen. amer. 3. p. 135.) scandent; branches terete, striated, powdery; leaves conjugate; leaflets ovate-oblong, obtuse, retuse, obliquely cordate at the base, coriaceous, glabrous, shining; tendrils undivided; peduncles axillary, dichotomous; corollas glabrous. ♄. ◡. S. Native of the province of Caraccas, in Isle de las Aves, situated in the lake Tacarigua. Leaflets 3 inches long, and from 18 to 20 lines broad. Calyx quite entire, or irregularly 5-toothed. Corollas funnel-shaped, red.

Oblique-leaved Trumpet-flower. Shrub cl.

35 B. GLABRA'TA (H. B. et Kunth, nov. gen. amer. 3. p. 135.) scandent; branches terete, warted, glabrous; leaves conjugate; leaflets ovate, obtuse, retuse, rounded at the base, rather coriaceous, glabrous, shining; tendrils undivided; inflorescence unknown. ♄. ◡. S. Native of the Spanish Main, near Cumana, where it is called *Vejuco blanco* by the natives. Capsule 7 inches long. It only differs from the preceding, in the form of the leaves.

Glabrous Trumpet-flower. Shrub cl.

36 B. HONDE'NSIS (H. B. et Kunth, nov. gen. amer. 3. p. 135.) scandent; branches terete, furrowed, glabrous; leaves conjugate; leaflets elliptic-ovate, acuminated, rounded at the base, rather coriaceous, glabrous, shining; tendrils and inflorescence unknown. ♄. ◡. S. Native of New Granada, near Honda, at the altitude of 130 hexapods. Branches whitish. Leaflets 5-6 inches long, and 3 inches broad. Follicles 12-16 inches long.

Honda Trumpet-flower. Shrub cl.

37 B. TILIÆFÒLIA (H. B. et Kunth, l. c. p. 136.) branches terete, striated, downy; leaves conjugate; leaflets roundish, acuminated, cordate, membranous, glabrous, downy on the veins beneath; tendrils unknown; spikes terminal; corollas tomentose outside. ♄. ◡. S. Native on the banks of the Orinoco. Leaflets 3 inches long. Spikes 5-6-flowered, tomentose. Calyx obsoletely 5-toothed. Corolla funnel-shaped, with a curved tube, widened upwards. Ovarium oblong, clothed with silky tomentum.

Lime-tree-leaved Trumpet-flower. Shrub cl.

38 B. VILLÒSA (Vahl, eclog. 2. p. 44.) leaves conjugate; leaflets ovate, clothed with very soft villi; tendrils filiform. ♄. ◡. S. Native of the Island of St. Martha. Leaflets glabrous above, except the midrib, 2 inches long, acuminated. Calyx truncate, quite entire. Corolla 3 inches long, glabrous, purple. Perhaps the same as *B. pubéscens*, Lin.; but the leaflets in that plant are cordate, and the flowers yellow.

Villous Trumpet-flower. Shrub cl.

39 B. PYRAMIDA'TA (Rich. in soc. hist. nat. par. no 1. Pers. ench. 2. p. 171.) scandent, glabrous; leaves conjugate; leaflets rather coriaceous; panicles terminal, rather pyramidal, many-flowered, composed of cymose corymbs. ♄. ◡. S. Native of Cayenne.

Pyramidal-panicled Trumpet-flower. Shrub cl.

40 B. CA'NDICANS (Rich. l. c.) scandent; leaves conjugate; leaflets roundish-ovate, clothed with white tomentum beneath;

panicles very loose, small-flowered. ♄. ◡. S. Native of Cayenne.

Whitish-leaved Trumpet-flower. Shrub cl.

41 B. longisíliqua (Bert. ex Spreng. syst. 2. p. 330.) scandent, cirrhiferous; leaves conjugate; leaflets deeply cordate, acuminated, membranous, glabrous; racemes terminal, simple; calyx 5-toothed, and are, as well as the corollas, glabrous. ♄. ◠. S. Native of New Granada, on the banks of the river Magdalena.

Long-podded Trumpet-flower. Shrub tw.

42 B. Sellòi (Spreng. syst. 2. p. 831.) scandent, cirrhiferous; leaves conjugate; leaflets oblong, sub-cordate, acute, glabrous, shining; panicles opposite, horizontal, many-flowered; calyxes and corollas glabrous. ♄. ◠. S. Native of Brazil.

Sello's Trumpet-flower. Shrub tw.

§ 2. *Lower leaves ternate; upper ones conjugate, furnished with tendrils.*

43 B. echina'ta (Jacq. amer. 183. t. 176. f. 52. Gærtn. fruct. 1. p. 240. t. 52.) branches nodose, angular; petioles of lower leaves dichotomous: branches trifoliate; upper leaves ternate and conjugate; leaflets ovate, acuminated; tendrils simple; corymbs axillary. ♄. ◡. S. Native of Carthagena and Guiana, in sandy places. Aubl. guian. 2. p. 648. t. 264. Lam. dict. 1. p. 415. Jacarànda echinàta, Spreng. syst. 2. p. 834. Corolla flesh-coloured, an inch long. Follicles 5 inches long, elliptic, muricated.

Echinated-podded Trumpet-flower. Clt. 1804. Shrub cl.

44 B. microca'lyx (Meyer, prim. esseq. p. 211.) lower leaves ternate: superior ones conjugate; leaflets oval, obtuse; flowers racemose; calyx 5-toothed, very short. ♄. ◡. S. Native about Essequibo, climbing on the highest trees. Branches nodose at the insertion of the leaves; nodi compressed. Tendrils none. Racemes axillary, few-flowered. Corollas 3 inches long, purple, elegantly striped inside; segments obtuse. Lobes of stigma obtuse, crenulated. This species is closely allied to *Bign. echinàta*, and *Bign. heterophýlla*.

Small-calyxed Trumpet-flower. Shrub cl.

45 B. Cherè're (Aubl. guian. 2. p. 644. t. 260.) lower leaves ternate; upper ones conjugate, cirrhose; leaflets ovate, acuminated, sometimes sub-cordate, glabrous; cymes axillary. ♄. ◡. S. Native of Guiana, in woods, on the banks of rivers. B. heterophýlla, Willd. spec. 3. p. 298. B. Kerère, Lam. dict. 1. p. 420. Branches angular. Corollas 2 inches long, yellow. Follicles ovate, hard, compressed.

Cherere Trumpet-flower. Fl.? Clt. 1824. Shrub cl.

46 B. venu'sta (Ker, bot. reg. t. 249.) scandent; branches angular, glabrous; lower leaves ternate; superior ones conjugate; leaflets oblong-ovate, acuminated, oblique at the base; petioles villous inside; corymbs terminal, many-flowered. ♄. ◡. S. Native of Brazil. Calyx villous, short, 5-toothed. Corolla clavately funnel-shaped, with a spreading border, villous inside, crimson.

Lovely Trumpet-flower. Fl. Sept. Dec. Clt. 1816. Shrub climbing.

47 B. incarna'ta (Aubl. guian. 2. p. 645. t. 261.) scandent; leaves large; lower ones ternate; upper ones binate; tendrils simple; leaflets ovate, acuminated; corymbs axillary. ♄. ◡. S. Native of Guiana, in woods, on the banks of the river Sinemari. Shrub sarmentose. Flowers numerous, rose-coloured. Fruit long, flat.

Flesh-coloured-flowered Trumpet-flower. Shrub cl.

§ 3. *Leaves ternate or trifoliate, destitute of tendrils.*

48 B. triphy'lla (Lin. spec. 870. Mill. dict. no. 14.) leaves ternate, glabrous; leaflets ovate, acuminated; stem shrubby, erect. ♄. S. Native of the Island of Vera Cruz. Flowers white, in terminal panicles.

Three-leaved Trumpet-flower. Clt. 1733. Shrub erect.

49 B. móllis (Vahl, eclog. 2. p. 46. icon. pl. amer. t. 10.) scandent; leaves trifoliate; leaflets ovate, sub-cordate, downy on both surfaces; panicles terminal, many-flowered; flowers small. ♄. ◡. S. Native of Cayenne. B. tomentòsa, Rich. in act. soc. hist. nat. par. 1. p. 11. Branches beset with rufous hairs. Leaflets 5 inches long, obtuse, with a short acumen. Calyx clothed with brownish down, obsoletely 5-toothed. Corolla downy.

Soft Trumpet-flower. Clt. 1818. Shrub cl.

50 B. pilulífera (Rich. in act. soc. hist. nat. par. 1. p. 11.) scandent; leaves trifoliate; leaflets obovate, with a short acumen; panicles brachiate, composed of compound piluliferous racemes. ♄. ◡. S. Native of Cayenne. Flowers small.

Pill-bearing Trumpet-flower. Shrub cl.

51 B. Carichane'nsis (H. B. et Kunth, nov. gen. amer. 3. p. 137.) erect; branches terete, striated, glabrous; leaves simple and ternate; leaflets oblong, obtuse, glabrous, shining, white beneath; panicles terminal, sessile; flowers pentandrous; corollas glabrous. ♃. S. Native on the banks of the Orinoco, betwixt Encaramada and Carichana. Branchlets rather downy. Branches of panicle dichotomous, hairy. Calyx obsoletely 5-toothed, smoothish. Corolla having the tube widened above, oblique, much longer than the calyx; segments roundish ovate, the 2 upper ones rather the largest. The 2 longer stamens exserted; filaments all pilose at the base. Anthers sagittately bifid, with diverging lobes. Perhaps a new genus.

Carichana Trumpet-flower. Shrub erect.

52 B. verrucòsa (H. B. et Kunth, l. c. p. 137.) erect?; branches terete, striated, warted, glabrous; leaves ternate; leaflets oblong, narrowed at top, obtuse, acutish at the base, glabrous, shining; panicles terminal, sessile; corollas glabrous. ♄. S. Native on the banks of the Orinoco, near the town of Caicaro. Leaflets $2\frac{1}{2}$ inches long, and 5 lines broad. Petioles downy. Branches of panicle dichotomous, downy. Calyx downy, 5-toothed. Corolla funnel-shaped, red. Follicles 3 inches long, glabrous.

Warted-branched Trumpet-flower. Shrub erect.

53 B. Apure'nsis (H. B. et Kunth, l. c. p. 138.) scandent; branches terete, a little striated, glabrous; leaves ternate; leaflets elliptic-oblong, short-acuminated, acutish at the base, glabrous, downy on the veins beneath; spikes terminal, sessile; corollas glabrous. ♄. ◡. S. Native on the shady banks of the river Apures, near El Diamante. Branches white. Flowers pedicellate, 2 inches long. Calyx irregularly 3-4 or 5-toothed. Corolla funnel-shaped, yellow, with roundish, spreading, nearly equal lobes. Filaments hairy at the base; the sterile one not seen.

Apures Trumpet-flower. Clt. 1824. Shrub cl.

54 B. umbròsa (H. B. et Kunth, l. c. p. 138.) scandent?; branches compressed, striated, clothed with fine, downy hairs; leaves ternate; leaflets ovate-oblong, acuminated, cordate, glabrous, shining; flowers panicled; corollas downy outside. ♄. ◡.? S. Native of New Andalusia, in valleys, about Caripe. Leaflets 5 inches long, and $2\frac{1}{2}$ broad. Petioles downy. Branches of panicle dichotomous, downy. Calyx almost quite entire. Flowers sweet-scented. Stamens with glabrous filaments, and ciliately fringed anthers.

Shaded Trumpet-flower. Shrub cl.?

55 B. ripa'ria (H. B. et Kunth, l. c. p. 138.) scandent; branches terete, striated, clothed with fine downy tomentum; leaves ternate; leaflets obovate-roundish, acuminated, cordate, beset with soft hairs on the veins beneath; panicles axillary, pedunculate; corollas downy outside. ♄. ◡.? S. Native of New Granada, near Mompox, on the banks of the river Magda-

lena. Petioles downy. Bracteas linear, tomentose. Calyx tomentose, almost quite entire. Corolla funnel-shaped, white. The sterile filament has not been seen.

River-side Trumpet-flower. Shrub cl.?

56 B. littora'lis (H. B. et Kunth, l. c. p. 139.) scandent, cirrhose; branches terete, glabrous; branchlets hairy; leaves ternate; leaflets roundish-ovate, acuminated, clothed with soft hairs on both surfaces; panicles axillary; corollas downy outside. ♄. ◡.? S. Native of Mexico, about Acapulco. Petioles tomentose. Branches of panicle dichotomous, tomentose. Calyx downy, obsoletely 5-toothed. Corolla funnel-shaped, red. The sterile filament has not been seen.

Sea-shore Trumpet-flower. Clt. 1824. Shrub cl.?

57 B. hæma'ntha (Bert. ex Spreng. syst. 2. p. 832.) erect; leaves ternate; leaflets elliptic, retuse, coriaceous, quite glabrous; peduncles short, axillary, few-flowered. ♄. S. Native of Porto Rico.

Blood-flowered Trumpet-flower. Shrub erect.

§ 4. *Leaves digitate, destitute of tendrils.*

58 B. lepidòta (H. B. et Kunth, nov. gen. amer. 3. p. 139.) arboreous; leaves quinate; leaflets lanceolate-oblong, obtuse; with revolute edges, coriaceous, glabrous, covered with small, scale-like dots beneath; peduncles axillary, usually 3-flowered; corollas glabrous. ♄. S. Native of Cuba, between Havannah and Regla. Branches angular, dichotomous. Peduncles clothed with rusty powder. Calyx irregularly 5-6-toothed, lepidoted outside. Corolla 2 inches long, funnel-shaped, rose-coloured; with a curved tube, and roundish, undulated lobes.

Scaly-dotted Trumpet-flower. Tree.

59 B. fluvia'tilis (Aubl. guian. 2. p. 655. t. 267. H. B. et Kunth, l. c. p. 139. Meyer, esseq. 211.) arboreous; leaves quinate; leaflets ovate-oblong, acuminated, coriaceous, glabrous, shining; corymbs axillary, somewhat dichotomous; corollas downy outside. ♄. S. Native of Guiana, on the banks of rivers, but always so near their mouths that the water is salt, Aublet; in humid places, on the banks of the Orinoco, near Carichana. Branches terete, warted. Petioles puberulous. Calyx irregularly 3-5-cleft, clothed with white tomentum, ex Kunth, 4-5-toothed, ex Aubl. Corolla funnel-shaped, white. Follicles oblong, compressed, obtuse. Meyer's plant differs from that of Aublet, in the peduncles being few-flowered and terminal, in the calyxes being sub-quinquefid, and in the flowers being fasciculately racemose. Corolla 2 inches long. Lobes of stigma roundish, white.

River Trumpet-flower. Clt. 1824. Tree tall.

60 B. æsculifòlia (H. B. et Kunth, nov. gen. amer. 3. p. 140.) arboreous; leaflets 7, obovate-oblong, short-acuminated, narrowed at the base, membranous, downy above, clothed with canescent tomentum beneath; panicles terminal, sub-corymbose; corollas downy outside. ♄. S. Native of Mexico, in hot valleys, between Acapulco and Mescalo. A very tall tree. Calyx 5-toothed. Corolla sub-campanulate, orange-coloured; with a very short tube; a ventricose throat, which is plicate, longitudinally inside; the 2 upper segments of the limb erect, smaller; the 3 lower ones reflexed, bearded, marked by a yellow spot.

Horse-chestnut-leaved Trumpet-flower. Tree tall.

61 B. leucóxylon (Lin. spec. p. 870.) arboreous; leaves quinate; leaflets ovate-lanceolate, acuminated, glabrous; flowers terminal, solitary or twin. ♄. S. Native of Jamaica, on the banks of rivers. Andr. bot. rep. p. 43. t. 43. Swartz, obs. p. 233.—Brown, jam. 263.—Pluk. alm. 215. t. 200. f. 4.—Sloane, jam. p. 154. hist. 2. p. 62. Leaves with 5-7-8 leaflets. Calyx bilabiate; upper lip rounded; lower lip bifid; with ovate, sharp teeth. Corolla rose-coloured; with a long, narrow tube, swelling a little at top; limb bilabiate; upper lip the shortest; all the segments rounded and waved, and somewhat villous. Follicles long, Swartz, pendulous. The wood is very hard and white. The flowers are white, not unlike those of *Stramònium*, rising before the leaves, several together, from the ends of the shoots. Pods square, Sloane.

White-wooded Trumpet-flower. Fl. June, July. Clt. 1759. Tree.

62 B. chrysa'ntha (Jacq. schœnbr. 2. p. 45. t. 211.) arboreous; leaflets 5, ovate, acuminated, tomentose; flowers terminal, crowded. ♄. S. Native at Caraccas. Leaflets on long pedicels, 5 inches long. Calyx tubularly-campanulate, 5-toothed. Corollas 2 inches long, yellow. Flowers copious at the tops of the branches; peduncles 1-2-flowered.

Yellow-flowered Trumpet-flower. Fl. May. Clt. 1823. Tree 12-26 feet.

63 B. hirsu'ta (Lam. dict. 1. p. 222. Willd. spec. 3. p. 299.) arboreous; leaves quinate; leaflets obovate, emarginate, downy beneath; panicles terminal; corollas curved, clothed with rufescent, yellowish hairs outside. ♄. S. Native of the East Indies. Leaflets nearly 3 inches long. Flowers small, yellow-red. Calyx nearly truncate, furnished with 4 very short teeth. Stamens exserted.

Hairy Trumpet-flower. Tree.

64 B. antisyphilítica (Mart. reise. bras. ex Linnæa, 5. p. 38.) arboreous; lower leaves bipinnate; superior ones digitately quinate; leaflets ovate, long-acuminated, glabrous; panicles dichotomous; capsule linear, flat. ♄. S. Native of Brazil, in the province of Rio Negro. Flowers green. Calyx inflated.

Antisiphylitic Trumpet-flower. Tree.

65 B. Megapota'mica (Spreng. syst. add. p. 237.) leaves quinate, glabrous; leaflets petiolate, obovate-oblong, quite entire; peduncles bifid, axillary, cymose; calyx 5-toothed; corolla downy. ♄. S. Native of Brazil, about Rio Grande.

Rio Grande Trumpet-flower. Shrub or tree.

66 B. orbicula'ta (Jacq. amer. 184. t. 180. f. 79.) scandent; leaves quinate; leaflets oblong, acuminated, glabrous; racemes axillary. ♄. ◡. S. Native of Carthagena, in woods. Jacarànda orbiculàta, Spreng. syst. 2. p. 834. Leaflets on long petioles. There is a tendril on the upper leaves, in place of a terminal leaflet. Flowers middle-sized, sweet-scented, yellowish, with a paler limb. Follicles large, orbicular, compressed, flat, shining, nearly like those of *Jacaranda Bahaménsis*. This is perhaps a species of *Jacáranda*.

Orbicular-podded Trumpet-flower. Shrub cl.

§ 5. *Leaves abruptly pinnate, or bipinnate, furnished with tendrils.*

67 B. Chìca (Humb. et Bonpl. pl. æquin. 1. p. 107. t. 31. H. B. et Kunth, nov. gen. 3. p. 142.) scandent; leaves abruptly bi-pinnate; leaflets conjugate, elliptic-ovate, acuminated, deeply cordate, glabrous; panicles axillary, pendulous. ♄. ◡. S. Native on the banks of the Orinoco, and Cassiquiares, near Maypures; Esmeralda; and Mandavaca. Bark chinky. Branches terete, green, dotted with brown. Leaves 8-10 inches long, abruptly bi-pinnate; pinnæ 2 pair; leaflets conjugate. Tendrils simple, from the tops of the general and partial petioles. Branches of panicle dichotomous. Calyx almost quite entire, fleshy. Corolla funnel-shaped, violaceous; limb with nearly equal, rounded segments. Follicles 2 inches long, compressed, ½ an inch broad.

Chica Trumpet-flower. Clt. 1819. Shrub cl.

68 B. cle'matis (H. B. et Kunth, nov. gen. amer. 3. p. 141.) scandent; leaves conjugately pinnate, with an odd one; leaflets 2 pairs, ovate, narrowed at top, acute, cordate at the base, glabrous; flowers panicled. ♄. ◡. S. Native of Llanos de

Caraccas, betwixt the town of Calabozo, and the river Guarico. Habit of *Clématis vitálba*. Branches quadrangular, glabrous. Leaves 7-8 inches long; leaflets 2 inches long, and 1 broad. Tendrils petiolar, trifid at apex. Panicles axillary, downy. Calyx obsoletely 5-toothed, cleft lengthwise, tomentose. Corollas white, yellowish inside; lobes nearly equal, roundish, red.

Virgin-bower-like Trumpet-flower. Clt. 1820. Shrub cl.

69 B. JASMINIFÒLIA (H. B. et Kunth, nov. gen. amer. 3. p. 141.) scandent; leaves conjugately bipinnate, with 2-3 pair of pinnæ, and an odd one; leaflets 3-4 pair, with an odd one, ovate, obtuse, rounded at the base, the terminal one twice as long as the lateral ones, ovate-lanceolate. ♄. ◡. S. Native on the banks of the rivers Orinoco and Atabapo, near San Fernando. Branches quadrangular. Leaflets rather coriaceous, 5-8 lines long, lower ones sometimes ternate. Stipulas? twin, dimidiate, roundish-ovate. Follicles compressed, 7 inches long. This is a very elegant species.

Jasmine-leaved Trumpet-flower. Clt. 1826. Shrub cl.

70 B. TERNA'TA; scandent; leaves ternate; divisions pinnate; leaflets oblong, acute, coriaceous; panicles terminal. ♄. ◡. S. Native of Maranham, among bushes, but rare. Flowers pale red.

Ternate-leaved Trumpet-flower. Shrub cl.

71 B. BÍJUGA (Vahl. symb. 2. p. 68.) glabrous; scandent?; leaves abruptly pinnate; with only 2 pair of elliptic, acuminated, obtuse, shining leaflets; petioles margined; racemes terminal; peduncles articulated, compressed; pedicels filiform; calyx with an almost entire border. ♄. S. Native of Madagascar. Branches alternate, compressed. Leaves rarely conjugate. Leaflets petiolate.

Two-paired-leaved Trumpet-flower. Clt. 1822. Shrub cl.?

§ 6. *Leaves impari-pinnate, destitute of tendrils.*

72 B. RACEMÒSA (Lam. dict. 1. p. 424.) glabrous, scandent; leaves impari-pinnate; leaflets 5-7, ovate, acute; common petioles winged; racemes simple, loose, longer than the leaves; calyx short, almost truncate; corolla tubular, with a very short, nearly equal limb. ♄. ◡. S. Native of Madagascar. Leaflets shining, almost an inch long. Calyx truncate.

Var. β; leaflets more numerous, ovate-lanceolate. ♄. S. Native of Madagascar. Leaflets 9-11. Flowers smaller, disposed in racemes, which are hardly the length of the leaves.

Racemose-flowered Trumpet-flower. Shrub cl.?

73 B. COMPRE'SSA (Lam. dict. 1. p. 424.) glabrous, scandent?; branches alternately nodose and compressed; leaves impari-pinnate; leaflets 3 to 7, oval-oblong, obtuse, coriaceous; common petioles margined; ultimate branches compressed; calyx almost truncate, with 5 very minute teeth. ♄. ◡. S. Native of the East Indies. Leaves on the compressed branches very minute, and simple. Flowers small, few, nearly sessile, at the tops of the branches.

Compressed-branched Trumpet-flower. Shrub cl.?

74 B. MACROSTA'CHYA (Wall. cat. no. 6505.) young branches and rachi of leaves downy; leaves impari-pinnate; leaflets 9, coriaceous, obovate-oblong, acuminated, the lower ones smaller and rounder: having small, subulate stipels at the base of the petiolules; racemes long, terminal, simple; corolla downy outside; bracteas long, linear, one to each pedicel. ♄. S. Native of the East Indies, on the banks of the Saluen river, and on rocks at Kogun.

Long-spiked Trumpet-flower. Tree.

75 B. FIMBRIA'TA (Wall. cat. no. 6500.) erect?; leaves impari-pinnate; leaflets hairy, ovate-lanceolate, long-acuminated; panicles terminal, trichotomous, beset with glandular hairs, as well as the calyxes, which are 5-lobed; corolla funnel-shaped, with lacerately-fringed segments; capsule long. ♄. S. Native of the Burmese Empire, at Moalmeyne.

Fringed-flowered Trumpet-flower. Shrub or tree.

76 B. MULTÍJUGA (Wall. pl. rar. asiat. 1. p. 81. t. 95. t. 96.) arboreous; leaves impari-pinnate, with many pairs of leaflets; leaflets dimidiately ovate-cordate, acuminated, quite entire; panicles large, terminal; capsule flat, lanceolate, membranaceously winged. ♄. S. Native of Silhet and Penang. A large tree, with thick, dotted branches, long leaves, and large leaflets. Flowers large, 3 inches long, by threes, dirty yellow, purplish inside, of a saponaceous odour. Panicle 4 feet long, erect. Calyx pentagonal, divided into 5, acute, cuspidate teeth. Corolla campanulate, densely villous outside. Wings of seed drawn out at both ends.

Many-paired-leaved Trumpet-flower. Clt. 1827. Tree.

77 B. ADENOPHY'LLA (Wall. cat. no. 6503.) branches downy; leaves impari-pinnate, downy beneath, as well as the rachi; leaflets obovate-oblong, mucronate, sessile; the terminal one the largest, becoming gradually smaller to the base; the lowest pair close to the stem, and rounder, distant from the others; panicles terminal, clothed with rusty down; calyx large, campanulate, thickly clothed with rusty down; lobes triangular, acute; corolla large, thickly clothed with woolly tomentum outside, but glabrous inside, with rounded lobes. ♄. S. Native of the Burmese Empire, on mount Taong-Dong, banks of the Irrawaddi; Prome; Segaen. Peduncles and pedicels thick. Bracteas ovate-acuminated, deciduous. Pods long, terete, ribbed, and curved, tomentose.

Gland-leaved Trumpet-flower. Tree.

78 B. TELFAÌRIÆ (Bojer, mss. ex Hook. bot. mag. 2976.) arboreous; leaves impari-pinnate, with 6-9 pair of ovate-oblong, acuminated, shining leaflets; panicles terminal, loose; capsules terete, acuminated, fleshy; seeds broadly winged. ♄. S. Native of Madagascar, in the temperate regions of the mountains of Angove. Flowers horizontal, drooping, large, of a most delicate rose-colour. Calyx campanulate, with acute, green teeth, edged with red. Lobes of corolla rounded, crenately fringed.

Telfair's Trumpet-flower. Tree 20 feet.

79 B. COLE'I (Bojer, mss. ex Hook. bot. mag. 2817.) leaves 3 in a whorl, impari-pinnate; leaflets 5, elliptic, quite entire; flowers rising from the main stem, in clusters, on short pedicels; capsules oblong, acuminated, warted. ♄. S. Native of the Mauritius, and Timor. B. ramiflòra, Nov. ann. mus. 3. p. 381. Calyx angular, 5-toothed, coloured; teeth obtuse. Corolla with a cylindrical tube, swollen upwards, thrice as long as the calyx, reddish, veined with yellow; segments of the limb roundish, waved, reddish purple. Anthers 1-celled, the other cell being abortive.

Lady Cole's Trumpet-flower. Tree.

§ 7. *Leaves decompound.*

80 B. VARIA'BILIS (Jacq. hort. schœnbr. 2. p. 45. t. 212.) scandent, glabrous; branches tetragonal; lower leaves biternate; superior ones conjugate, divisions ternate; tendrils trifid, terminating the common petioles, as in the rest of the species; racemes simple, short, many-flowered, terminal; calyx 5-toothed. ♄. ◡. S. Native of Caraccas. Leaflets oblong, acuminated, glabrous. Corollas 3 inches long, with a greenish yellow tube, having the limb at first of the same colour; but this afterwards becomes white.

Variable Trumpet-flower. Clt. 1819. Shrub cl.

81 B. A'LBA (Aubl. guian. 2. p. 653. t. 266.) scandent; glabrous: leaves composed of 3 pinnate divisions, each division composed of 5 ovate-acuminated, petiolate leaflets; corymbs axillary, dichotomous, many-flowered. ♄. ◡. S. Native of Guiana, on the banks of the river Sinemari, Lam. dict. 1. p. 420. Willd. spec. 3. p. 505. Jacaránda álba, Spreng. syst. 2. p. 834. Petioles and branchlets nodose. Flowers white. Fruit ovate-oblong, rugged.

White-flowered Trumpet-flower. Clt. 1823. Shrub cl.

82 B. amœ'na (Wall. pl. asiat. rar. 2. p. 78. t. 183.) leaves tripinnate: each pinnæ furnished with 3 to 9 lanceolate, acuminated, quite entire, smooth leaflets; panicle terminal, trichotomous; calyx bluntly 3-lobed; limb of corolla puberulous outside. ♄. S. Native of the Mauritius. Bign. amàra, Loud. hort. brit. p. 483. Branches cylindrical, dotted. Flowers very fragrant, pale yellow, orange-coloured inside, drooping, subcorymbose. Capsule cylindrical, slender, spiral. Leaves and leaflets on long, angular stalks.

Pleasing Trumpet-flower. Clt. 1828. Tree.

83 B. Ghórta (Hamilt. herb. ex Wall. cat. no. 6510.) glabrous: leaves impari-bipinnate; common rachi jointed: partial ones winged, as also jointed; leaflets ovate, acuminated, attenuated at the base, sessile, the odd one the largest; panicles terminating the branches; lobes of calyx slight, mucronate; corolla glabrous. ♄. S. Native of the East Indies. Flowers middle-sized. Leaves puberulous in the young state. Leaves with 3 pair of pinnæ, the pinnæ furnished with 2-3 pairs of leaflets.

Ghorta Trumpet-flower. Tree or shrub.

Cult. All the species of this genus are truly splendid while in blossom, and the greater number of them climbers; they are therefore desirable plants to train up rafters and pillars, in stoves, as they grow and flower freely. A mixture of loam and peat suits them best: and cuttings taken from young shoots strike root readily, under a hand-glass, in heat, either in mould or sand.

II. SPATHO'DEA (from σπαθη, *spathe*, a spathe, in reference to the form of the calyx.) Beauv. fl. d'ow. 1. t. 29. R. Br. prod. p. 471. H. B. et Kunth, nov. gen. amer. 3. p. 146.—Bignònia species, Lin. Roxb. and others.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx spathaceous, cleft on one side, and toothed or entire on the other side. Corolla funnel-shaped, with a 5-lobed, rather unequal, subbilabiate limb. Stamens 4, didynamous, that is, 2 long, and 2 short, with the addition of a fifth sterile filament. Cells of anthers divaricate, hanging by their connective. Stigma bilamellate. Capsule silique-formed, falcate, falsely 4-celled; dissepiment contrary, corky. Seeds furnished with membranous wings, transverse. — Erect shrubs or trees, rarely climbing shrubs. Leaves opposite, rarely alternate, simple, conjugate, but usually impari-pinnate. Leaflets entire. Flowers somewhat panicled, orange-coloured, yellow, or purple.

§ 1. *Leaves simple.*

1 S.? alternifòlia (R. Br. prod. p. 472.) leaves alternate, simple, somewhat ovate, entire, coriaceous, glabrous; stem arborescent. ♄. S. Native of New Holland, within the tropic, Bauer.

Alternate-leaved Spathodea. Tree.

2 S.? comòsa; tender parts very downy; leaves opposite, simple, cordate; corymbs terminal, short, leafy; calyx 5-cleft; corolla with a long, slender tube, and bilabiate border. ♄. S. Native of Moluccas. Bignònia comòsa, Roxb. fl. ind. 3. p. 103.

Tufted Spathodea. Tree.

§ 2. *Leaves conjugate, tendrilled.*

3 S. laurifòlia (H. B. et Kunth, nov. gen. amer. 3. p. 146.) scandent; branches compressed, a little striated, glabrous; leaves conjugate; tendrils simple; leaflets ovate, obtuse, coriaceous, glabrous; peduncles terminal, few-flowered; calyx cleft on one side, and entire on the other. ♄. ◡. S. Native of New Andalusia, in woods, near Bordones and Cumana. Leaves 3½ inches long, and 2 broad. Peduncles dichotomous, 3-7-flowered. Corollas orange-coloured.

Laurel-leaved Spathodea. Shrub cl.

4 S. Orinoce'nsis (H. B. et Kunth, l. c. p. 147.) scandent; branches terete, furrowed, glabrous; leaves conjugate; tendrils simple?; leaflets oblong, acute, coriaceous, glabrous; calyx cleft on one side, and entire on the other. ♄. ◡. S. Native on the banks of the Orinoco, near Carichana. Leaflets 4 inches long. Inflorescence and colour of flowers unknown.

Orinoco Spathodea. Shrub cl.

5 S. obova'ta (H. B. et Kunth, l. c.) scandent; branches terete, striated, downy; leaves conjugate; tendrils simple?; leaflets obovate, acuminated, glabrous; axillary peduncles 1-flowered, and the terminal ones 3-flowered; calyx irregularly 3-5-cleft. ♄. ◡. S. Native of New Granada, near Turbaco. Bign. obovàta, Spreng. syst. 2. p. 330. Petioles puberulous. Leaflets 4 inches long, and 2½ broad. Corollas about 2 inches long, violaceous. This plant, from the form of the calyx, probably does not belong to the genus.

Obovate-leaved Spathodea. Shrub cl.

6 S. unca'ta (Spreng. syst. 2. p. 835.) scandent, glabrous; branches terete; leaves conjugate, undulated; tendrils longer than the petioles, trifid at apex, hooked; calyx spathaceous, bilabiate; flowers lateral, umbellate, aggregate. ♄. ◡. S. Native of Guiana, and the West Indies. Bignònia uncàta, Andr. bot. rep. t. 530. Sims, bot. mag. t. 1511.—Pluk. alm. p. 109. t. 163. f. 2.? Flowers yellow. Perhaps a species of *Bignònia*.

Hooked Spathodea. Fl. Sept. Clt. 1804. Shrub cl.

§ 3. *Leaves impari-pinnate.*

7 S. heterophy'lla (R. Br. prod. p. 472.) arboreous; leaves glabrous, pinnate and ternate, or simple; leaflets lanceolate-linear, entire; flowers racemose. ♄. S. Native of New Holland, within the tropic.

Various-leaved Spathodea. Tree.

8 S. glandulòsa (Blum. bijdr. p. 762.) arboreous; leaves impari-pinnate and ternate; leaflets ovate-oblong, acuminated, glabrous, furnished with many glands beneath at the base; panicles axillary and terminal, straight. ♄. S. Native of **Java**, on the mountains of Parang, and at the foot of Mount Tjerimai.

Glandular-leafletted Spathodea. Fl. year. Tree 15 to 25 feet.

9 S. adena'ntha; leaves ternate, verticillate, or impari-pinnate; leaflets ovate-oblong, acuminated, serrated; racemes terminal. ♄. S. Native of Guinea. Bignònia glandulòsa, Schum. pl. guin. p. 274. Limb of calyx obsoletely 4-toothed. Corolla pale purple; segments roundish, scattered with glands outside.

Gland-flowered Spathodea. Tree 30 feet.

10 S. Rhee'dii (Spreng. syst. 2. p. 835.) arboreous; leaves downy, impari-pinnate; leaflets 3-7 pairs, roundish, downy; racemes terminal, erect; calyx spathaceous; corolla much curved, slender. ♄. S. Native on the coast of Coromandel and Malabar. Bignònia spathàcea, Lin. suppl. 283. Retz. obs. 5. p. 5. Roxb. cor. 2. t. 144. fl. ind. 3. p. 103. Bign. falcàta, Kon. mss.—Rheed. 6. p. 53. t. 29. Shoots covered with whitish down. Racemes length of leaves. Flowers white, pretty large. Limb spreading. Fruit about a foot long, pendulous, twisted in various forms. This tree is called *Woody* by the Telingas; *Will-padri* by the Tamuls.

Rheede's Spathodea. Clt. 1794. Tree.

11 S. crìspa (Wall. cat. no. 6515.) arboreous; leaves villous, while young, pinnate; leaflets 5-7, oblong; racemes solitary, terminal, bearing a few flowers on long pedicels; calyx spathaceous; corolla salver-shaped, having the segments of the border nearly equal, and much curled. ♄. S. Native of Mysore, where it was collected by Dr. Buchanan. Bign. atrovìrens, Roth. herb. madr. S. atrovìrens, Spreng. syst. 2. p. 835. Leaves 6-10 inches long. Leaflets simple, very rarely ternate.

Flowers large, white. Tube of corolla cylindrical, as in the last species. Follicles pendulous, 12-14 inches long.

Curled-flowered Spathodea. Tree 25 feet.

12 S. ROXBU'RGHII (Spreng. syst. 2. p. 835.) arboreous; leaves 3 in a whorl, or scattered, impari-pinnate; leaflets from 4 to 5 pairs, serrated, smooth; panicles erect, terminal, dense, downy, many-flowered; fruit narrow, 4-celled; calyx generally 2-parted, with the upper lip 2-cleft, very downy. ♄. S. Native of the Circars. Bignònia quadriloculàris, Roxb. cor. 2. t. 145. fl. ind. 3. p. 107. Bark grey, with a few scabrous spots. Branches forming a dense, spreading head. Flowers large, rose-coloured, delightfully fragrant. Limb of corolla nearly equal, having the edges elegantly waved. Fruit a foot long, 2 inches broad, ½ an inch thick, straight, 2-valved, 4-celled: dissepiment enlarged in the middle, on each side, into a sharp ridge, which touches the valves, and divides each of the usual cells into 2 compartments; and in these ridges the seeds are fixed. This species is also remarkable on account of the serrated leaves. The wood is employed for many purposes by the natives.

Roxburgh's Spathodea. Clt. 1820. Tree large.

13 S. STIPULA'TA (Wall. cat. no. 6518.) arboreous; tender parts villous; leaves impari-pinnate; leaflets 4-6 pairs from ovate to oblong-elliptic; common petioles channelled; stipulas a tuft of sessile, orbicular ones in the axils of the leaves. ♄. S. Native of Pegu. Bignònia stipulàta, Roxb. fl. ind. 3. p. 108. Branches 4-cornered. Calyx and peduncles very woolly. Follicles cylindrical.

Stipulate Spathodea. Tree 10 to 20 feet.

14 S. LONGIFLÒRA (Vent. ex Pers. ench. 2. p. 173.) arboreous; leaves impari-pinnate; leaflets about 4 pairs, ovate to oblong, entire, cuspidate, downy while young; lower pair the smallest; panicles large, spreading, terminal; corolla bilabiate; follicles pendulous, long, slender, sub-cylindrical, with sharp edges, and variously curved. ♄. S. Native about Coromandel and Malabar, in the more mountainous parts, as well as of Ceylon and Java. Bignònia chelonoìdes, Lin. suppl. 283. Roxb. fl. ind. 3. p. 106. Bignònia longiflòra, Willd. spec. 3. p. 304. Padri, Rheed, mal. 6. p. 53. t. 29. *Pori-padyra-marum* of the Tamuls, and *Tagada* of the Telingas. Bark scabrous, brown. Leaves a foot long, glabrous in the adult state. Leaflets 4 inches long, and 2 broad. Ramifications of panicles decussate, the smaller or terminal ones dichotomous, with a sessile flower in the fork. Flowers pretty large, yellow, very fragrant. Follicles very long. The wood of this tree is high-coloured, hard, durable, and of much use amongst the inhabitants of the hills, where it is plentiful.

Long-flowered Spathodea. Clt. 1816. Tree large.

15 S. CORYMBÒSA (Vent. ex Pers. ench. 2. p. 173.? Spreng. syst. 2. p. 835.) erect; leaves conjugate, glabrous; leaflets sub-cordate, acute, quite entire; petioles glandular at the base; flowers corymbose. ♄. S. Native of Trinidad. Flowers yellow.

Corymbose-flowered Spathodea. Clt. 1824. Tree.

16 S. CAMPANULA'TA (Beauv. fl. d'ow. 1. p. 47. t. 27-28.) arboreous, glabrous; leaves alternate, impari-pinnate; leaflets 9, oblong-lanceolate, tapering to both ends; flowers racemose, terminal; calyx thick, arcuately reflexed, rather villous. ♄. S. Native of the west coast of Africa, in the kingdom of Waree. Corolla large, campanulate, of a reddish orange-colour, having the segments bordered with yellow. Genitals declinate. This species is remarkable, in having alternate leaves; the leaflets are, however, opposite.

Campanulate-flowered Spathodea. Tree or shrub.

17 S. LÆ'VIS (Beauv. fl. d'ow. 1. p. 48. t. 29.) erect; leaves impari-pinnate; leaflets 9, ovate, acuminated, toothed from the middle to the apex; flowers terminal. ♄. S. Native of Guinea, as at Sierra Leone and Waree. Leaves alternate. Racemes composed of 1-3-flowered peduncles. Flowers purple. Limb of corolla unequal; segments roundish. Calyx erect, smooth, 5-toothed. This species is remarkable, in having the leaflets toothed.

Smooth Spathodea. Clt. 1825. Shrub 5 to 10 feet.

18 S. TULIPÍFERA; leaves impari-pinnate; leaflets oblong, entire, hairy beneath; racemes corymbose, tomentose. ♄. S. Native of Guinea, at Aquapim. Bignònia tulipífera, Thonn. ex Schum. pl. guin. p. 273. Pedicels solitary. Corolla large, scarlet; segments ovate, with curled yellow edges. Tube of corolla short.

Tulip-bearing Spathodea. Tree large.

19 S.? FRAXINIFÒLIA (H. B. et Kunth, nov. gen. amer. 3. p. 147.) scandent; branches compressedly quadrangular, furrowed, glabrous; leaves impari-pinnate; leaflets ovate-elliptic, obtuse, glabrous, shining; panicles terminal, with opposite, compressed, dichotomous branches; calyx cleft on one side, and nearly entire on the other. ♄. ◡. S. Native of Llanos de Caracas, near Calabozo, in humid places, on the banks of the river Guarico. Bignònia fraxinifòlia, Spreng. syst. 2. p. 833. Branches warted. Leaves 8-9 inches long, with 3 pair of leaflets. Axils of petioles glandular. Corolla yellow, 5- rarely 4-cleft.

Ash-leaved Spathodea. Clt. 1822. Shrub cl.

20 S. GIGA'NTEA (Blum. bijd. p. 761.) arboreous; leaves pinnately decompound; leaflets oblong-lanceolate, acuminated, quite glabrous; panicles terminal, straight. ♄. S. Native of Java, in mountain woods, where it is called *Kipadali*.

Gigantic Spathodea. Fl. year. Tree 80 feet.

Cult. See *Bignònia*, p. 222, for culture and propagation. Like the species of *Bignònia*, they are splendid plants when in blossom.

III. TE'COMA (from Tecomaxochitl, the Mexican name of one of the species.) Juss. gen. p. 139. R. Br. prod. 471. H. B. et Kunth, nov. gen. amer. 3. p. 142.—Bignònia species, Lin. and others.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-toothed. Corolla with a short tube, and a campanulate throat; limb 5-lobed, bilabiate. Stamens 4, didynamous, that is, 2 long, and 2 short, with the rudiment of a fifth sterile filament. Stigma bilamellate. Capsule silique-formed, 2-celled, having the dissepiment contrary to the valves. Seeds disposed in 2 rows, imbricate, winged, transverse.—Erect trees or shrubs, rarely scandent shrubs. Leaves opposite, simple, impari-pinnate or digitate. Flowers terminal, panicled, yellow or flesh-coloured.

§ 1. *Leaves simple.*

1 T. UNDULA'TA; arboreous; leaves opposite, simple, linear-lanceolate, undulated; racemes lateral; limb of calyx cut into 5 emarginate segments; follicles linear, a little compressed. ♄. S. Native of Hindostan. Bignònia undulàta, Roxb. fl. ind. 3. p. 101. Bignònia salicifòlia, Hamilt, herb. Bark scabrous. Branches drooping like the *Weeping Willow*. Leaves clothed with minute, micaceous scales. Racemes 2-3 inches long, 5-6-flowered. Flowers very large, erect, orange-coloured. Segments or teeth of calyx often emarginate. Corolla with an obliquely campanulate tube, and a 4-parted limb; the upper division large, and divided into 2 rounded lobes; the under 3 equal, with rounded, curled edges. Pods curved. Seed with a very thin membranous margin all round; dissepiment contrary.

Undulated-flowered Tecoma. Tree 20 to 30 feet.

2 T. SPLE'NDIDA (Spreng. syst. 2. p. 834.) shrub erect; leaves crowded, linear, acute, fleshy, glabrous; flowers subracemose, terminal; anthers exserted, woolly. ♄. S. Native of Brazil. Esterhàzia splèndida, Mikan.

Splendid Tecoma. Fl.? Clt. 1820. Shrub erect.

§ 2. *Leaves digitate.*

3 T. DIGITA'TA (H. B. et Kunth, nov. gen. amer. 3. p. 142. arboreous; branches terete, glabrous; leaves digitate; leaflets obovate-oblong, quite entire, acute, glabrous. ♄. S. Native of New Andalusia, near Santa Cruz. Bark white. Leaflets 7 on each leaf, middle leaflet the largest. Capsule terete. Perhaps belonging to a distinct genus.

Digitate-leaved Tecoma. Clt. 1818. Tree 30 to 40 feet.

4 T. PENTAPHY'LLA (Juss. gen. 139.) arboreous; leaves digitate, quinate; leaflets obovate-lanceolate, quite entire, acute. ♄. S. Native of the West Indies and Brazil, if Guari-pariba, Marcgr. bras. 108. t. 118. Bignònia pentaphy'lla, Lin. spec. p. 870. hort. cliff. 497. Schlecht, in Linnæa, 6. p. 734. Swartz, obs. 233. Flowers 4-5 together, at the ends of the branches, pale blue, sweet scented. Corolla 2 inches long. Leaves pale green, whitish beneath, beset with minute glabrous dots, as well as the calyxes and pedicels. Leaflets on longish petioles. Calyx bilabiate: upper lip subtridentate, a little longer than the lower one, which is entire or bifid. Capsule 4-5 lines long, and 3 lines broad.

Five-leaved Tecoma. Tree 25 feet.

5 T. SERRATIFÒLIA; arboreous; leaves digitate; leaflets 4-5, ovate, attenuated, serrated, glabrous; pedicels terminal, crowded, 1-flowered; calyx bilabiate. ♄. S. Native of Trinidad, where it is called *Pony* by the Spaniards. Bignònia serrátifòlia, Vahl. eclog. 2. p. 46. Lateral leaflets smaller than the middle ones, all unequally serrated from the middle. Peduncles clothed with farinaceous tomentum, sometimes 2-flowered. Corolla yellow, 3 inches long.

Serrated-leaved Tecoma. Clt. 1822. Tree.

§ 3. *Erect trees and shrubs, with impari-pinnate leaves.*

6 T. AZALEÆFÒLIA (H. B. et Kunth, nov. gen. amer. 3. p. 142.) arboreous; branches quadrangular, glabrous; leaflets 3-4 pair, oblong, obtuse, serrated, glabrous; panicles simple, terminal. ♄. S. Native of the eastern declivities of the Andes of Peru, near Sondorilla, on the banks of the river Guancabamba, where it is called *Fresno* by the natives. Branches brown. Leaves 3 inches long; leaflets small. Panicles composed of simple racemes. Flowers flesh-coloured. Capsule compressed, 4 inches long.

Azalea-leaved Tecoma. Tree 10 to 15 feet.

7 T. ROSÆFÒLIA (H. B. et Kunth, l. c. p. 143.) arboreous?; branches terete, striated a little, glabrous; leaflets usually 2 pair, oblong, obtuse, serrated, glabrous; racemes terminal, simple. ♄. S. Native of Quito, near Chillo. Leaves usually impari-pinnate, rarely ternate or simple. Leaflets 1 inch long. Corollas yellow. Capsule as in the preceding species.

Rose-leaved Tecoma. Tree.?

8 T. SAMBUCIFÒLIA (H. B. et Kunth, l. c. p. 143.) arboreous; branches a little compressed, glabrous; leaves usually 2-3 pair, oblong, acuminated, serrated, glabrous; panicles terminal, simple. ♄. S. Native of the Andes of Peru, near Montan. Leaves usually impari-pinnate, intermixed also with ternate and simple ones. Leaflets 1½ inch long. Panicle composed of simple racemes. Flowers yellow. Capsule 4 inches long, warted.

Elder-leaved Tecoma. Clt. 1824. Tree 10 feet.

9 T. STA'NS (Juss. gen. 139.) arboreous; branches somewhat tetragonal, glabrous; leaflets ovate-lanceolate, acuminated, serrated, glabrous; racemes terminal, simple. ♄. S. Native of various parts of South America, and the West Indies, Mexico, &c. Hook. bot. mag. 3191. Bignònia stáns, Lin. spec. 871.—Plum. spec. 5. icon. 54.—Sloan, hist. 2. p. 63. Leaflets 4-5 pair. Terminal leaflets 3 inches long, the rest shorter. Flowers yellow.

Var. β, incìsa; leaflets more deeply cut. ♄. S. Native of South America. Bignònia incìsa, Colv. cat. Técoma incìsa, Sweet, hort. brit. p. 182.

Standing Tecoma. Fl. Aug. Clt. 1730. Tree 10 to 12 feet.

10 T. SORBIFÒLIA (H. B. et Kunth, l. c. p. 144.) arboreous?; branches tetragonal, glabrous; leaflets usually 2 pair, oblong, acuminated, serrated, clothed with white tomentum; panicles terminal, simple. ♄. S. Native near the town of Quito. Terminal leaflets about 4 inches long, lateral ones 3 inches long. Branches of panicle simple, downy. Flowers unknown, but probably yellow. Capsule narrowed, 7-8 inches long, warted.

Service-leaved Tecoma. Clt.? Tree or shrub.

11 T. MÓLLIS (H. B. et Kunth. l. c.) arboreous?; branches compressedly tetragonal, downy; leaflets 4 pairs, oblong, acuminated, almost quite entire, clothed with soft down-like hairs, on both surfaces; panicles terminal, simple. ♄. S. Native of Mexico, near Guanaxuato. Terminal leaflets 3 inches long; lateral ones 2½. Branches of panicle simple, downy. Corollas yellow.

Soft Tecoma. Clt. 1824. Tree or shrub.

12 T.? AFRICA'NA; arboreous; leaflets 2 pair, obovate, coarsely toothed, wrinkled; racemes terminal, simple, 6-7-flowered. ♄. S. Native of Senegal. Bignònia Africàna, Lam. dict. 1. p. 424. Leaves scabrous above. Terminal leaflet petiolate, lateral ones sessile. Calyx cup-shaped, unequally 4-cleft. Corollas 2 inches long, 4-cleft. Perhaps a distinct genus.

African Tecoma. Tree tall.

13 T. FU'LVA; arboreous; branches tetragonal; leaflets many pairs, cuneate, serrated, small, villous; racemes axillary. ♄. S. Native of South America. Bignònia fúlva, Cav. icon. 6. p. 58. t. 580. Stem of a fuscous-violaceous colour. Common petioles winged. Corollas yellowish.

Fulvous-flowered Tecoma. Shrub 5 to 6 feet.

14 T. SUAVE'OLENS; arboreous; leaflets 3 pair, oval, serrulated, glabrous; panicles terminal, thin; first divisions brachiate; corolla woolly; calyx villous, with a 4-cleft limb: upper division furnished with 2 minute points. ♄. S. Native of Bengal, and of the southern parts of the Coromandel coast. Bignònia suavèolens, Roxb. fl. ind. 3. p. 104. Bign. noctiflòra, Ham. herb. Bign. gratíssima, Kon. Bign. chelonoìdes, Kon. *Patali* is the Sanscrit name of the tree, see Asiat. res. p. 291. *Parul* is the Bengalese name; and *Paral* is the Hindostanee name. Bark ash-coloured, rather scabrous. Leaflets ending in narrow, bluntish points; the outer ones the largest, 6 inches long, and 3-4 broad. Panicle composed of a few spreading branches; the first and second series thereof opposite; the upper ones dichotomous, with a solitary, pedicellate flower in each fork; all are thickly beset with glandular, viscid hairs. Flowers large, of a dark, dull crimson colour, exquisitely fragrant. Corolla with an ample woolly throat, convex beneath, flat, and plaited above; the upper division of the border shortest; having the margins of all curled. Ovarium oblong-clavate, on a glandular receptacle.

Sweet-scented-flowered Tecoma. Tree.

§ 4. *Climbing shrubs; with impari-pinnate leaves.*

15 T. AUSTRA'LIS (R. Br. prod. p. 471.) scandent, glabrous; leaflets 5, elliptic, glabrous in the adult state, entire; panicle terminal; capsule oblong. ♄. ◡. G. Native of New Holland, within the tropic, and of New South Wales. Bignònia Pandòrea, Vent. malm. t. 43. Andr. bot. rep. t. 86. Sims. bot. mag. 865. Panicle composed of simple racemes; also the racemes are often axillary. Flowers pale red, with a dark purple, bearded throat.

Southern Tecoma. Fl. April, July. Clt. 1793.

16 T. MEONA'NTHA; scandent, glabrous; branches angular; leaflets 9, lanceolate, subserrated, bluntish, mucronate, dotted beneath; panicles terminal; corolla with a bearded throat. ♄. ◡. G. Native of New Holland. Bignònia meonántha, Link. enum. 2. p. 130. Bign. pandòrea mìnor, hort. angl. Serratures of leaves few, bluntish. Corolla subventricose, 8 lines long, of

reddish white colour. Leaves and flowers smaller than in *Técoma austràlis*. Upper lip of corolla emarginate.

Smaller-flowered Tecoma. Fl. April, July. Clt.? Shrub cl.

17 T. JASMINOÌDES; leaves impari-pinnate, glabrous, shining; leaflets 5, oblong-lanceolate, bluntly acuminated, entire, paler beneath; panicles terminal, trichotomous. ♄. ◡. G. Native of New Holland, in Moreton Bay. Bignònia jasminoìdes, Cunningh. in Loud. hort. brit. p. 582. Branches terete, glabrous, green. Calyx crenately 5-toothed. Corolla funnel-shaped, downy inside and outside, and a little bearded in the throat, of a pale blush colour, almost white, with a dark purple throat. Segments of corolla rounded, rather unequal. The fifth or sterile filament very short, bearded at top; all the rest bearded at the base.

Jasmine-like Tecoma. Fl. July, Aug. Clt. 1830. Shrub cl.

18 T. DIVERSIFÒLIA; leaves impari-pinnate, very variable; lower ones smallest, with 11 sessile, ovate-roundish, unequal-sided, deeply crenated leaflets: the terminal leaflets the largest, ovate-oblong, and bluntly acuminated, having the common petiole winged, and articulated at the pairs of leaflets; the leaves become as they ascend the stems gradually larger, the leaflets more entire; the ultimate ones are therefore the largest, with only 5 leaflets, which are ovate-oblong, bluntish and repandly crenate, having the terminal leaflet twice the size of the lateral ones. ♄. ◡. F. Native of New Holland. The petioles have always narrow wings, and the leaves are dark green, glabrous, and shining.

Diverse-leaved Tecoma. Fl.? Clt. 1830.? Shrub cl.

19 T. CAPE'NSIS (Lindl. bot. reg. 1117.) scandent, glabrous; branches terete; leaflets 9, ovate, serrated, bearded in the axils of the veins beneath; racemes terminal on long peduncles; calyx 5-toothed; limb of corolla 4-parted; segments nearly equal, obtuse; the upper one emarginate. ♄. ◡. G. Native of the Cape of Good Hope. Bignònia Capénsis, Thunb. prod. p. 105. Ait. hort. kew. 4. p. 50. Flowers middle-sized, of an orange scarlet colour, 2 inches long.

Cape Tecoma. Fl. July, Sept. Clt. 1783. Shrub cl.

20 T. GRANDIFLÒRA (Sweet, hort. brit. p. 184.) slightly scandent, glabrous; leaflets 7-9, ovate, acuminated, coarsely serrated, attenuated at the base; panicles terminal, pendulous; calycine segments lanceolate, length of the tube of the corolla. ♄. ◡. G. Native of China and Japan. Bignònia grandiflòra, Thunb. jap. 253. Blum. bijdr. 778. Bign. Chinénsis, Lam. dict. 1. p. 424. Rjotsjo, Kæmpf. amœn. p. 856. Banks, icon. Kæmpf. t. 21. Incarvíllea grandiflòra, Spreng. syst. 2. p. 836. *Tung-vong-fa* of the Chinese. Branches rooting. Young shoots spotted with dark purple. Leaves 6-10 inches long; petioles marginate. Flowers pendulous, forming terminal, cross-armed panicles, large, of a tawny orange colour on the outside, and of a tolerably bright reddish orange inside, with brighter streaks. Nectary a glandular, crenated ring. Anterior lobe of stigma recurved.

Great-flowered Tecoma. Fl. July, Aug. Clt. 1800. Shrub climbing.

21 T. RADÌCANS (Juss. gen. p. 139.) scandent, glabrous; branches rough, radicant; leaflets 9, ovate, acuminated, coarsely serrated; racemes terminal, corymbose, on long peduncles; tube of corolla 5 times longer than the calyx. ♄. ◡. H. Native of Carolina, Florida, and Virginia. Bignònia radìcans, Lin. spec. 871. hort. cliff. 317. ups. 178. Grov. virg. 73. Mill. icon. t. 65. Duham, arb. 1. p. 103. t. 1. Sabb. hort. 2. t. 84. Du Roi, hardb. 1. p. 116. Wangenh. amer. 68. t. 26. f. 53. Willd. arb. 47. Curt. bot. mag. 485.—Riv. mon. p. 101.—Mor. hist. 3. p. 612. f. 15. t. 3. f. 1.—Corn. can. 102. t. 103. This is a beautiful hardy climber, fixing itself to trees or walls, by roots, like ivy. The flowers are produced at the ends of the shoots, in large bunches; and have long swelling tubes, shaped somewhat like a trumpet, whence this species, as well as all the species of *Bignònia*, have the name of Trumpet-flower. The corolla is large, scarlet orange-coloured.

Var. β, minor; flowers smaller, scarlet. ♄. ◡. H. Native of Carolina. There is a remarkable difference between this and the species, in the shape and size of the leaves, as well as in the colour and size of the flowers.

Rooting Tecoma. Fl. Aug. Clt. 1640, *β*, 1724. Shrub cl.

§ 5. *Leaves decompound.*

22 T. XYLOCA'RPA; arboreous; leaves bi-tripinnate; leaflets from obliquely oblong to semicordate; panicles terminal; segments of the limb of the corolla round, and curled; capsules long, linear, crooked, ligneous, tubercled. ♄. S. Native of Soonda, in the East Indies. Bignònia xylocárpa, Roxb. fl. ind. 3. p. 108. Bark ash-coloured, rather spongy, and considerably cracked. Leaves 1-4 feet long. Common petioles scabrous. Branches of panicle opposite or tern, 2-3 or more times dichotomous, slightly downy, with a single flower in each fork. Bracteas ovate-oblong. Flowers large, white, with a tinge of yellow, delightfully fragrant. Capsule 2 feet long; dissepiment contrary.

Woody-fruited Tecoma. Tree 20 to 40 feet.

Cult. All the species of this genus are elegant plants, well worth the cultivator's care. *T. radìcans* is a hardy climbing shrub, well fitted for decorating a wall, or front of a house. The other species require the same treatment as that recommended for the species of *Bignònia*, see p. 222.

IV. JACARA'NDA (the name of *J. Braziliàna* in Brazil.)

Juss. gen. p. 138. ed. Usteri, p. 154. H. B. et Kunth, nov. gen. amer. 3. p. 145. Humb. et Bonpl. pl. æquin. 1. p. 59. D. Don, in edinb. phil. journ. 1823.—Bignònia species of some authors.

LIN. SYST. *Didynàmia, Angiospérma.* Calyx campanulate, 5-toothed; rarely tubular, truncate, entire. Corolla tubular at the base, very much dilated above, campanulate, ventricose beneath; limb bilabiate, 5-lobed. Stamens 4, didynamous; with a fifth longer, sterile filament, which is villously bearded at top. Anthers 1-lobed in most of the species, with an obsolete rudiment of another lobe; rarely 2-lobed (as in *Jacaránda tomentòsa*), with the lobes equal and diverging. Stigma bilamellate. Capsule broad, compressed, 2-celled; valves thick, ligneous; dissepiment contrary to the valves, placentiferous on both sides. Seeds flat, transverse, with foliaceously-winged edges; outer testa coriaceous, rugosely plicate.—Trees natives of South America, with the habit of the fine-leaved species of *Acàcia*. Leaves opposite, bipinnate. Flowers showy, panicled, terminal, rarely lateral, blue, violaceous, or yellow.

§ 1. *Anthers* 1-*lobed. Leaves abruptly bi-pinnate.*

1 J. ACUTIFÒLIA (Humb. et Bonpl. pl. æquin. 1. p. 59. t. 17. nov. gen. 3. p. 145.) leaves bipinnate, usually with 5-6 pair of alternate pinnæ; leaflets 9-12 pairs, linear-lanceolate, acuminated, glabrous; corolla silky, with a straight tube. ♄. S. Native of Peru, near San Felipe: and on the banks of the river Guancabamba. Bark grey, chinky. Leaflets opposite or alternate. Panicle terminal, large, pyramidal, many-flowered. Calyx campanulate, 5-toothed; teeth ovate, acute. Corolla large, violaceous; with a campanulate throat, ventricose beneath. Capsule oval, acutish.

Acute-leaved Jacaranda. Tree 10 feet.

2 J. OBTUSIFÒLIA (Humb. et Bonp. pl. æquin. 1. p. 62. t. 18. Kunth, nov. gen. 3. p. 145.) leaves bipinnate; with many pairs

of alternate or opposite pinnæ (about 15 pairs); leaflets many-pairs alternate or opposite, oval-oblong, obtuse, downy; corollas glabrous, having an arched tube, which is three times shorter than the throat. ♄. S. Native on the banks of the Orinoco, in shady places, near Carichana, where it is called *Arbol del roseto.* Bark grey, wrinkled. Leaves a foot long. Leaflets contiguous. Panicle large, many-flowered, diffuse, usually lateral. Calyx small, campanulate, 5-toothed; teeth acute. Corolla violaceous, glabrous, larger than those of *J. mimosifòlia;* throat much dilated. Ovarium ovate, 2-edged.

Obtuse-leaved Jacaranda. Tree 30 feet.

3 J. MIMOSIFÒLIA (D. Don, in bot. reg. t. 631.) leaves bipinnate, with many pairs of opposite pinnæ (14-24 pair), each pinnæ bearing 10-28 pair of trapezoid-oval oblong, mucronate, downy leaflets, the odd or terminal leaflet lanceolate, and longer than the lateral ones; corollas silky, having the tube a little arched, and 3 times shorter than the throat. ♄. S. Native of Brazil. J. ovalifòlia, R. Br. in bot. mag. t. 2327. Bark grey, nodose from cicatrices at bottom. Leaves beset with scattered, shining dots. Leaves $1\frac{1}{2}$ foot long. Panicles large, terminal, naked, erectly pyramidal. Flowers showy, drooping, blue. Calyx villous, 5-toothed. Ovarium ovate-oblong, acuminated.

Mimosa-leaved Jacaranda. Fl. April, May. Clt. 1818. Tree 6 to 10 feet.

4 J. FILICIFÒLIA (D. Don. in edinb. phil. journ. 1823.) leaves bipinnate, with many pairs of opposite pinnæ (9-18 pair), each pinnæ bearing from 6 to 15 pair of contiguous trapezoid-oval, mucronate, glabrous, coriaceous leaflets: the odd or terminal one elliptic-rhomboid, acute, large; corolla glabrous, with an arched tube about equal in length to the throat. ♄. S. Native in woods, at the river Essequibo. J. rhombifòlia, Meyer, prim. esseq. p. 213. Bignònia filicifòlia, Anderson, cat. hort. St. Vincent, in trans. soc. arts, &c. vol. 25. p. 200. Branches elongated, with broad cicatrices occasioned by the falling of the leaves. Leaves 1 to $1\frac{1}{2}$ foot, shining above, and glaucous beneath. Panicles lateral and terminal. Calyx campanulate, 5-toothed. Corollas large, violaceous, with a narrow cylindrical tube, and a wide, campanulate throat. Ovarium elliptic.

Fern-leaved Jacaranda. Fl.? Clt. 1800. Tree 25 to 40 feet.

5 J. COPA'IA (D. Don, in edinb. phil. journ. 1823.) leaves bipinnate, with 4-5 pairs of opposite pinnæ, each pinna bearing 3-6 pair of elliptic or cuneated, obtuse, coriaceous, glabrous leaflets; calyx tubular, truncate; corollas velvety. ♄. S. Native of Guiana, in woods. Bignònia, Capàia, Aubl. guian. 2. p. 650. t. 265. and 262. J. procèra, Spreng. syst. 2. p. 834. Bignònia procèra, Willd. spec. 3. p. 307. Pers. ench. 2. p. 173. Bark thick, grey, wrinkled. Leaves $1\frac{1}{2}$ to 2 feet long. Panicle large, terminal. Calyx truncate, entire, with a short cleft on both sides of the mouth. Corolla blue, size of those of *Digitàlis ambígua,* with a dilated, ventricose, bearded throat. Capsule oval, obtuse.

Copaia Jacaranda. Clt. 1793. Tree 60 to 80 feet.

6 J. BAHAME'NSIS (Sims. bot. mag. under no. 2327.) leaves bipinnate; pinnæ alternate; leaflets opposite or alternate, acute at both ends; calyx truncate; corollas glabrous. ♄. S. Native of the Bahama Islands, particularly of the Island of Providence, near the town of Nassau, Catesby. Bignònia cœrùlea, Lin. spec. 872. Mill. dict. no. 11. Willd. spec. 3. p. 307.—Catesb. car. 1. p. 42. t. 42. Panicle terminal. Flowers blue. Fruit emarginate.

Bahama-island Jacaranda. Fl. July, Aug. Clt. 1724. Tree.

7 J. BRASILIA'NA (Lam. dict. 1. p. 420.) leaves bipinnate; leaflets oblong, acute; panicles lateral; fruit short, with sinuated edges. ♄. S. Native of Brazil. Bignònia Braziliàna, Willd. spec. 3. p. 307. Jacarànda II. Pis, bras. p. 165. Flowers yellow. This species will be easily distinguished from the rest, by its yellow flowers. We know nothing of the anthers.

Brazilian Jacaranda. Clt. 1820. Tree 20 to 30 feet.

§ 2. *Anthers 2-lobed: lobes equal. Leaves impari-bipinnate.*

8 J. TOMENTÒSA (R. Br. in bot. mag. under no. 2327. in bot. reg. 1103.) leaves bipinnate, with 3-5 pairs of pinnæ, and an odd one; leaflets ovate or elliptic, acute or acuminated, unequal, tomentose in the young state, and beneath in the adult state; corollas silky; branches downy. ♄. S. Native of Brazil, Sir George Staunton, and Sello. J. pubéscens, Lodd. cat.? Bark grey. Leaves a span long. Panicles small, terminal, tomentose; peduncles 1-3-flowered. Calyx campanulate, 5-toothed; teeth ovate, acute. Corolla violaceous or blue; with a widened throat. Capsule oval-orbicular.

Tomentose Jacaranda. Fl.? Clt. 1824. Tree 20 to 30 feet.

Cult. Jacarànda is a genus composed of elegant trees, having much the habit of the fine-leaved *Acacias;* bearing large, usually terminal panicles of showy blue, or violaceous flowers, and on that account are worth cultivating in every collection of stove plants. They grow freely in a mixture of loam, peat, and sand, or any light rich soil; and cuttings, half ripened, strike root readily, if planted in sand, with a hand-glass placed over them; but the leaves of these cuttings should not be shortened, or cut in any way. If the trees are kept dry in winter, it will check their growth, and throw them into flower.

V. AMPHILO'PHIUM (from *αμφιλοφος, amphilophos,* crested on all sides; limb of corolla much curled.) H. B. et Kunth, nov. gen. amer. 3. p. 148.—Bignònia species, Lin.

LIN. SYST. *Didynàmia, Angiospérma.* Calyx campanulate, with a double limb; inner one bilabiate; outer one spreading, undulately curled. Corolla somewhat coriaceous, with a short tube, a large ventricose throat, which is sulcately compressed in front: limb bilabiate; upper lip large, helmet-shaped, bidentate; lower one straight, tridentate, about equal in length to the superior one. Stamens 4, didynamous, that is, 2 long, and 2 short, with the rudiment of a fifth. Lobes of anthers cohering at top, divaricate. Stigma bilamellate. Capsule ovate, rather ligneous, 2-celled, 2-valved. Seeds imbricate, membranaceously-winged, transverse.—Climbing, cirrhose shrubs; with opposite, conjugate leaves, and terminal panicles of rose-coloured or red flowers.

1 A. PANICULA'TUM (H. B. et Kunth, l. c. p. 149.) leaves conjugate; leaflets ovate-roundish, acuminated, subcordate, finely lepidoted on both surfaces, clothed with down-like hairs on the middle nerve beneath, and on the inside of the petioles; tendrils trifid. ♄. ◡. S. Native of New Andalusia, near the monastery of Caripe, and on mount Cocollar. Bignònia paniculàta, Lin. spec. 869. Jacq. amer. 183. t. 116. Vahl. symb. 3. p. 80.—Plum. spec. 5. icon. 56. f. 11. Panicle composed of 3-flowered peduncles. Corollas rather fleshy, rose-coloured. Jacquin's plant has the lower leaves ternate.

Var. β, mólle; leaflets orbicular, acuminated, cordate, clothed with adpressed, rufescent, stellate, branched tomentum beneath. ♄. ◡. S. Native near Vera Cruz. A. mólle, Cham. et Schlecht. in Linnæa. 5. p. 120. Branches tetragonal, tomentose.

Panicled Amphilophium. Fl.? Clt. 1738. Shrub cl.

2 A. MUTÌSII (H. B. et Kunth, nov. gen. amer. 3. p. 149. t. 219.) leaves conjugate; leaflets ovate-roundish, acuminated, cordate, finely lepidoted on both surfaces; petioles glabrous; tendrils angular, trifid at top. ♄. ◡. S. Native of New Granada, near Mariquita, in temperate places. Branches somewhat 6-angled, glabrous, white; branchlets green, beset with powdery atoms. Branches of panicle few-flowered. Corollas

fleshy, rose-coloured. Very nearly allied to the preceding species.

Mutis's Amphilophium. Shrub cl.

3 A. MACROPHY'LLUM (H. B. et Kunth, l. c. p. 150.) leaves conjugate; leaflets ovate-roundish, acuminated, cordate, hairy and shining above, and clothed with fuscescent tomentum beneath, as well as the petioles; tendrils? ♄. ◡. S. Native of New Granada, near Turbaco. Hairs and tomentum stellate. Branches sulcately angular. Panicles axillary and terminal, clothed with fuscescent tomentum. Branches dichotomous. Corollas red.

Large-leaved Amphilophium. Shrub cl.

4 A.? PUBE'SCENS (Spreng. syst. 2. p. 836.) leaves ternately bi-pinnate, downy; leaflets oblong, obtuse, sessile, almost quite entire; flowers axillary, opposite, pedunculate. ♄. ◡. S. Native of Brazil.

Downy Amphilophium. Shrub tw.

Cult. For culture and propagation see the climbing species of *Bignònia*, p. 222.

VI. ZEYHE'RIA (named in honour of M. Zeyher, director of the Botanic Garden at Baden; and author of several botanical papers.) Mart. nov. gen. bras. 2. p. 65. t. 159.

LIN. SYST. *Didynàmia*, *Angiospérma*. Calyx spathaceous, closed, at length bipartite. Corolla tubular; tube nearly equal; limb 5-lobed, hardly bilabiate. Stamens 4, didynamous, with the rudiment of a fifth sterile one. Stigma bilamellate. Capsule echinated, orbicular, compressed, having the dissepiment contrary to the valves. Seeds with membranous wings, imbricated.—A small tree, or large shrub; branches opposite. Leaves opposite, digitate. Flowers terminal, paniculately corymbose; bracteas twin, naked, axillary.

1 Z. MONTA'NA (Mart. nov. gen. bras. 2. p. 66. t. 159.) leaves digitate; leaflets 5, lanceolate, clothed with fulvous, farinaceous, stellate tomentum beneath, as well as outer branches and inflorescence. ♄. S. Native of Brazil, in the province of St. Paul. Spathòdea montàna, Spreng. syst. add. p. 237. Corolla 1 to 1½ inch long, clothed with golden, lepidoted tomentum outside; segments ciliated, the 3 superior ones narrower and shorter.

Mountain Zeyheria. Shrub 7 feet.

Cult. For culture and propagation, see *Jacarànda*, p. 226.

VII. FREDERI'CIA (named in compliment to Frederick William III. King of Bavaria, a great promoter of the sciences.) Mart. in nov. act. bonn. 13. p. 7. t. A. and B.

LIN. SYST. *Didynàmia*, *Angiospérma*. Calyx tubularly campanulate, pentagonal, coloured; with 5 short teeth. Corolla salver-shaped; with a cylindrical tube, and a spreading border; limb 5-6-cleft; segments spreading, roundish. Stamens 4, didynamous, with the rudiment of a fifth sterile one; filaments bearded at the base; lobes of anthers divaricate. Stigma bilamellate. Capsule compressed, oblong, acutish, almost as broad as long; dissepiment contrary to the valves. Seeds transverse, with membranous margins.—Branched, rambling shrubs. Leaves ternate; leaflets quite entire. Flowers terminal, panicled, bracteate. Inflorescence scarlet.

1. F. SPECIÒSA (Mart. l. c. p. 9. t. A.) leaflets oblong, acuminated, flattish, bearded in the axils of the veins beneath; panicle pyramidal, spreading; calyx and corolla 5-cleft. ♄. ◡. S. Native of Brazil, in the provinces of St. Paul and Rio Janeiro, in woods. Branches terete, striated, glabrous. Panicle large, having the rachis and peduncles tetragonal, purplish scarlet, and clothed with fine villi. Corollas scarlet, or reddish yellow. There are varieties of this species, having the corolla more or less red or yellow, with a glabrous or downy throat.

Showy Fredericia. Shrub cl.

2 F. GULIE'LMI (Mart. l. c. p. 11. t. B.) leaflets ovate-oblong, acute at the base, and short-acuminated at the apex, usually complicate, quite glabrous on both surfaces; panicle compact; calyx, but particularly the corolla, for the most part 6-cleft. ♄. ◡. S. Native of Brazil, in the interior parts of the province of Bahia, in woods. Branches terete, glabrous, often rough from warts. Rachis, peduncles, and pedicels tetragonal, scarlet, and downy. Corolla yellow, downy outside, as in the first species.

William's Fredericia. Shrub cl.

Cult. For culture and propagation see *Bignònia*, p. 222.

VIII. FERDINANDU'SA (named in honour of Ferdinand, hereditary prince of Austria.) Pohl, bot. zeit. 1827. no. 10. p. 153. pl. bras. 2. p. 8.

LIN. SYST. *Didynàmia*, *Angiospérma*. Calyx 4-toothed. Corolla funnel-shaped, 4-parted; segments unequal, bifid, bearded at apex. Stamens 4, didynamous; rudiment of a fifth not seen. Anthers involute at the base and apex; cells parallel or combined; pollen spherical, yellow. Ovarium gibbous at apex, 4-cleft. Style elongated. Stigma bipartite. Capsule large, elliptic, ovate, 2-celled, 4-valved. Seeds unknown.—Erect, middle-sized trees. Leaves large, opposite, coriaceous, blackish or yellowish green, shining, quite entire, ovate, on short petioles; bracteas small. Flowers terminal and axillary, corymbose, scarlet or whitish-green. Stamens and stigmas exserted. Throat of corolla naked. This genus is nearly allied to *Fredericia* and *Zeyhèria*, Mart.

1 F. ELLÍPTICA (Pohl, bras. 2. p. 9. t. 106.) leaves oval-elliptic, obtuse at the apex; bracteas roundish, trifid. ♄. S. Native of Brazil, in the province of Goyaz, in boggy places. Leaves dark green above, and yellowish green beneath. Corollas whitish green.

Elliptic-leaved Ferdinandusa. Tree 12 feet.

2 F. OVA'LIS (Pohl, pl. bras. 2. p. 10. t. 107.) leaves oval, marginated, acutish at the apex; bracteas roundish, quite entire, acute, half stem-clasping, ciliated at their confluence. ♄. S. Native of Brazil, in the province of Goyaz, near to the town of the same name, at Serra de Manoel Gomez. Corollas dark red or scarlet. Leaves dark green above, and yellowish beneath.

Oval-leaved Ferdinandusa. Tree 10 to 12 feet.

3 F. SPECIÒSA (Pohl, pl. bras. 2. p. 12. t. 108.) leaves oval-elliptic, emarginate, acute; bracteas lanceolate, quite entire, scarious. ♄. S. Native of Brazil, in the province of Minas Geraes, on Serra de Spilons; and of the province of Goyaz, at Caza de Telha, and St. Cruz. Corollas scarlet, 2 inches long. Leaves greenish yellow.

Showy Ferdinandusa. Tree 9 feet.

Cult. For culture and propagation see *Jacarànda*, p. 226. The species are extremely elegant when in blossom.

IX. STENOLO'BIUM (from στενος, *stenos*, narrow; and λοβος, *lobos*, a pod; in reference to the narrow, linear, siliquose capsule.) D. Don, in edinb. phil. journ. 1823.

LIN. SYST. *Didynàmia*, *Angiospérma*. Calyx small, campanulate, 5-toothed, equal. Corolla with a narrow tube; a dilated, inflated, campanulate throat; and a 5-lobed, equal, bilabiate limb. Stamens 4, didynamous, that is, 2 long, and 2 short, with a very short rudiment of a fifth; lobes of anthers linear, spreadingly divaricate. Stigma bilamellate. Capsule narrow-linear, siliquose, compressed, 2-celled; dissepiment parallel with the

valves. Seeds flat, transverse, with membranous margins.—A frondose, erect tree. Leaves opposite, simple, very like those of the sweet chestnut, elliptic, coriaceous, acute, feather-nerved, petiolate, with serrated edges, clothed with copious stellate tomentum beneath, 5-7 inches long, and 2-3 broad, glabrous above. Flowers terminal, numerous, spicately panicled, reddish purple, size of those of *Jacaránda*. Style slender, shorter than the stamens. Capsule 5 inches long.

1 S. castanifòlium (D. Don, l. c.) ♄. G. Native of Peru, in woods, at Huayaquil. Bignònia serràta, Pav. mss. in herb. Lamb.

Chestnut-leaved Stenolobium. Tree erect.

Cult. For culture and propagation see *Jacaránda*, p. 226.

X. DELO'STOMA (from δηλος, *delos*, manifest; and στομα, *stoma*, a mouth; in allusion to the wide mouth of the flower.) D. Don, in edinb. phil. journ. 1823.—Bignònia species of Pav.

Lin. syst. *Didynàmia, Angiospérma.* Calyx campanulate, 3-lobed, coriaceous. Corolla funnel-shaped, with a dilated throat, and a spreading, bilabiate limb; lower lip 3-lobed; upper lip shorter, and 2-lobed; lobes broad, roundish, flat. Stamens 4, didynamous, that is, 2 long and 2 short; with the addition of a short fifth sterile, glabrous one. Lobes of anthers parallel, equal. Stigma broad, bilamellate. Capsule lanceolate, compressed, 2-celled; valves coriaceous, rather fleshy: dissepiment parallel with the valves. Seeds flat, transverse, with broad, membranous edges.—Frondose trees, natives of Peru. Leaves simple, opposite, elliptic, petiolate, bluntly acuminated. Flowers terminal, spicately racemose, large, rose-coloured. The campanulate, 3-lobed calyx, the figure of a corolla; the parallel lobes of the anthers; and the structure and form of the capsule; are the marks which particularly characterize this genus.

1 D. denta'tum (D. Don, l. c.) leaves elliptic-oblong, toothed, downy beneath. ♄. S. Native of Peru. Bignònia ròsea, Pav. mss. in herb. Lamb. Flowers rose-coloured.

Toothed-leaved Delostoma. Tree.

2 D. integrifòlium (D. Don, l. c.) leaves elliptic, quite entire, tomentose beneath. ♄. S. Native of Peru. Bignònia simplicifòlia, Pav. mss. in herb. Lamb.

Entire-leaved Delostoma. Tree.

Cult. For culture and propagation see *Jacaránda*, p. 226.

XI. ASTIA'NTHUS (from αστειος, *asteios*, beautiful; and ανθος, *anthos*, a flower; in allusion to the brilliant flowers.) D. Don, in edinb. phil. journ. 1823.

Lin. syst. *Didynàmia, Angiospérma.* Calyx tubular; limb equal, 5-toothed. Corolla tubular at the base, but with a dilated, campanulate, ventricose throat; limb 5-lobed, bilabiate; lower lip 3-lobed, the middle lobe large; the superior lip 2-lobed, and reflexed. Stamens 4, didynamous; with a shorter, glabrous rudiment of a fifth sterile one. Stigma bilamellate. Anthers naked; lobes equal, confluent. Capsule very long, siliquose, 2-celled. Dissepiment parallel with the valves, thick, placentiferous on both sides. Seeds transverse, compressed; with winged margins, and pappose from numerous villi.—An erect, branched, frondose shrub, native of Mexico. Branches terete, glabrous. Leaves simple, tern, elongated, broad-linear, coriaceous, quite entire, glabrous, 6-10 inches long, 1-nerved, attenuated at both ends. Flowers terminal, numerous, panicled. Corolla larger than that of *Digitàlis purpùrea*, reddish purple. Lobes of the limb of the corolla broad, round, with curled and erose edges. This genus is distinguished from *Bignònia*, in the confluent lobes of the anthers, by its seeds being furnished with a villous pappous, and by its habit. It differs from *Técoma*, besides the characters above enumerated, in having a parallel, and not a transverse dissepiment; and from *Spathòdea*, with some species of which it agrees in habit; but is readily distinguished by the structure of its capsule, in having seeds furnished with a villous pappous, and lastly, in the lobes of the anthers being confluent.

1 A. longifòlius (D. Don, l. c.) ♄. S. Native of Mexico. *Long-leaved* Astianthus. Shrub.

Cult. For culture and propagation see *Jacaránda*, p. 226.

XII. CHILO'PSIS (from χειλος, *cheilos*, a lip; and οψ, *ops*, resemblance; on account of the calyx being furnished with a distinct lip.) D. Don, in edinb. phil. journ. 1823.—Bignònia species, Cav.

Lin. syst. *Didynàmia, Angiospérma.* Calyx membranous, oblong, ventricose, cleft on the lower side, even to the base; limb oblique, tridentate on the upper side. Corolla with a tubular base, and a dilated campanulate throat; limb 5-lobed, bilabiate; lobes oval-roundish, with curled, crenated edges; lower lobe large, oblong. Stamens 4, didynamous; besides the rudiment of a fifth sterile, glabrous one. Stigma bilamellate. Anthers naked; lobes equal, divaricate. Capsule short, siliquose, 2-celled: dissepiment contrary, placentiferous. Seeds transverse, with membranous margins.—An erect, branched shrub, native of Mexico; with terete, downy branches. Leaves alternate, linear, flat, elongated, 3-5 inches long, glabrous, coriaceous, attenuated at both ends. Racemes terminal, short, dense, tomentose; pedicels short, furnished with 2 linear-lanceolate bracteoles each. Lobes of stigma replicate. Corolla dark purple, size of those of *Chelòne*. This is a well-marked genus, readily distinguished from *Spathòdea*, in the structure of its capsule, and by having simple, alternate leaves.

1 C. salígna (D. Don, l. c.) ♄. S. Native of Mexico. Bignònia lineàris, Cav. icon. 3. t. 269.

Willow-leaved Chilopsis. Fl. ? Clt. 1825. Shrub 10 feet.

Cult. For culture and propagation see *Jacaránda*, p. 226.

XIII. OXE'RA (from ογκηρος, *onkeros*, tumid; in allusion to the swollen throat of the corolla.) Labill. sert. cal. p. 23. t. 28.—Oncòma, Spreng. gen. 1. p. 24.

Lin. syst. *Diándria, Monogy'nia.* Calyx 4-parted, scarious. Corolla tubular at the base, and dilated at the throat; limb 4-cleft, nearly equal. Stamens 4, 2 of which are fertile. Anthers 2-celled, exserted. Ovarium 4-lobed, seated on a glandular disk. Ovula numerous, fixed to fleshy, central placentas. Style central, incurved; stigma bifid. Fruit probably baccate.—A shrub, about 6 feet high; with pale, sulphur-coloured, warted branches. Leaves opposite, ovate-oblong, exstipulate. Racemes axillary. Flowers pendulous, sub-umbellate. Fertile stamens, and style exserted. Peduncles twice trichotomous, bracteate. Flowers large.

1 O. pulche'lla? (Labill. l. c.) ♄. G. Native of New Caledonia.

Neat-leaved Oxera. Shrub 6 feet.

Cult. For culture and propagation see *Jacaránda*, p. 226.

XIV. PLATYCA'RPUM (from πλατυς, *platys*, broad; and καρπος, *carpos*, a fruit; in reference to the broad compressed fruit.) Humb. et Bonpl. pl. æquin. 2. p. 81. H. B. et Kunth, nov. gen. amer. 1. p. 151.

Lin. syst. *Pentándria, Monogy'nia.* Calyx 5-parted, equal. Corolla with a short tube, a funnel-shaped throat, and a 5-cleft, equal limb. Stamens 5, equal. Stigma bilamellate. Capsule didymous, ligneous, compressed, 2-celled, 2-valved; dissepiment contrary to the valves, and adnate to them; cells 2-seeded. Seeds membranaceously winged.—A large tree; with opposite, simple entire leaves; and terminal panicles of pale red flowers.

1 P. Orinoce'nse (Humb. et Bonpl. pl. æquin. 2. p. 81. t. 104.) ♄. S. Native on the banks of the Orinoco, near Atures. Sickíngia Orinocénsis, Spreng. syst. 1. p. 622. A tree, with a dense head. Bark thin, smoothish; wood white. Branchlets clothed with rusty tomentum at top. Leaves petiolate, obovate-oblong, obtuse, 5-6 inches long, white beneath, and clothed with rusty down on the nerves and veins. Petioles pilose. Branches of panicle dichotomous.

Orinoco Platycarpum. Tree 25 to 40 feet.

Cult. For culture and propagation see *Jacaránda*, p. 226.

XV. CALOSA'NTHES (from καλος, *calos*, beautiful; and ανθος, *anthos*, a flower; in reference to the beauty of the flowers.) Bignònia species of Roxb. Blum. bijdr. 760.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx entire, coriaceous, tubular, campanulate. Corolla with a short tube, a campanulate throat, and a bilabiate border; upper lip 2-cleft; under lip 3-cleft; segments wrinkled. Stamens 5, all antheriferous; the exterior pair the longest, bending in under the upper lip, very woolly at the base; anthers double, each part oblong, bursting on the under side. Hypogynous disk, a somewhat pentagonal, fleshy body. Style length of stamens, hollow its whole length, having a funnel-shaped mouth, opening between the membranous, orbicular lobes of the stigma. Capsule silique-formed, large, compressed transversely, a little curved, having the convexity upwards; dissepiment contrary to the valves?. Seeds numerous, surrounded by a delicate, semi-circular, membranous wing.—A large tree, with opposite, supra-decompound leaves; and terminal, secund racemes of flowers.

1 C. I'ndica (Blum. bijdr. 761.) ♄. S. Native of the coast of Coromandel and Malabar, in forests, among the mountains; and of Java, where it is called *Pompuran*. Bignònia I'ndica, Lin. Willd. spec. 3. p. 306. Roxb. fl. ind. 3. p. 110. Bignònia pentándra, Lour. coch. 460. Spathòdea Indica, Pers. ench. 1. p. 173. Palego-Pajoneli, Rheed. mal. 1. t. 43 and 44. *Shyonaka* and *Mundooka-puna*, are two of its Sanscrit names; *Shyona* is its Hindostanee name; *Vanga marum* is the Tamul name; and *Pampena*, the Telinga name. Tree large. Leaves opposite, decussate, 4-5 feet long. Leaflets obliquely cordate, smooth, pointed. Peduncles and pedicels scabrous. Racemes terminal, secund, erect, stiff; lower two thirds naked and scabrous, somewhat quadrangular; upper third part imbricated on one side by very large, fleshy, dark red flowers; with scarcely any bracteas. Capsule long, linear.

Indian Calosanthes. Fl.? Clt. 1775. Tree 40 to 50 feet.

Cult. For culture and propagation see *Jacaránda*, p. 226.

XVI. MILLINGTO'NIA (named in honour of Thomas Millington, an English botanist, who has written on vegetable physiology.) Lin. suppl. 291. Juss. gen. 138. Willd. spec. 3. p. 382. Bignònia suberòsa, Roxb.

Lin. syst. *Didynàmia*, *Angiospérma*. Calyx small, slightly 5-parted; with nearly equal divisions. Corolla funnel-shaped; tube from 2 to 3 inches long, slender and cylindrical; limb 4-parted; the upper division broadest, and nearly half 2-cleft. Stamens 4, didynamous, exserted, without any rudiment of a sterile filament; anthers spurred. Ovarium oblong. Style as long as the corolla; stigma bilamellate. Capsule slender, linear, pretty smooth, 2-celled, thin, pointed, about a foot long, and 3 inches broad, and one line thick; dissepiment parallel with the valves. Seeds numerous, round, surrounded by a remarkably fine pellucid membrane. Embryo with 2 emarginate, reniform cotyledons.—A large tree. Bark deeply cracked, and spongy. Leaves opposite, supra-decompound; leaflets subcordate, entire. Panicles terminal. Wood white, firm, and close-grained.

1 M. horte'nsis (Lin. suppl. 291. Willd. spec. 3. p. 382.) ♄. S. Native of the East Indies, but in what particular place is unknown. Bignònia suberósa, Roxb. fl. ind. 3. p. 111. Leaves about 2 feet long. Leaflets acuminated, 1-3 inches long. Panicle cross-armed; ramifications horizontal, the first trichotomous, then dichotomous, with generally a simple flower in the fork. Bracteas minute. Flowers numerous, large, pure white, delightfully fragrant.

Garden Millingtonia. Fl.? Clt. 1820. Tree 50 to 60 feet.

Cult. For culture and propagation see *Jacaránda*, p. 226.

XVII. ARGY'LIA (this beautiful genus is dedicated to the memory of Archibald, Duke of Argyle, a nobleman distinguished for his patriotic virtues, and love of science, and more especially of botany. His fine garden at Whitton Park, in Middlesex, was justly celebrated towards the middle of the last century. It contained a very extensive collection of plants, particularly of ornamental and useful American trees, many of which he himself first introduced to this country.) D. Don, in edinb. phil. journ. 1823, and 1829, July.

Lin. syst. *Didynàmia*, *Angiospérma*. Calyx 5-parted. Corolla with a tubular base, and a ventricose throat; limb nearly equal, 5-lobed, imbricate in æstivation. Stamens 4, didynamous, that is, 2 long, and 2 short, without any rudiment of a sterile one. Anthers beardless, 2-parted; lobes obtuse, divaricate, distinct at apex, dehiscing by a longitudinal chink. Stigma bilamellate, pruinose. Capsule silique-formed, 2-celled, 2-valved, many-seeded, torulose; valves crustaceous, navicular. Seeds transverse, wingless, reniform, 2-lobed at apex, with an obtuse margin, concave and striated on one side, and convex and tubercled on the other; outer testa coriaceous. Embryo conforming to the cavity of the seed.—Perennial, green herbs. Roots thick, divided, fleshy, fusiform. Stems erect, terete, branched, viscid, downy, fleshy. Leaves alternate, remote, peltately digitate, petiolate; leaflets deeply bi-tripinnatifid, unequal, disposed in a circle, minutely downy and viscid. Peduncle a continuation of the stem, fleshy. Flowers terminal, racemose, numerous; pedicels short, alternate, each furnished with a bractea at the base. Corollas large, yellow, size of those of *Catálpa syringæfòlia*, showy, marked with numerous red dots in the throat.

1 A. cane'scens (D. Don, in edinb. phil. journ. 1829. July.) clothed with hoary down; segments of the leaves linear, channelled; tube of corolla exceeding the calyx. ♃. G. Native of Chili, about Coquimbo, Caldcleugh. The herb is more slender, the down more copious, short, and canescent, than in *A. radiàta;* and the flowers are smaller, but also yellow.

Canescent Argylia. Pl. 1 foot.

2 A. radia'ta (D. Don, in edinb. phil. journ. no. 8. p. 260. 1823. and July 1829.) glabrous; segments of the leaves flat, dilated at apex; tube of corolla twice longer than the calyx. ♃. G. Native of Peru. Bignònia radiàta, Lin. spec. 871. Willd. spec. 3. p. 301.—Feuill. per. 1. p. 731. t. 22. Corolla large, yellow, dotted with red in the throat. The plant, in the general description, is said to be clothed with minute viscid down.

Ray-leaved Argylia. Pl. 1 foot.

Cult. The species of *Argylia* are extremely splendid while in blossom. They will thrive best in a light rich soil, such as a mixture of loam, peat, and sand. Cuttings will strike root in sand, under a hand-glass, if kept free from damp.

XVIII. INCARVI'LLEA (named after P. Incarville, a Chinese Jesuit, who first sent specimens of it to Bernard de Jussieu, in the year 1743; and seeds of many other plants, as, for instance, the Chinese Aster, so common in our gardens.) Juss. gen. 138. ed. Usteri, p. 154. Lam. dict. 3. p. 233. ill. t. 527. Bunge, in mem. acad. petersb. 2. p. 120.

Lin. syst. *Didynàmia, Angiospérma.* Calyx tribracteate, pentagonal, 10-cleft; the 5 outer segments subulate, elongated, and glabrous, thickened; the inner ones shorter and bifid. Corolla bilabiate; segments nearly equal. Stamens 4, didynamous; filaments glandularly thickened at apex; anthers bisetose, 2-celled; cells horizontal, opposite, dehiscing at bottom. Stigma bilamellate. Capsule silique-formed, 6-ribbed, falcate, dehiscing laterally; dissepiment bilamellate, contrary to the fissures. Seeds numerous, winged, Bunge, l. c. Calyx 5-cleft, tribracteate. Corolla with a tubular base, a ventricose throat, and an unequal, 5-lobed limb. Stamens didynamous; anthers 2-lobed. Stigma bilamellate. Capsule silique-formed, compressed, long, narrow, 2-celled, 2-valved; dissepiment opposite the valves, many-seeded. Seeds winged.—A Chinese herb; with alternate, striated branches; alternate, pinnately jagged leaves; and loose, spicate racemes of flowers. Corolla like that of *Digitàlis;* and the capsule like that of *Catálpa,* or *Fæ'num Græ'cum.* The rudiment of a sterile filament not seen, ex Juss. l. c.

1 I. Sine'nsis (Lam. dict. 3. p. 233.) 2. G. Native of China, on way sides, near Pekin, and from that to the north. even to the limits of the empire. J. Chinénsis, Bunge, mem. acad. petersb. 2. p. 120. Cámpsis adrèpens, Lour. coch. 378. Stem 1-2 feet high, herbaceous, erect. Leaves bipinnatifid; leaflets cut; lobes linear. Racemes terminal, loose. Flowers nearly sessile. Corollas large, scarlet, deciduous. Capsule 2 inches long and more. The figure of Lam. expresses the upper part of the plant well, ex Bunge, l. c. Stem branched, striated, a foot high. Leaves like those of *Chelidònium hy'bridum,* pinnately jagged, petiolate, glabrous. Flowers like those of *Digitàlis,* loosely spiked, terminal, purple, ex Willd. spec. 3. p. 289. The plant of Jussieu is probably distinct from that of Bunge.

China Incarvillea. Pl. 1 to 2 feet.

Cult. This is a most elegant plant when in blossom. Should it ever be introduced to our gardens, we would recommend its being treated as a greenhouse plant. A mixture of loam, peat, and sand, or any light rich soil, will suit it; and cuttings will probably be easily rooted.

XIX. WI'GHTIA (named after Richard Wight, F.L.S. of the East India Company's Medical Service; lately in charge of the botanical establishment at Madras.) Wall. pl. rar. asiat. 1. p. 71. t. 81.

Lin. syst. *Didynàmia, Angiospérma.* Calyx 4-toothed. Corolla funnel-shaped; limb 4-cleft; upper segment 2-lobed. Stamens 4, didynamous, without any hypogynous disk, or sterile filament. Stigma clavate, undivided. Capsule follicular, 2-valved; dissepiment parallel with the valves, placentiferous on both sides, at length free. Seeds imbricated lengthwise, winged at both ends. Radicle inferior.—A large, twining shrub. Leaves opposite, simple, and are, as well as the peduncles, covered with minute, stellate, deciduous down. Racemes large, axillary; peduncles dichotomous. This genus differs from all other Bignoniaceous plants, in the complete absence of a hypogynous disk, and sterile filament; and in the margins of the valves being bent inwards, so much so as to form the dissepiment; in the seeds being erect; and in the radicle being inferior.

1 W. gigante'a (Wall. l. c.) ♄. ⏑. S. Native of Nipaul, on Sheopore and Sumbunah. Flowers rose-coloured, scentless, an inch long.

Giant Wightia. Shrub cl.

Cult. For culture and propagation see *Bignònia,* p. 222.

XX. CATA'LPA (the Indian name of the first species.) Juss. gen. 138. ed. Usteri, p. 155. Spreng. gen. 1. p. 24. Sims, bot. mag. 1094. Schkuhr. handb. t. 175.—Bignonia species, Lin. and others.

Lin. syst. *Diándria, Monogy'nia.* Calyx 2-parted. Corolla campanulate, with a ventricose tube, and an unequal, 4-lobed limb. Stamens 5, 2 of which are fertile, and the other 3 sterile. Stigma bilamellate. Capsule silique-formed, long, cylindrical, 2-valved; dissepiment opposite the valves. Seeds membranously margined, and pappose at base and apex.—Trees with simple leaves, opposite, or disposed 3 in a whorl. Flowers terminal, panicled.

1 C. syringæfòlia (Sims, bot. mag. 1094.) leaves cordate, flat, 3 in a whorl. ♄. H. Native of North America, on the banks of the Ohio, Mississippi, and Delaware, &c. in gravelly soil; it is found in considerable quantities in the forests of Wabash, Illinois territory, where the wood is even split for palings. Schkuhr, handb. t. 175. Bignònia Catálpa, Lin. spec. 868. Willd. spec. 3. p. 289. Wangh. amer. p. 58. t. 20. f. 45. Catálpa bignonioìdes, Walt. fl. car. p. 64. Catálpa cordifòlia, Nutt. gen. amer. 1. p. 10.—Duham. arb. 1. p. 104. t. 41.—Catesb. car. 1. p. 49. t. 29.—Schmidt, arb. 1. t. 14. Lin. hort. cliff. 317. Branches strong. Leaves large, deciduous. Panicles large, branchy, terminal. Corollas white, speckled with purple and yellow. This tree has a good effect when it stands in the middle of large openings, where it can freely send forth its side branches, and show itself to advantage; but it always requires a sheltered situation. The leaves, however, come out very late. The branches dye wool a kind of cinnamon colour. This tree appears to have been introduced by the aborigines, hence its name of Catawba, derived from the Indians residing on Catawba river.

Syringa-leaved Catalpa. Fl. July, Aug. Clt. 1726. Tree 20 to 40 feet.

2 C. ova'ta; leaves ovate-cordate, 3 in a whorl. ♄. H. Native of Japan and China. Bignònia Catálpa, Thunb. fl. jap. 251. Kawara Fisagi Kæmpf. amœn. 841. t. 842. *Kakusju* is the Japanese name of the tree. Thunberg remarks, that the Japanese lay the leaves on parts of the body affected with pain, supposing them to be beneficial to the nerves; and that a decoction of the pods is esteemed serviceable in asthma.

Ovate-leaved Catalpa. Tree.

3 C. longíssima (Juss. gen. ed. Usteri, p. 155.) leaves oblong, or ovate-lanceolate, acuminated, 3 in a whorl, undulated. ♄. S. Native of the West Indies. Bignònia longíssima, Swartz. prod. 91. fl. ind. occ. 2. p. 1037. Ait. hort. kew. 2. p. 347. B. longisíliqua, Jacq. amer. 182. t. 176. f. 78. Bignònia Quércus, Lam. dict. 1. p. 412.—Plum. spec. 5. icon. 57. Corolla whitish, undulately crenulated; upper segment emarginate. Capsule very long and slender. Seeds woolly.

Very-long-capsuled Catalpa. Clt. 1777. Tree 30 to 40 feet.

4 C. cassinoìdes (Spreng. syst. 1. p. 70.) leaves opposite, ovate or elliptic, coriaceous, glabrous; racemes terminal, few-flowered. ♄. S. Native of Brazil, near Rio Janeiro. Bignònia cassinoìdes, Vahl. symb. 2. p. 68. Lam. dict. 1. p. 418. Leaves 2 inches long, many-nerved, terminated by a small acumen. Corollas large, 2 inches long, glabrous.

Cassine-like Catalpa. Shrub or tree.

5 C. HIRSU'TA (Spreng. syst. 1. p. 70.) leaves opposite; oblong, attenuated at both ends, hairy; flowers axillary, almost sessile; segments of corolla entire. ♄. S. Native of Brazil.

Hairy Catalpa. Shrub or tree.

6 C. MICROPHY'LLA (Spreng. syst. 1. p. 70.) leaves opposite, obovate, obtuse; peduncles terminal, usually 3-flowered. ♄. S. Native of St. Domingo. Bignònia microphy'lla, Lam. dict. 1. p. 418.—Plum. spec. 5. icon. 55. f. 2. Shrub size of *Prùnus spinòsa*. Leaves sessile. Flowers large, white; limb undulated.

Small-leaved Catalpa. Clt. 1820. Tree 10 to 20 feet.

Cult. The *C. syringæfòlia* is an elegant flowering tree, very proper for large shrubberies. It thrives well in common garden soil; and is generally increased by seed, or slips of the root. For the culture and propagation of the rest of the species, see *Jacarànda*, p. 226.

XXI. SCHREBE'RA (named in honour of J. C. D. Von Schreber, Author of an edition of Linnæus's Genera plantarum, 2 vols. 8vo. 1788, and several other botanical works.) Roxb. cor. 2. t. 101. fl. ind. 1. p. 109.

Lin. syst. *Diándria, Monogýnia.* Calyx tubular, bilabiate; lips nearly equal, emarginate, and sometimes there is a tooth in each fissure, which separates the lips. Corolla salver-shaped, with a cylindrical tube, and a spreading, 5-6-7-cleft border; segments cuneate, and truncate. Stamens 2; anthers oblong, hid within the tube of the corolla. Stigma bifid, acute. Capsule large, pear-shaped, woody, 2-celled, 2-valved, scabrous, opening from the apex; dissepiment parallel with the valves. ? Seeds 4 in each cell, oval, compressed, with a long, membranous wing.—A large timber tree. Leaves opposite, impari-pinnate. Leaflets 7-9 in number, oblique, ovate or cordate, entire, 3-4 inches long. Panicles terminal, thin, trichotomous. Flowers rather small, white and brown, variegated, very fragrant during the night.

1 S. SWEITENIOÌDES (Roxb. l. c.) ♄. S. Native of the East Indies, on the Raja-mundri, Circar, Balaghata mountains, &c. *Mucaadi* is the Telinga name of the tree, and *Mogalinga-marum* of the Tamuls. Trunk erect. Bark scabrous. Branches narrow, spreading in every direction, so as to form a large, beautiful shady head. The wood of this tree is of a grey colour, very close-grained, heavy and durable. It is used for a great variety of purposes, for which it is suitable, being less liable to warp than most other woods.

Mahogany-like Schrebera. Tree large.

Cult. For culture and propagation see *Jacarànda*, p. 226.

Tribe II.

TOURRETIE'Æ (this tribe contains plants agreeing with Tourrètia in important characters.) D. Don, in edinb. phil. journ. 1829. July. Bignoniàceæ, sect. 2. R. Br.

Capsule 1-celled, 2-valved; valves bearing placentas in the middle. Placentas 2, large, fleshy. Seeds horizontal, obovate, imbricate, flattened, surrounded by a wing, which is emarginate at the base.

XXII. TOURRE'TIA (so named by Dombey, after Marc Antoine-Louis Claret la Tourrette, a friend of Rousseau, author of Chloris Lugdunensis, and Botanicæ Scholæ Veterinariæ, Ludg. prælectiones.) Domb. ex Juss. gen. ed. Usteri, p. 155. Juss. gen. 139. Schreb. gen. no. 1009. Lam. ill. 527. —Dombèya, Lher. t. 17.

Lin. syst. *Didynàmia, Angiospérma.* Calyx bilabiate; upper lip, acuminated; lower one broader, four notched. Corolla tubular, contracted in the middle; tube length of calyx; limb unilabiate; upper lip drawn out into a hollow; lower lip wanting, but in place of it there are 2 teeth. Stamens 4, didynamous, lying in the hollow of the upper lip of the corolla. Anthers 2-lobed. Hypogynous disk urceolate. Stigma bifid. Capsule ovate or oblong, ligneo-coriaceous, echinated with hooked spines, 2-celled, 2-valved at apex; dissepiment prismatic, central, seminiferous, continuous with the middle of the valves, rising into a wing on both sides, which divides each cell into 2 parts, hence the capsule appears to be 4-celled. Seeds few, girded by a membranous margin, emarginate, and crenulated at the base.—A climbing herb; with tetragonal, dichotomous branches. Leaves opposite, conjugately ternate; furnished with a branched tendril from the top of the common petiole; and also having a ciliary crown surrounding the stem in the axils of the leaves. Flowers disposed in terminal racemes, each flower furnished with a narrow bractea. Corollas of a dusky violet colour.

1 T. LAPPA'CEA (Willd. spec. 3. p. 263.) ⊙. ◡. H. Native of Peru. Dombèya lappàcea, Lherb. stirp. nov. 1. p. 33 t. 17. Stem fistular. First leaves ternate, having the lateral leaflets bipartite; the rest of the leaves conjugate; ternate or biternate.

Burdock Tourretia. Fl. June, Aug. Clt. 1788. Shrub cl.

Cult. For culture and propagation see *Calámpelis*, p. 232.

XXIII. ECCREMOCA'RPUS (from εκκρεμης, *ekkremes*, pendant; and καρπος, *karpos*, a fruit; fruit pendulous.) Ruiz. et Pav. gen. fl. per. p. 90. t. 18. syst. 157. Humb. et Bonpl. pl. æquin. 1. p. 229. t. 65. H. B. et Kunth, nov. gen. 3. p. 150.

Lin. syst. *Didynàmia, Angiospérma.* Calyx large, membranous, 5-cleft, coloured. Corolla tubular; throat equal; limb 5-lobed, equal. Stamens 4, didynamous, with the rudiment of a fifth sterile one; anthers linear, inserted by the middle, versatile; cells parallel, almost connate. Stigma 2-lobed. Capsule ovate, somewhat tetragonal, 1-celled, 2-valved; placentas 2, large, fleshy, adnate to the middle of the valves. Seeds imbricate, horizontal, surrounded by a membranous wing.—Scandent sub-shrubs. Leaves opposite, abruptly bi-tripinnate, terminated by a branched tendril. Peduncles opposite the leaves, many-flowered. Corollas green or yellow.

1 E. LONGIFLÒRUS (Humb. et Bonpl. pl. æquin. 1. p. 229. t. 65. Kunth. nov. gen. 3. p. 150.) leaves abruptly tripinnate; leaflets oval, entire, rarely bifid or trifid. ♄. ◡. G. Native of Peru, in forests, near the mount Saraguru. Stem furrowed, glabrous at bottom, but clothed with rusty tomentum at the nodi above. Leaflets sessile. Peduncles pendulous, 3-4-flowered. Calyx campanulate, 5-cleft, loose, red. Corolla a little arched, 3-4 times longer than the calyx, yellow, with a green limb. Capsule slightly tetragonal.

Long-flowered Eccremocarpus. Fl. July, Aug. Clt. 1825. Shrub cl.

2 E. VÍRIDIS (Ruiz. et Pav. fl. per. syst. p. 157.) leaves bipinnate, with 2 pairs of pinnæ; leaflets ovate, quite entire. ♄. ◡. G. Native of Peru, in forests. Calyx tubular, membranous, 5-cleft. Capsule pedicellate. Corolla green.

Green-flowered Eccremocarpus. Shrub cl.

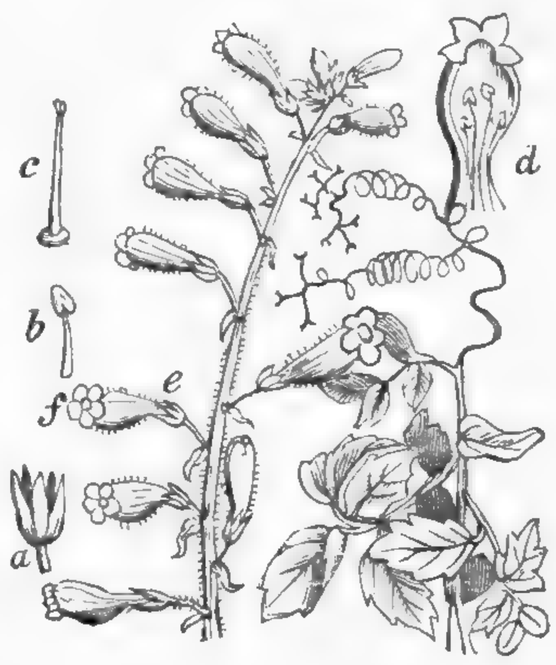
Cult. The species of this genus are extremely handsome when in blossom. They should be treated in the same manner as recommended for the species of *Calámpelis*.

XXIV. CALA'MPELIS (from καλος, *kalos*, beautiful; and αμπελις, *ampelis*, a vine.) D. Don, in edinb. phil. journ. July 1829. Sweet, fl. gard. n. s. t. 13.—Eccremocarpus species, Ruiz, et Pav.

Lin. syst. *Didynàmia, Angiospérma.* Calyx campanulate, half 5-cleft (f. 22. *a.*). Corolla with a ventricose throat, a tubular base (f. 22. *e.*), and a contracted, 5-lobed mouth (f. 22. *f.*). Stamens 4, didynamous (f. 22. *d.*), without any rudiment of a sterile one; anthers bipartite (f. 22. *b.*); lobes obtuse, divari-

cate, distinct at apex. Stigma bipartite (f. 22. *c.*), hispid at top. Capsule 1-celled, 2-valved; valves placentiferous in the middle. Placentas 2, large, fleshy. Seeds obovate, horizontal, imbricate, flattened, surrounded by a broad, repandly sinuated wing, which is emarginate at the base; outer testa black, crustaceous, wrinkled, and a little scrobiculate.—A suffruticose, scandent plant. Leaves opposite, petiolate, abruptly bipinnate, terminated by a spiral, compound tendril. Leaflets coarsely serrated. Flowers racemose, secund. Racemes opposite the leaves, pedunculate, secund, many-flowered. Calyx short, green. Corolla scarlet, or deep orange red. Capsule large, muricated.

FIG. 22.



1 C. sca'ber (Sweet, fl. gard. n. s. t. 30.) ♄. ◡. G. Native of Chili. Eccremocárpus scàber, Ruiz. et Pav. syst. fl. per. 157. Lindl. bot. reg. 939. Leaves with 2 pairs of pinnæ; leaflets alternate, obliquely cordate, ovate, serrated or entire. Stems angular, thickly clothed with short, stiff, pellucid hairs, when young, but afterwards smooth. Leaves, racemes, and corollas clothed with glandular hairs.

Scabrous Calampelis. Fl. July, Aug. Clt. 1824. Shrub climbing.

Cult. This beautiful, climbing plant is generally raised from seeds in spring, in a hot bed; and when the plants are of sufficient size, they are planted singly in separate pots. They answer well to be trained in a conservatory; or to be planted out in the open ground, against a wall or house, with a south exposure, along with *Cobæ'a scándens*, where, if the summer prove warm, it will make a showy appearance.

Tribe III.

CRESCENTIE'Æ (the plants contained in this section agree with *Crescéntia*, in having a large, baccate fruit.) Fruit a large melon or gourd-shaped, 1-celled berry; with a corticate, solid rind; filled with pulp and seeds inside.

XXV. CRESCE'NTIA (named by Linnæus after Pietro Crescentio, an Italian writer on agriculture, in the thirteenth century.) Lin. gen. 762. Schreb. gen. no. 1021. Juss. gen. 127. edit. Uster. p. 142. Gærtn. fruct. suppl. 1. p. 229. t. 223. H. B. et Kunth, nov. gen. 3. p. 157.—Cujète, Plum. gen. p. 23. t. 16. icon. 109.

Lin. syst. *Didynàmia*, *Angiospérma*. Calyx bipartite, equal, deciduous. Corolla large, sub-campanulate; tube very short; throat large, ventricose, incurved; limb erect, 5-cleft, unequal; lobes toothed or curled. Stamens 4, didynamous; with the rudiment of a fifth; anthers 2-lobed. Stigma bilamellate. Berry large, form of a gourd, 1-celled, pulpy inside; rind solid. Seeds nestling in the pulp.—Large, spreading trees. Leaves alternate, solitary or in fascicles, simple, ternate or pinnate. Flowers solitary, rising from the trunk or branches.

1 C. Cuje'te (Lin. spec. 873. Jacq. amer. 175. t. 111. ed pict. p. 86. t. 167.) leaves oblong, acute or obtuse, cuneate at the base, in fascicles. ♄. S. Native throughout equinoxial America.—Plum. gen. 23. t. 109.—Comm. hort. 1. p. 137. t. 71. Branches horizontal. Flowers scattered over the older branches, and even in the trunk itself, solitary, pedicellate, sometimes all green, but most often variegated with green, purple, red, and yellow; they do not wither, but become putrid, and in that state exhale a nauseous and intolerable smell. The form and size of the fruit are variable; from spherical to bottle-shaped, and from 2 inches to a foot in diameter. These, however, if they are no more than varieties, are very constant. The fruit is covered with a thin skin, of a greenish yellow colour when ripe; under this is a hard, thin, woody shell, inclosing a pale yellowish soft pulp, of a tart, unsavoury flavour, surrounding a great number of flat seeds. These shells, cleansed of their pulp, and deprived of their outer skin, and dried, are used by the inhabitants of tropical America, for drinking cups; those of the long, small-fruited kind, are formed into spoons and ladles; those which are round are cut through the middle, and used as cups for chocolate and cacao: in short, these shells are converted into a variety of domestic furniture. They are frequently large enough to hold a gallon of fluid; they serve to boil water in, as they bear the fire well. The thicker parts are frequently used as button moulds in the West Indies. The Caribs engrave the outside with a number of grotesque figures, which they sometimes colour black or red. The pulp is sometimes eaten by the negroes, but is not looked upon as being either agreeable or wholesome; it is, however, much used by way of poultice; and a syrup made of it is in much request among the natives, in disorders of the breast, in contusions and inward bruises. The wood being very tough and flexible, is very fit for the coach-maker, and is frequently used for making saddles, stools, and other furniture. The leaves and branches are eaten by cattle, in times of scarcity, as is also the pulp of the fruit. The tree is called *Tutuma* in some parts of America.

Var. β; leaves narrow; fruit smaller, globose or ovate. Plum. gen. 23.

Var. γ, *Cujete mînima*, *fructu duro*. Plum. gen. 23. The smallest Calabash tree, with a hard fruit.

Cujete or Common Calabash Tree. Fl. ? Clt. 1690. Tree 20 to 30 feet.

2 C. cucurbitìna (Lin. syst. p. 565. mant. 250. Swartz, obs. 234.) leaves ovate, rather coriaceous, solitary; fruit ovate, acuminated. ♄. S. Native of Jamaica, in dry rocky places; and about Campeachy. C. latifòlia, Mill. dict. no. 2. C. Cujète, var. δ, Lin. spec. 873.—Plum. gen. 23. icon. 109.—Brown, jam. 266.—Pluk. alm. 124. t. 171. f. 2.—Sloan, jam. 206. hist. 2. p. 172. Branches erect. Pedicels 2-5, terminating, one-flowered, shorter than the leaves. Corollas size of those of the preceding, dusky; the base of the tube and throat is white. The fruit varies in size; the shell is so thin as to be unfit for any purpose; the seeds are also much thinner; and the pulp is deeper yellow than that of the preceding.

Gourd-like Calabash-tree. Fl. ? Clt. 1733. Tree 20 feet.

3 C. acumina'ta (H. B. et Kunth, nov. gen. amer. 3. p. 157.) leaves oblong-lanceolate, acuminated, cuneately narrowed at the base, in fascicles. ♄. S. Native of the Island of Cuba, near Havannah and Los Guines. Branches elongated, white. Flowers size of those of the two preceding. Fruit globose, 3-4 inches in diameter. It differs from *C. Cujète* in the leaves being narrower, acuminated, and less firm.

Acuminated-leaved Calabash tree. Clt. 1822. Tree.

4 C. aculea'ta (H. B. et Kunth, l. c. p. 158.) branches prickly; leaves ternate or simple, twin; common petiole furnished with a narrow wing above. ♄. S. Native of Mexico, near Campeachy.—Hern. mex. 290. Branches terete, warted. Leaves ovate-oblong, obtuse, running into the petioles at the base. Prickles nearly opposite, subulate at top, and thickened at the base. Flowers solitary or twin on the tops of the branches. Corolla as in the genus, greenish. Fruit oblong, ribbed.

Prickly Calabash tree. Tree.

5 C. ala'ta (H. B. et Kunth, l. c. p. 158.) unarmed; leaves 3 together, all ternate; or the middle one of the three is ternate, and the lateral ones simple; common petioles broadly winged. ♄. S. Native of Mexico, in very hot places, near Acapulco. There are prickle-formed tubercles, which rise from the same point as the leaves. Leaves 3, from the axil of each tubercle; middle leaf ternate, on a long petiole; lateral ones simple, smaller, and sessile. Simple leaves obovate-oblong, obtuse; leaflets of the ternate ones oblong, obtuse, acutish at the base. Flowers scattered, size of those of *Cobæ'a scándens*, on short pedicels, pale red, reticulately veined. Fruit globose, 4-6 inches in diameter, ex Bonpl.

Winged-petioled Calabash tree. Tree 20 to 30 feet.

Cult. The species of *Crescéntia* grow well in a mixture of loam, peat, and sand; and ripened cuttings will strike root in sand, under a hand-glass, in heat. The trees require to be so large before they come to a flowering state, that it is not likely they will ever be brought to blossom in this country.

XXVI. TANÆ'CIUM (from ταναηκης, *tanaekes*, long; stems elongated.) Schreb. gen. no. 1022, and p. 834. Swartz. prod. p. 91. fl. ind. occ. 2. p. 1049. Crescéntia species of authors. Tripinnària species, Spreng. gen. 2. p. 506.

Lin. syst. *Didynàmia, Angiospérma.* Calyx tubular, truncate, entire. Corolla with a long, cylindrical tube, a wide throat, and an erectly spreading, 5-cleft, nearly equal limb; the 2 upper segments approximating, less divided, nearly upright; the 3 lower spreading, a little reflexed. Stamens 4, nearly equal in length, with the rudiment of a fifth; anthers 2-lobed. Stigma 2-lobed. Berry large, pedicellate, globular or oblong, 2-celled. Seeds oblong, angular, nestling in the pulp.—Climbing shrubs, natives of Brazil. Leaves alternate, simple, or binate, ternate, glabrous.

1 T. parisíticum (Swartz, prod. 92. fl. ind. occ. 2. p. 1053.) leaves ovate, coriaceous; stem climbing, shrubby, radicant. ♄. ◡. S. Native of Jamaica and Caraccas. Jacq. hort. schœnbr. 1. p. 61. t. 115.—Brown, jam. 262. Leaves shining. This plant sustains itself by the help of the neighbouring trees, or is found spreading on the ground, if it does not meet with support.

Parasitical Tanæcium. Fl.? Clt.? Shrub climbing.

2 T. Jaròba (Swartz, prod. 92. fl. ind. occ. 2. p. 1050.) lower leaves ternate: superior ones twin; tendrils from the tops of the petioles, between the leaflets; stem scandent. ♄. ◡. S. Native of Jamaica, most common between St. Elizabeth's and Westmoreland.—Brown, jam. 267.—Sloan. jam. 207. hist. 2. p. 173.—Jaròba Marcg. bras. 25. Pis. bras. 173. Flowers white. This species climbs to the tops of the loftiest trees, and along their tops.

Jaroba Tanæcium. Shrub cl.

Cult. For culture and propagation see *Bignònia*, p. 222.

XXVII. TRIPINNA'RIA (so named, from the leaves of one of the species being tripinnate.) Spreng. gen. 2. p. 506. Tripínnia, Lour. coch. 391.

Lin. syst. *Didynàmia, Angiospérma.* Calyx unequally 5-cleft, or 5 crenate, campanulate, or cup-shaped. Corolla funnel-shaped, or sub-campanulate, with a widened throat, and a 5-cleft spreading limb; segments ovate, undulated, villous, upper ones the largest. Stamens 4, didynamous, about equal in length to the corolla, with the rudiment of a fifth. Stigma bifid, acute or bilamellate. Berry large, fleshy, 1-celled, filled with pulp. Seeds oblong, compressed, nestling in the pulp.—Large trees, with pinnate or tripinnate, alternate leaves. Flowers racemose, terminal.

1 T. Asia'tica (Spreng. syst. 2. p. 842.) leaves tripinnate, acuminated; racemes terminal. ♄. G. Native of Cochinchina, in woods on the mountains. Tripínna tripinnària, Lour. coch. p. 391. A large tree, with spreading branches. Leaves glabrous. Flowers yellowish, disposed in terminal, corymbose racemes.

Asiatic Tripinnaria. Tree large.

2 T.? Africa'na (Spreng. syst. 2. p. 842.) leaves pinnate; leaflets oblong, serrated; flowers lateral from the trunk. ♄. S. Native of Mozambique. Crescéntia pinnàta, Jacq. coll. 3. p. 203. t. 18. Tanæ'cium pinnàtum, Willd. spec. 3. p. 312. A large tree. Calyx unequally 5-cleft. Corolla funnel-shaped, purple inside; having the tube dilated above; segments of the limb ovate, acute. Stamens 4, didynamous, with the rudiment of a fifth. Berry size of a man's head.

African Tripinnaria. Clt. 1824. Tree large.

Cult. For culture and propagation see *Crescéntia*, above.

Order CLIX. PEDALI'NEÆ (this order contains plants agreeing with the genus *Pedàlium* in important characters.) R. Br. prod. p. 519.—Sesàmeæ, Kunth, syn. 2. p. 251. Martyniàceæ, Link. handb. 1. p. 504.

Calyx divided into 5 nearly equal parts (f. 23. *a.*). Corolla monopetalous, hypogynous, irregular, having the throat ventricose, and the limb bilabiate. Stamens 4, didynamous, inclosed; with the rudiment of a fifth (f. 23. *b.*). Ovarium girded by a glandular disk at bottom, of many spurious, 1-2-seeded cells. Style simple; stigma undivided. Fruit drupaceous, dry, usually muricated (f. 23. *c.*), with several cells formed by the splitting of 2 placentas, and the divergence of their lobes as in the ovarium. Seeds pendulous, erect or horizontal, with a papery testa. Albumen none. Embryo straight.—Herbaceous plants; with opposite leaves; and axillary, bibracteate flowers.

This order differs from *Bignoniàcea*, in the seeds being usually definite and wingless; in the woody, parietal-lobed placentas, which spread and divide variously inside the pericarpum, so as to produce a 4-8-celled fruit, out of a 1-celled ovarium.

The leaves of *Sésamum* are emollient; its seeds contain an abundance of fixed oil, as tasteless as that of olive oil, for which it might be substituted, and which is expressed in Ægypt in great quantities. The fresh leaf of *Pedàlium mùrex*, when agitated in water, renders it mucilaginous, in which state it is prescribed by the Indian doctors, in cases of dysuria, &c.

Synopsis of the genera.

1 Se'samum. Capsule oblong, compressed, tetragonal, 4-celled, 2-valved; dissepiment contrary to the valves, bipartite. Seeds numerous, imbricated in one row in each cell.

2 Marty'nia. Drupe oblong, bicornute at apex, the anterior horn sulcately-toothed, containing a 4-celled nut; cells few-seeded.

3 Craniola'ria. Drupe ovate, containing a 4-celled, woody nut, which is furnished with 2 short horns at apex. Seeds 4 in each cell, but often solitary.

4 Josephínia. Lobes of stigma bifid. Drupes prickly, containing a 4-8-celled nut; cells 1-seeded. Seeds erect.

5 Peda'lium. Drupe ovate, 4-cornered (f. 23. *c.*), the corners furnished each with a thorn towards the base (f. 23. *d. c.*), containing a 2-celled, 4-winged, corky nut. Seeds pendulous, 2 in each cell.

I. SE'SAMUM (from Σησαμον, *Sesamon*, of Theophrastus and Dioscorides; from Sempsen, the Ægyptian name of one of the species.) Lin. gen. no. 782. Schreb. gen. no. 1048. Gærtn. fruct. 2. p. 132. t. 110. Juss. gen. 138. Lam. ill. t. 528. —Digitàlis species, Tourn.

LIN. SYST. *Didynàmia, Angiospérma.* Calyx 5-parted; the upper segment the smallest. Corolla with a short tube, and a campanulate throat; limb quinquefid, somewhat bilabiate; the lower segment the longest. Stamens 4, didynamous, inclosed, with the rudiment of a fifth sterile one. Stigma bilamellate. Capsule oblong, compressedly tetragonal, 4-celled, 2-valved; dissepiment contrary to the valves, bipartible. Seeds numerous, disposed in one series, somewhat imbricated, ovate, a little compressed, wingless, erect.—Annual herbs, with opposite and alternate leaves. Flowers axillary, solitary. Peduncles biglandular; glands bracteate. Corollas white, pale red or yellow.

1 S. I'NDICUM (Lin. spec. 884.) downy; lower leaves ovate, 3-lobed: superior ones lanceolate, undivided; stem erect, branched. ⊙. S. Native of the East Indies, common. Sims, bot. mag. 1788. S. trifoliàtum, Mill. dict. no. 3.—Rumph. amb. 5. t. 204. t. 76. f. 1.—Pluk. phyt. t. 109. f. 4. Stem scabrous. Leaves on long petioles, downy on both surfaces, glaucous beneath. Flowers white, tinged with red. In the plant found by Martius in Brazil, the rudiment of a fifth filament is wanting. This species was first introduced to Jamaica by the Jews, and is now cultivated in the West Indies. It is called *Vanglo*, or oil plant. The seeds are frequently used in broth, by many of the Europeans; but the Jews make them chiefly into cakes. Many of the Oriental nations look upon the seeds as a very wholesome food, and express an oil from them, not unlike, or inferior to, the oil of almonds. A decoction of the leaves and buds, is looked upon as a good resolutive, and frequently ordered in inflammations of the eyes, where warm fomentations become requisite.

Var. β, ròsea (Blum. bijdr. 778.) flowers rose-coloured. ⊙. H. Native of Java, on the mountains.

Indian Oily-grain, or Oil-seed. Fl. July. Clt. 1731. Pl. 1½ to 2 feet.

2 S. ORIENTA'LE (Lin. spec. 883.) leaves ovate-oblong, entire. ⊙. S. Native of the East Indies, and is now cultivated in South America. Lin. hort. cliff. 318. fl. zeyl. 318. Willd. spec. 3. p. 358. Gærtn. fruct. 2. p. 132. t. 110. Thunb. jap. 254. Lour. coch. 382. S. véterum, Bauh. pin. 27. Riv. mon. t. 114.—Burm. zeyl. 87. t. 38. f. 1. Schit-elu, Rheed. mal. 9. p. 105. t. 54. Corolla dirty white, or pale red. Plant rather hairy. This species is frequently cultivated in the Levant, and also in Africa, as a pulse; the seeds have been introduced into Carolina, by the African negroes. An oil is expressed from them, which will keep many years, without acquiring any rancid smell or taste, but in two years becomes quite mild, so that, when the warm taste of the seed which is in the oil when first drawn is worn off, it is used as a salad oil, and for all the purposes of sweet oil. They are also used by the negroes for food; they parch them over the fire, then mix them with water, and stew other ingredients with them. A pudding is made from them in the same manner as from millet or rice, called *Benny*, or *Bonny*, in Carolina. In Japan, where they have no butter, they use the oil for frying fish, and in dressing other dishes; as a varnish; and medicinally, as a resolvent and emollient. In China and Cochinchina, they are used for the same purposes.

Eastern Oily-grain, or Oil-seed. Fl. July. Clt. 1731. Pl. 1½ to 2 feet.

3 S. LU'TEUM (Retz. obs. 6. p. 31. no. 56.) leaves lanceolate, on long petioles; corollas hispid on the outside. ⊙. S. Native of the East Indies, in forests, at Nidrapur. Stem a little branched. Leaves alternate, having the margins and nerves beneath scattered with short hairs. Calyx and capsule hispid. Corolla deep yellow.

Yellow-flowered Oil-seed. Pl. 1 to 2 feet.

4 S. RADIA'TUM (Schum. pl. guin. p. 274.) hairy; leaves usually 3 in a whorl, on short petioles: lower ones roundish-ovate, deeply toothed: upper ones ovate-oblong, quite entire; bracteas setaceous, solitary. ⊙. S. Native of Guinea. Stem slightly tetragonal. Flowers purple.

Radiate Oil-seed. Pl. 4 feet.

5 S. LACINIA'TUM (Klein, Willd. spec. 2. p. 359.) leaves all bipartite and jagged; stem prostrate, hispid. ⊙. S. Native of the East Indies, near Hydrabad. Branches ascending at top. Leaves on short petioles, scabrous on both surfaces. Margins of the teeth of the calyx hispid. Capsule obtuse at both ends. Sésamum prostràtum, Retz. obs. 4. p. 28, is a very doubtful plant, or probably a synonyme of *Torènia Asiática.*

Jagged-leaved Indian Oil-seed. Pl. prostrate.

Cult. The species of *Sésamum* are grown in our gardens only as botanical curiosities. The seeds of them require to be reared on a hot-bed frame in early spring, and otherwise treated like other tender annuals, by planting them out in the open border, in a warm, sheltered situation, about the end of May.

II. MARTY'NIA (so named by Houston, in honour of John Martyn, F.R.S., professor of botany at Cambridge; author of Historia Plantarum variarum, and several other works; editor of Virgil's Georgics and Eclogues, born Sept. 1699, died 1768.) Houston, rel. t. 10. Lin. gen. no. 753. Schreb. gen. no. 1010. Mart. t. 42. Juss. gen. 140. ed. Usteri, 156. Gærtn. fruct. 2. p. 131. t. 110. Glox. obs. t. 1-2.—Proboscídea, Juss. Schmidel. icon. t. 12.

LIN. SYST. *Didynàmia, Angiospérma.* Calyx 5-cleft, nearly equal, bracteate at the base. Corolla sub-campanulate; limb 5-lobed, unequal. Stamens 4, didynamous, 2 of them sometimes sterile, with always the rudiment of a fifth. Stigma bilamellate. Drupe or capsule oblong, bicornute at apex; the anterior horn sulcately toothed, containing a 4-celled, woody nut; cells few-seeded. Seeds ovate, a little compressed, wingless, pendulous.? Radicle superior.—Herbs with opposite, rarely alternate leaves. Flowers spicate, axillary and terminal.

1 M. A'NNUA (Lin. syst. 559. spec. 862. Swartz, obs. 230.) stem branched; leaves alternate, lobed, cordate at the base; stamens 4, all fertile. ⊙. H. Native of Mexico, in high plains; and on the banks of the Mississippi. Sabb. hort. t. 91. Gærtn. fruct. 2. p. 131. t. 110. M. proboscídea, Glox. in obs. p. 14. Ait. hort. kew. 2. p. 339. Mill. dict. t. 286. Sims, bot. mag. 1056. M. alternifòlia, Lam. dict. 2. p. 112. Proboscídea Jussièuii, Schmidt, icon. 49. t. 12-13. Med. boh. beob. 1783. p. 20. M. Louisiàna, Mill. dict. no. 3. This is a large annual, villous, viscid plant. Corollas with a yellowish white tube, variegated with green, yellow, and violet spots and lines; limb wide, pale violet, marked with saffron-coloured and violet dots and lines. The lobes of stigma close when touched, according to Turra.

Var. β, tríloba; leaves oblong-deltoid, irregularly cordate at the base, 3-lobed: middle lobe long, sinuated, undulated, and finely denticulated. ⊙. H. Native near Vera Cruz. M. tríloba, Cham. et Schlecht. in Linnæa, 5. p. 121. Smaller than the species.

Annual Martynia. Fl. July, Aug. Clt. 1738. Pl. 1 to 2 feet.

2 M. LONGIFLÒRA (Lin. syst. p. 559.) stem simple; leaves opposite, roundish, repand; flowers axillary, solitary, on short pedicels; tube of corolla gibbously flattened at the base; stamens 4, all fertile. ⊙. G. Native of the Cape of Good Hope. Ait. hort. kew. 2. p. 339. Meerb. icon. 7. Willd. spec. 3. p.

265. Martýnia Capénsis, Glox. obs. p. 13. Stem erect, scabrous. Leaves 3-nerved. In place of bracteas at the base of the peduncles, there is a pedicellate gland. Tube of corolla very long. Corollas purplish.

Long-flowered Martynia. Fl. July, Aug. Clt. 1781. Pl. 2 feet.

3 M. dia'ndra (Glox. obs. p. 14. t. 1. Jacq. schœnbr. 3. p. 21. t. 289.) stem branched; leaves opposite, lobed, cordate at the base; stamens 4, 2 of them sterile. ⊙. G. Native of Mexico, at Vera Cruz; and near Campeche. Andr. bot. rep. 575. M. angulòsa, Lam. dict. 2. p. 112. Martýnia reliq. Houst. p. 5. t. 10. M. ánnua, Lin. spec. ed. 1. syst. ed. 10.—Martyn. cent. 42. t. 42. Erhert. pict. t. 1. f. 5. phil. trans. 38. no. 427. p. 3. Stem reddish. Leaves villous and viscid. Flowers thyrsoid, in the forks of the stem, drooping. Corolla with a white tube, tinged with purple, and spotted with red and yellow; limb pale red, with a shining purple spot at each segment: upper lip reflexed.

Diandrous Martynia. Fl. July, Aug. Clt. 1731. Pl. 2 feet.

4 M. lu'tea (Lindl. bot. reg. t. 934.) stem branched, clothed with glandular down; leaves opposite, cordate-orbicular, toothed, clothed with glandular down; beaks much longer than the pericarp. ⊙. H. Native of Brazil. Calyx involucrated by 2 bracteas. Corolla large, funnel-shaped, orange-yellow, clothed with blood-colour inside.

Yellow-flowered Martynia. Fl. Aug. Clt. 1825. Pl. 1 to 2 feet.

5 M. Zanqueba'rica (Lour. coch. 386.) stem procumbent; leaves pinnatifid, pilose; flowers axillary, solitary; beaks of capsule secund. ♄. S. Native of Zanzibar. Leaves petiolate, pilose. Flowers pale purple. Calyx pilose, with lanceolate, nearly equal, deciduous, expanded segments. Corolla ringent, with a large, roundish, gibbous tube, and a short limb; upper lip trifid, obtuse, the middle segment emarginate; the lower lip ovate, longer, entire. Fruit bisulcate on both sides, 4-beaked, 4-celled, 1-seeded, 2-valved.

Zanzibar Martynia. Shrub procumbent.

Cult. The seeds of the species should be reared on a hot-bed, as other tender annuals; and when transplanted into other pots, they should be kept in the hot-house or green-house until the seed is ripened. A light rich soil suits them best.

III. CRANIOLA'RIA (from *κρανιον, kranion*, a skull; some resemblance in capsule.) Lin. gen. no. 868. Juss. gen. ed. Usteri, p. 156. H. B. et Kunth, nov. gen. amer. 3. p. 153.—Martýnia species of authors.

Lin. syst. *Didynàmia, Angiospérma.* Calyx campanulate, spath-formed, 5-toothed, cleft on one side, bracteate at the base. Corolla funnel-shaped, with a very long tube, a campanulate throat, and a bilabiate limb; upper lip bifid; lower one trifid: the middle lobe the broadest. Stamens 4, didynamous, with the rudiment of a fifth. Stigma bilamellate. Drupe ovate, acute, containing a 4-celled, woody nut, which is furnished with 2 short horns at apex. Seeds 4 in each cell, or often solitary, ovate, a little compressed, wingless.—Villous, clammy herbs. Leaves opposite, 5-lobed. Flowers racemose from the forks of the branches, or axils of the leaves, or tops of the branches. Corollas white, with a painted throat.

1 C. a'nnua (Lin. mant. 417. syst. 417. Jacq. amer. 173. t. 110. Nees, et Mart. in act. bonn. 11. p. 68.) stems annual, branched; leaves cordate, palmate, toothed; tube of corolla longer than the calyx, which is bibracteate. ⊙. G. Native of the tropical parts of America. Martýnia craniolària, Swartz, obs. 230. Glox. obs. p. 14. Willd. spec. 3. p. 262. Martýnia spathàcea, Lam. dict. 2. p. 212.—Erhr. pict. t. 1. f. 2. Corolla white. The natives of Venezuela prepare from the dried roots of this plant a bitter and cooling drink.

Annual Craniolaria. Fl. July, Aug. Clt. 1733. Pl. 1 to 2 feet.

2 C. unibractea'ta (Nees, in Mart. nov. act. bonn. 11. p. 67.) stem perennial, branched; leaves cordate, rather angular, toothed; tube of corolla length of calyx, which is unibracteate. ♃. S. Native of Brazil, about Cachuera, and at Rio das Contas. Holorégmia víscida, Mart. in bot. zeit. 1821. 1. p. 300. bras. reise. 2. band. p. 239 and 344. Martýnia spathàcea, Spreng. syst. add. p. 338. Leaves a hand broad. Flowers disposed in long, simple racemes from the tops of the branches. Corolla pale sulphur-coloured, having the bottom painted with purple dots. Plant canescent.

Unibracteate Craniolaria. Pl. 4 to 5 feet.

Cult. The seeds and plants of *C. ánnua* should be treated in the same manner as those of the species of *Martýnia. Cran. unibracteàta* should be treated like other common perennial stove plants; and it may either be increased by seeds or cuttings.

IV. JOSEPHI'NIA (named in honour of the Empress Josephine, a great patron of botany and gardening.) Vent. malm. p. 67. t. 67. R. Br. prod. p. 520. Blum. bijdr. 779.

Lin. syst. *Didynàmia, Angiospérma.* Calyx 5-parted, equal. Corolla with a short tube, a large campanulate throat, and a 5-lobed, spreading, bilabiate limb; upper lip semi-bifid; lower one trifid: the middle segment the longest. Stamens 4, didynamous, with the rudiment of a fifth; anthers free. Stigma bifid; the segments emarginate, or semi-bifid; therefore the stigma is commonly called 4-cleft. Drupe dry, prickly, falsely 4-8-celled, opening at top, by 2-4 holes; cells 1-seeded; seeds erect. Radicle anterior.—Diffuse herbs. Leaves opposite, entire. Peduncles axillary. Flowers purplish.

1 J. Imperatrìcis (Vent. malm. p. 67. t. 67. mem. de l'inst. sc. phys. 1806. 1. sem. p. 71.) ovarium 4-5-celled; leaves lanceolate-elliptic, acute, downy beneath, as well as the stem; calyx equal. ♂. G. Native of New Holland, on the west coast. Baudin. Leaves ovate-cordate, ex Vent. Flowers pale pink, dotted, like those of *Catálpa syringæfòlia*, ex Vent.

Empress's Josephinia. Fl.? Clt.? Pl. 2 to 3 feet.

2 J. grandiflòra (R. Br. prod. p. 520.) ovarium 8-celled; leaves lanceolate, acuminated, downy beneath; stem glabrous; upper segment of calyx one half shorter than the rest; lower segment of corolla more than twice the length of the rest. ♂. S. Native of New Holland, within the tropic. Flowers purplish.

Great-flowered Josephinia. Shrub?

3 J. Cele'bica (Blum. bijdr. 779.) ovarium 8-celled; leaves oblong-lanceolate, downy; peduncles shorter than the petioles; drupes tomentose; calyx equal. ♄. S. Native of the Celebes, in woods.

Celebes Josephinia. Fl. Aug. Sept. Shrub.

Cult. For culture and propagation, see *Martýnia*, above.

V. PEDA'LIUM (from *πηδαλιον, pedalion*, the rudder of a ship; in reference to the dilated angles of the fruit.) Lin. gen. no. 794. Schreb. gen. no. 1065. Rottb. in coll. hafn. 2. p. 255. Gærtn. fruct. 1. p. 276. t. 58. Juss. gen. 140. ed. Usteri. 156.—Mùrex. Lin. fl. zeyl. 440.

Lin. syst. *Didynàmia, Angiospérma.* Calyx 5-parted (f. 23. *a.*); the upper segment very short; and the lowest longest. Corolla with a 3-cornered tube, a widened campanulate throat, flat beneath, and a 5-lobed, sub-bilabiate limb. Stamens 4, didynamous, with the rudiment of a fifth (f. 23. *b.*); filaments pilose at the base. Anthers twin, cruciate, terminated by a gland. Stigma bifid, revolute. Drupe dry, ovate-conical (f. 23. *c.*), 4-cornered, the corners thorny on the angles (f. 23. *c. d.*), containing a 2-celled, 4-winged, corky nut; cells 2-seeded; seeds pendulous, arillate, one above the other: there is an empty cell

below the fertile ones.—A trichotomous herb, with the habit of *Martýnia*. Leaves opposite. Flowers axillary, solitary. Fruit like those of *Tràpa*.

1 P. mu'rex (Lin. spec. 892.) ⊙. S. Native of the East Indies, Ceylon, Malabar, Coromandel, &c. near the sea. Lam. ill. t. 538. Mùrex, Lin. fl. zeyl. 440. Burm. ind. 139. t. 45. f. 2.—Herm. zeyl. p. 42. Cucu-Mullu, or Kakii-tali, Rheed. mal. 10. p. 143. t. 72. A pretty large, succulent, branched plant. Root deep orange-coloured, branched. Stem hardly any. Branches 1-2 feet. Leaves obovate, obtuse, regularly toothed, truncate, pretty smooth, 3-nerved, 2-3 inches long, and 1½ to 2 inches broad; petioles glandular. Flowers pretty large, yellow, on short pedicels, erect; on each side of their insertion is a small, roundish, brown gland.

FIG. 23.

Drupe nutant, armed with 4 sharp spines, one on each corner, at the base. The whole plant has an odour of musk. Of the same genus is the *Planta Euphrasiæ affinis*, Pluk. t. 373. f. 2. The sterile filament is terminated by an orange-coloured head. This plant, when fresh, has the singular property of rendering water or milk mucilaginous, without altering the taste, or colour, or smell of the liquid. This effect goes off in the course of 8 or 12 hours, leaving the liquid in its former state. Butter-milk is often sold in the markets of India; and in order to make a greater profit on their merchandize, they dilute it with water, and then thicken the whole by turning it round a few times with a few fresh leafy branches, which makes the adulterated butter-milk seem rich, and of the best sort.

Caltrop-fruited Pedalium. Fl. Aug. Sept. Clt. 1778. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Martýnia*, p. 235.

Order CLX. COBEA'CEÆ (this order only contains the genus *Cobæ'a*.) D. Don, in edinb. phil. journ. 1824. vol. 10. p. 3.

Calyx leafy, 5-cleft, equal (f. 24. *a*.) Corolla inferior, campanulate, regular, 5-lobed (f. 24. *b*.), imbricate in æstivation. Stamens 5, unequal (f. 24. *b*.), rising from the base of the corolla; anthers 2-celled, compressed. Ovarium superior, 3-celled, surrounded by a fleshy, annular, hypogynous disk; ovula several, ascending. Style simple; stigma trifid (f. 24. *b*.). Fruit capsular, 3-celled, 3-valved; with a septicidal dehiscence; placenta very large, 3-cornered in the axis, its angles touching the line of dehiscence of the pericarpium. Seeds flat, winged, imbricated in a double row; their integument mucilaginous. Albumen fleshy. Embryo straight. Cotyledons foliaceous; radicle inferior. — Climbing shrubs. Leaves alternate, abruptly pinnate; the common petiole lengthened into a tendril. Flowers axillary, solitary. This order is readily distinguished from *Bignoniàceæ* and *Pedalineæ*, the two foregoing orders, in the flowers being regular and pentandrous, in the presence of albumen to the seeds, &c.; and from *Polemoniàceæ* it is readily distinguished, by habit alone, and by the winged seeds.

I. COBÆ'A (named in honour of B. Cobo, a Spanish botanist.) Cav. icon. 1. p. 11. t. 16-17. and vol. 5. p. 69. t. 500. Pers. syn. 1. p. 185. H. B. et Kunth, nov. gen. amer. 3. p. 151.

Lin. syst. *Pentándria, Monogýnia*. Character the same as that of the order. Calyx permanent, covering the capsule; segments large, orbicular.

1 C. sca'ndens (Cav. l. c.) leaflets 3 pairs, elliptic, mucronate, marginate, and slightly ciliated: lower pair close to the stem, and sub-auriculate on one side at the base; tendrils branched; calycine segments broad, roundish, mucronulate; stamens about equal in length, hardly longer than the corolla. ♄. ᴗ. G. Native of Mexico, in various parts. Sims, bot. mag. 851. Calyx glaucous, 5-winged, before expansion. Flowers large, campanulate, with a short tube of a dark, dirty purple colour. (fig. 24. Lobes of corolla rather spreading, broad, short, roundish, imbricate, ciliated.

FIG. 24.

Climbing Cobæa. Fl. May, Oct. Clt. 1792. Shrub cl.

2 C. lu'tea (D. Don, in edinb. phil. jour. vol. 10. p. 4.) leaflets 3 pairs, oblong-lanceolate, acute; lower pair close to the stem; tendrils branched at top; calycine segments lanceolate, tapering to the apex; stamens twice the length of the corolla. ♄. ᴗ. G. Native of Guayaquil. Flowers yellowish, about half the size of those of *C. scándens*.

Yellow-flowered Cobæa. Shrub cl.

Cult. The *C. scándens* is a great favourite with most gardeners; it is a quick-growing, and profuse-flowering climber. It is well adapted for a large conservatory or greenhouse. It grows also well in the open air, in summer, trained against a south wall, or against a house, where it will flower in abundance. The plant is best raised from seeds, which ripen in abundance; but it may also be raised from cuttings, which latter mode is almost needless.

Order CLXI. ARAGOA'CEÆ (this order only contains the genus *Aragòa*.) Genera Bignoniaceis affinis. H. B. et Kunth, nov. gen. amer. 3. p. 154.

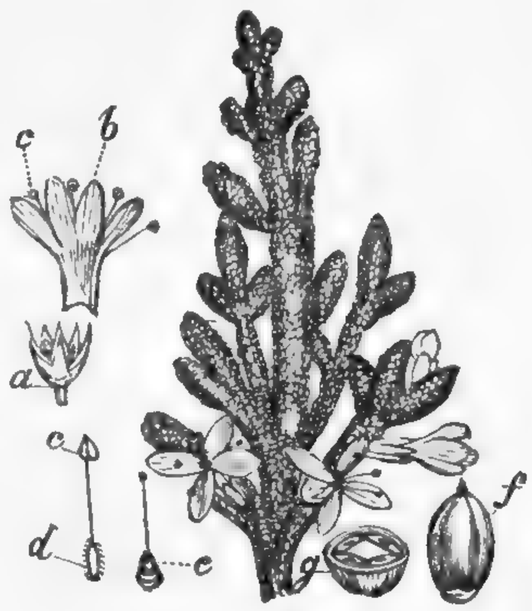
Calyx deeply 5-parted (f. 25. *a*.) Corolla tubular, salver-shaped (f. 25. *b*.); limb 4-parted; the lobes convolutely imbricate in æstivation; at length spreading. Stamens 4 (f. 25. *c*.), inserted in the sinuses between the lobes of the corolla, exserted; anthers cordate (f. 25. *c*.), the cells confluent, opening by a continuous line. Style filiform (f. 25. *c*.); stigma capitate, minutely papillose. Capsule 2-celled, 2-valved (f. 25. *g*.); valves cloven; dissepiment parallel with the valves. Seeds 4-5 in each cell, compressed, with a membranous border. Albumen copious, fleshy. Embryo erect; with plano-convex, obtuse, fleshy, cotyledons, furnished with 3 nerves; and a blunt radicle, much shorter than the cotyledons.—Much branched shrubs, natives of the mountains, near the city of Santa Fe de Bogota, in New Granada; with opposite branches. Leaves small, coriaceous, imbricated in 8 rows. Flowers axillary, solitary, nearly sessile, small, white.

This order is nearly related to the *Polemoniàceæ*; but differs from it, in its undivided stigma, in the confluent cells of the anthers and bilocular ovarium; and from *Scrophularíneæ*, in its regular flowers, foliaceous embryo, and convolute æstivation of the corolla.

I. ARAGO'A (named in honour of Francisco Arago, member of Academy of Paris; the celebrated astronomer.) H. B. et Kunth, nov. gen. amer. 1. p. 154. t. 216-217.

Lin. syst. *Tetrándria, Monogýnia.* Character the same as that of the order.

FIG. 25.



1 A. cupre'ssina (H. B. et Kunth, nov. gen. amer. 3. p. 156. t. 216.) branches downy; leaves scale-formed, ovate-deltoid, glabrous, closely adpressed, with rather woolly edges; throat of corolla villous. ♄. G. Native of Santa Fe de Bogota. A. junipérina, H. B. et Kunth, l. c. t. 216. *b.* Segments of corolla obovate, ciliated. Margins of the segments of the calyx ciliated. Anthers cordate, reniform. Filaments villous at the base.

Cypress-like Aragoa. Shrub.

2 A. abietìna (H. B. et Kunth, nov. gen. amer. 3. p. 156.) branches glabrous; leaves linear, spreading, ciliated a little; corolla glabrous. ♄. G. Native along with the preceding. Branches 3-4 in a whorl.

Fir-like Arogoa. Shrub.

Cult. Aragòa is a genus of beautiful and singular shrubs. Should either of them ever be introduced to our gardens, we would recommend their being treated as greenhouse plants; to be planted in pots, well drained with sherds, in a mixture of peat and sand.

Order CLXII. POLEMONIA'CEÆ (the plants contained in this order agree in important characters with the genus *Polemònium.*) Juss. gen. p. 136. ed. Usteri, p. 152. D. Don, in edinb. phil. journ. H. B. et Kunth, nov. gen. amer. 3. p. 160.

Calyx tubular (f. 26. *a.*, f. 27. *a.*), 5-cleft (f. 27. *a.*), or 5-toothed (f. 26. *a.*). Corolla rotate (f. 26. *b.*), or salver-shaped (f. 26. *d.*), or often funnel-shaped (f. 29. *b.*); limb 5-lobed (f. 27. *d.*, f. 29. *b.*), imbricate or twisted in æstivation. Stamens 5 (f. 26. *c.*, f. 27. *b.*, f. 29. *c.*), inserted sometimes beneath, and sometimes above the middle of the tube; anthers sagittate (f. 29. *c.*), incumbent, 2-celled. Ovarium simple, 3-celled (f. 28. *f.*), entire; ovula numerous, rarely definite. Style very long (f. 29. *d.*); stigma 3-lobed (f. 27. *c.*, f. 29. *e.*): lobes linear, obtuse. Capsule 3-celled (f. 28. *f.*), 3-valved, oblong, trigonal, rarely globose; valves opposite to the margins, septiferous inside in the middle, usually membranous, rarely thickish, and crustaceous, as in the genus *Cántua;* placenta trigonal, central, applied to the angles of the dissepiments. Seeds convex, angular, naked; or compressed and girded by a membrane; testa simple, membranous, the surface mucilaginous. Albumen fleshy, conforming to the seed. Embryo straight, large; with flat, orbicular or oval, somewhat foliaceous cotyledons; and a thickish, obtuse, straight, inferior radicle, which is generally shorter than the cotyledons.—Beautiful herbs or shrubs, usually branched. Leaves usually alternate, more rarely opposite, exstipulate, undivided, pinnatifid, or pinnate. Flowers terminal, numerous; or axillary, and nearly solitary, in most of the species bracteate. Corollas showy, blue, red, or white.

This order is characterized by a regular, 5-lobed corolla; a triple stigma; a 3-celled, 3-valved capsule, with septiferous valves; seeds numerous, or definite, attached to a 3-sided, central placenta, covered by a thin, mucilaginous integument, and furnished with a fleshy albumen; and, lastly, by a straight embryo, with somewhat foliaceous cotyledons. The most nearly allied order to it is *Convolvulàceæ*, which, however, is readily distinguished from it, by having a simple or double stigma; by the septa instead of proceeding from the centre of the valves, being directed to their margins; and the seeds having no central placenta, being attached to the bottom of the cells. The seeds are very different, being covered by a thin, very fragrant, mucilaginous albumen; with a curved embryo, having large, foliaceous, plaited, and wrinkled, emarginate cotyledons. The *Polemoniàceæ*, through the genus *Cántua*, has some affinity likewise with *Bignoniàceæ;* but that order has an irregular corolla; a bilamellate stigma; a very different capsule; transverse seeds, destitute of albumen; and lastly, a foliaceous embryo, with a curved radicle. Externally the *Plumbagíneæ*, have some resemblance to the *Polemoniàceæ*, through *Phlóx* and *Plumbàgo;* but the former order has 4 or 5 stigmas, and a simple ovarium attached to the bottom of the calyx.

Synópsis of the genera.

1 Polemònium. Calyx campanulate, 5-cleft (f. 26. *a.*) Corolla rotate (f. 26. *b.*); limb erect. Stamens inserted in the throat (f. 26. *c.*), bearded at the base; cells of capsule many-seeded.

2 Diape'nsia. Calyx 5-parted, coriaceous, tri-bracteate at the base. Corolla salver-shaped; tube short. Stamens inserted in the recesses of the corolla, nearly sessile. Stigma obsoletely 3-lobed. Cells of capsule many-seeded.

3 Phlóx. Calyx deeply 5-cleft (f. 27. *a.*), connivent. Corolla salver-shaped (f. 27. *d.*); tube elongated; limb twisted in æstivation; with cuneated segments. Stamens inserted above the middle of the tube. Cells of capsule 1-seeded.

4 Huge'lia. Calyx tubularly campanulate; segments somewhat spinose, linear. Corolla funnel-shaped; tube short, exserted; segments of the limb oblong. Stamens inserted at the throat. Cells of capsule many-seeded.

5 Lina'nthus. Calyx tubular; with 5 strong green nerves, which are drawn out into subulate, recurved teeth at the apex. Corolla funnel-shaped; tube short; segments of limb obovate, crenulated at apex. Stamens inclosed. Cells of capsule many-seeded.

6 Leptosìphon. Calyx tubularly-campanulate; lobes linear, subulate. Corolla funnel-shaped; tube very long, slender; limb campanulate; with oval, obtuse lobes. Stamens inserted at the throat. Cells of capsule many-seeded.

7 Fe'nzlia. Calyx tubularly campanulate, deeply 5-cleft; segments linear. Corolla somewhat funnel-shaped; tube short; segments of the limb obovate, toothed; anthers exserted from the tube. Cells of capsule many-seeded.

8 Gília. Calyx campanulate, 5-cleft (f. 28. *a.*). Corolla funnel-shaped (f. 28. *b.*), or sub-campanulate; segments of the limb obovate. Stamens inserted in the throat. Cells of capsule many-seeded.

9 Ægochlòa. Calyx tubularly campanulate, 5-cleft; segments unequal, spiny, entire to multifid. Corolla somewhat salver-shaped; segments oblong, entire; tube equal in length to the calyx. Stamens inserted in the upper part of the tube. Cells of capsule many-seeded.

10 Collòmia. Calyx campanulate, 5-cleft. Corolla salver-shaped; tube slender; segments of the limb oblong, entire. Stamens inserted towards the middle of the tube. Cells of capsule 1-2-seeded.

11 Calda'sia. Calyx tubular, 5-toothed, equal to the tube of the corolla in length. Corolla funnel-shaped; lobes of limb cuneated, emarginate. Stamens inserted in the middle of the tube. Cells of capsule 1-seeded.

12 Lœse'lia. Calyx tubular, involucrated by pungent bracteas (f. 29. *a. f.*); segments pungent. Corolla funnel-shaped (f. 29. *b.*); tube long; (f. 29. *g.*) lobes of limb broadly obovate, entire. Cells of capsule few-seeded. Seeds flat, orbicular, girded by a narrow membrane.

13 Ca'ntua. Calyx tubular, 5-toothed, often cleft to the middle on both sides. Corolla funnel-shaped; tube long; lobes of limb obcordate, convolute in æstivation. Stamens inserted near the base of the tube. Cells of capsule many-seeded. Seeds compressed, girded by an oblong, membranous wing.

I. POLEMONIUM (*πολεμωνιον, polemonion*, of Dioscorides, from *πολεμος, polemos*, war.) Tourn. inst. 146. t. 61. Lin. gen. no. 217. Schreb. gen. no. 289. Juss. gen. 136. ed. Usteri, p. 152. Gærtn. fruct. 1. p. 299. t. 62. Lam. ill. t. 106. Schkuhr. handb. t. 38. ed. H. B. et Kunth, nov. gen. amer. 3. p. 160. Led. fl. alt. 1. p. 232.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, 5-cleft (f. 26. *a.*). Corolla rotate (f. 26. *b.*), with a short tube, and a 5-lobed, equal, erect limb. Stamens 5 (f. 26. *c.*), equal, inserted in the throat of the corolla; filaments dilated at the base, bearded, in a continuous ring, and nearly closing the throat; anthers incumbent. Capsule roundish, with membranaceously crustaceous valves, covered by the permanent calyx; cells many-seeded. Seeds oblong, trigonal, filled with large albumen. Radicle twice longer than the cotyledons.—Erect, herbaceous plants, with alternate, usually impari-pinnate, seldom impari-bipinnate leaves; leaflets entire; terminal, panicled corymbs of bracteate flowers, and blue or white corollas.

1 P. cœrù'leum (Lin. spec. 230.) stem glabrous; leaves pinnate; leaflets ovate-lanceolate, acuminated, glabrous; segments of calyx ovate or elliptic lanceolate, acuminated; flowers erect, corymbose; calyxes hairy; segments of corolla roundish-oval, obtuse; anthers elliptic. ♃. H. Native of Siberia, and the north of Europe; as of Germany, Switzerland, Lapland, Denmark, in shady places. It is sometimes found apparently wild, in some parts of Britain; as at Malham Cove, in Yorkshire; at Matlock, in Derbyshire; as well as near Bakewell, and at Lover's Leap, Buxton, Smith, engl. bot. t. 17. Fl. dan. t. 255. Sabb. hort. 2. t. 82. Valeriàna cœrùlea, Bauh. pin. 164. Valeriàna Græ'ca, Dod. pempt. 352. f. 1.—Besl. eyst. 9. t. 11. f. 2.—Gmel. sib. 4. p. 103. t. 69. Capsule ovate-globular, obsoletely 3-grooved. Flowers blue. This plant is called *Greek Valerian, Jacob's Ladder*, or *Ladder of Heaven*. It is a common border flower; with erect, stiff stems.

Var. β, *flòre álbo;* flowers white. The white-flowering common Greek-Valerian. Berl. eyst. 9. t. 11. f. 3.

Var. γ; stem and calyxes woolly. ♃. H. Native of Siberia. P. cœrùleum, β, Lin. ups. p. 40.—Gmel. sib. 4. p. 103. t. 50.

Var. δ, *variegàta;* leaves variegated.

Var. ε, *pícta;* flowers variegated with white and blue.

Var. ι, *pilíferum* (Lindl. bot. reg. t. 1303.) stem erectish, hardly longer than the radical leaves; calyxes villous. ♃. H. Native of North America, Richardson. Stem and leaves pilose. Flowers blue.

Blue-flowered or Common Greek-Valerian. Fl. June.

2 P. gra'cile (Willd. enum. suppl. p. 10.) stems simple, elongated; leaves pinnate: calyx full of glandular down; segments of corolla ovate, obtuse; anthers sagittate. ♃. H. Native of Dahuria. P. cœrùleum, γ gràcile. Horn. hort. hafn. 2. p. 957. Rœm. et Schultes, syst. 4. p. 364. Flowers pale blue.

Slender Greek-Valerian. Fl. June, July. Clt. 1808. Pl. $1\frac{1}{2}$ feet.

3 P. Sibíricum (G. Don, mss. Sweet, fl. gard. t. 182.) erect, glabrous; leaves pinnate; leaflets petiolate, pinnatifid; segments lanceolate; petioles and calyxes pilose; calycine segments ovate, acute; segments of corolla elliptic; stamens sagittate; stem fistular, angular, glabrous, but downy at top. ♃. H. Native of Siberia. P. lácteum, Lehm. hort. sem. hamb. 1825. p. 17. pug. 1. p. 27. act. bonn. 14. p. 815. Pol. disséctum, Rchb. icon. t. 463. Lower leaflets ciliated. Flowers white, crowded, sub-corymbose. Filaments pilose at bottom. This species differs from all others, in the bipinnate leaves. Perhaps only a variety of *P. cœrùleum.*

Siberian Greek-Valerian. Fl. June, July. Clt. 1800. Pl. 2 feet.

4 P. pulche'llum (Bunge, in Led. fl. alt. ill. t. 20. fl. alt. 1. p. 233.) stems downy, nearly naked; radical leaves pinnate; leaflets oblong, acute: upper ones confluent, all glandularly ciliated; calycine segments linear-oblong, acutish; flowers erect, corymbose. ♃. H. Native of Siberia, in stony places, in the Kuraic Islands, and at the river Tschuja. Nearly allied to *P. hùmilis*, Willd.; but differs, in the stem being suffruticose, in the calyxes being hairy, in the stamens being sagittate. Flowers smaller than those of *P. cœrùleum*, from white to blue. Calyx glandularly ciliated; segments of corolla roundish; stigma and anthers white.

Neat Greek-Valerian. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

5 P. acutiflòrum (Willd. mss. in herb. ex Rœm. et Schultes, syst. 4. p. 792.) stem nearly leafless; leaves nearly all radical, pinnate; leaflets oblong; calyx hairy at the base; segments of corolla ovate, acute, ciliated. ♃. H. Native of the north-west coast of America, Pallas. P. boreàle, Adams. Flowers blue, few in a corymb.

Acute-flowered Greek-Valerian. Pl. $\frac{1}{2}$ foot.

6 P. pulche'rrimum (Hook, bot. mag. 2979.) stems many, ascending, leafy, and are, as well as the calyxes, downy; leaflets ovate, obtuse, glabrous: panicles sub-corymbose; calycine segments ovate, acute; segments of corolla ovate, acutish. ♃. H. Native of the rocky mountains. Flowers pale blue, varying to white. Leaves with a faint smell of musk, mostly radical; rachi of leaves downy. Corymbs drooping. Corolla rotately campanulate. Nearly allied to *P. Richardsònii.*

Prettiest Greek-Valerian. Fl. July, Aug. Clt. 1827. Pl. ½ foot.

7 P. Richardsònii (Graham, in edinb. phil. journ. dec. 1827. bot. mag. 2800.) stems pilose, angular, branched at the base, leafy; leaves pinnate; leaflets ovate-roundish, mucronulate, downy beneath; flowers nutant; calyx villous, viscid, with ovate, pointed segments; segments of corolla obtuse, crenulated; root very long, somewhat fusiform. ♃. H. Native of North America, in deep sandy soil, about the Great Bear Lake, Richardson; and of Siberia. P. speciòsum, Fisch. mss. P. cœrùleum, var. nàna, Hook, in Lin. trans. 14. p. 377. Root yellow. Stem purplish at the base. Flowers in terminal corymbs; but drooping. Corolla with a yellow tube, and a pale purple limb, marked with deeper veins. P. speciòsum, Fisch. mss. from the islands of St. Lawrence and St. Paul; and P. lanàtum, Fisch. mss. from Kamtschatka, is a variety of the same, with more downy stems.

Richardson's Greek-Valerian. Fl. July, Oct. Clt. 1826. Pl. ½ foot.

8 P. moscha'tum (Wormkiold, mss. ex Graham, edinb. phil. journ. June 1820.) stems diffuse, branched; leaves pinnate, slightly downy, rather fleshy; leaflets roundish-cordate; calyx hairy, with obtuse segments; segments of corolla obtuse. ♃. H. Native of North America, Drummond. Root fibrous. Stems angular, reddish. Leaflets about 10 pairs; those of the cauline leaves oblong-ovate, the terminal one obovate in both. Flowers paniculately corymbose, somewhat drooping, nearly inodorous; peduncles generally 2-flowered, sometimes drooping. Peduncles, pedicels, calyxes, and stem clothed with glandular down. Corolla with blue limb, having deeper veins, indistinctly crenated. Hooker considers this plant the same as *P. Richardsónii*.

Musky-scented Greek-Valerian. Fl. May, June. Clt. 1827. Pl. 3 to 4 inches.

9 P. villòsum (Rudolf, Georgi, besch. des. russ. reichs. 3. p. 771. Sweet, fl. gard. t. 266.) stem pilose, angular, erect; leaves with many pairs of leaflets, which are ovate-bluntish, pilose on both surfaces; flowers a little panicled, drooping; segments of corolla roundish, crenulated. ♃. H. Native of Siberia, Kamtschatka, &c. P. lanàtum, Fisch. mss. P. hùmile, Rœm. et Schultes, syst. 4. p. 792. Lindl. bot. reg. 1304. Pol. cœrùleum, β, Gmel. sib. 4. p. 103. no. 69. Stem leafy. Calyxes villous and viscid; with ovate-bluntish segments. Corollas blue. Perhaps only a variety of *P. Richardsònii*.

Villous Greek-Valerian. Fl. July, Oct. Clt. 1826. Pl. ½ foot.

10 P. Mexica'num (Cerv. in Lagasc. gen. et spec. nov. diagn. p. 10. no. 140. Ker. bot. reg. 242.) plant viscid, and clothed with glandular down on every part; leaves pinnate, downy; leaflets lanceolate; outer ones combined, usually forming a 3-lobed, terminal leaflet; flowers drooping; calyx clothed with clammy villi. ♃. H. Native of Mexico. P. ciliàtum, P. bursifòlium, P. pimpinelloìdes, Willd. mss. ex Rœm. et Schultes, syst. 4. p. 793. Flowers corymbose, pale blue. Plant very pale green. Mr. Nuttall found this, or a nearly allied species at Flat-Head river, in which the leaflets are somewhat rhomboid-ovate, acutish; and the calycine segments oblong, acute. Mr. James also found it on the banks of the Canadian river; but the flowers in his plant are said to be smaller.

FIG. 26.

Mexican Greek Valerian. Fl. April, May. Clt. 1817. Pl. 1 foot.

11 P.? cilia'tum (Willd. mss. ex Rœm. et Schultes, syst. 4. p. 792.) leaves pinnatifid, hairy, ciliated; segments of corolla ciliately toothed. ♃. H. Native of Pennsylvania, Muhlenburgh. Leaves sessile, with acute segments. Flowers terminal, racemose. Calycine segments linear, ciliated, acute, length of corolla. Perhaps a species of *Eutòca*.

Ciliated-leaved Greek-Valerian. Pl.

12 P. re'ptans (Lin. spec. 230.) root creeping; stems leafy, glabrous; leaves pinnate; leaflets 7, ovate, acute, glabrous; flowers nutant; segments of corolla cuneate. ♃. H. Native of North America, from Pennsylvania to Carolina, on the sides of rich hills. Mill. fig. t. 209. Sims, bot. mag. 1887. Leaflets 7 to 11 in number. Flowers in a loose, panicled corymb. Flowers blue, and sometimes white.

Creeping Greek-Valerian. Fl. April, May. Clt. 1758. Pl. ½ foot.

Cult. The species of Greek-Valerian are all handsome, hardy, border flowers, of easy culture. They grow in any common garden soil; and are readily increased by dividing at the root, or by seed.

II. DIAPE'NSIA (the ancient Greek name for the Sanicle.) Lin. gen. no. 194. fl. lapp. 1. Juss. gen. 135. edit. Usteri, p. 151. D. Don, in Sweet, fl. gard. n. s. t. 251.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, coriaceous, tribracteate at the base. Corolla salver-shaped; tube short, wide; limb flat, 5-cleft. Stamens 5, inserted in the sinuses of the corolla nearly sessile: anthers linear, obtuse, inserted by their bases, dehiscing lengthwise. Stigma obsoletely 3-lobed. Cells of capsule many-seeded. Seeds roundish.—Small, tufted, North American herbs. Leaves alternate, crowded at the roots, coriaceous, quite entire. Peduncles scape-formed, 1-flowered. This genus is said to be nearly allied to *Phlóx*, but is easily distinguished from that genus, in the shorter corolla, in the concrete lobes of the stigma, in the many-seeded cells of the capsule, in the alternate leaves and inflorescence.

1 D. Lappónica (Lin. fl. lap. no. 88. t. 1. f. 1. spec. p. 202.) leaves linear-spatulate, coriaceous, glabrous, with callous, subrevolute edges; peduncles usually 1-flowered, erect; anthers oblique, mutic. ♃. F. Native of the mountains of Norway and Lapland, among stones covered with moss; and New Hampshire, on the highest mountains, among moss; also of the Rocky mountains. Sweet, brit. fl. gard. n. s. t. 251. Wahl. fl. lapp. p. 58. t. 9. Œd. fl. dan. t. 47. Sims, bot. mag. t. 1108. D. obtusifòlia, Sal. par. lond. t. 104. Pursh, fl. amer. sept. 1. p. 147. Corollas salver-shaped, with obtuse segments, pure white.

Lapland Diapensia. Fl. Feb. March. Clt. 1801. Pl. 1 inch.

2 D. cuneifòlia (Sal. par. lond. t. 104. Pursh, fl. amer. sept. 1. p. 148.) leaves lanceolate-cuneated, downy below; anthers horizontal, beaked at the base. ♃. F. Native of North Carolina, on high mountains; plentiful on pine barrens of New Jersey, near the sea coast. In the island called Grand Cayman, we have seen this plant, or a nearly allied species, growing near the sea, along with *Jacquínea lineàris*, and *Heliotròpium gnaphaloìdes*. D. Americàna, Herb. Banks. Pyxidanthèra barbulàta, Michx. fl. bor. amer. 1. p. 152. t. 17. Calyxes ciliated? Flowers small, white. Leaves bearded inside at the base. Stems trailing.

Wedge-leaved Diapensia. Fl. July. Clt. 1806. Pl. 1 to 2 inches.

Cult. The species of *Diapénsia* are small, tufted, evergreen, alpine plants, difficult of culture. They should be grown in small pots, well-drained with sherds, in a mixture of sand and peat, and placed among other alpine plants. They require to be protected from frost and wet in winter, by placing them in a frame. They may be increased by dividing at the roots.

III. PHLOX (from φλοξ, *phlox*, flame; in reference to the bright colour of the flowers.) Lin. gen. no. 214. Schreb. gen. 284. Juss. gen. 139. edit. Usteri, 152. Gærtn. fruct. 1. p. 299. t. 62. Lam. ill. 108. Nutt. gen. amer. 1. p. 125. Lychnidèa, Dill. elth. 166.

LIN. SYST. *Pentándria, Monogýnia.* Calyx deeply 5-cleft (f. 27. *a.*), sub-cylindrical or sub-prismatic; segments acute, connivent. Corolla salver-shaped (f. 27. *d.*), with a narrow, sub-cylindrical tube, which is a little curved, and longer than the calyx; limb spreading, twisted in æstivation, as in *Apocýneæ;* segments cuneate. Stamens 5, unequal (f. 27. *b.*), 3 longer, and 2 shorter, inserted in the tube above the middle; filaments filiform; anthers sagittate, elevated to the orifice of the tube of the corolla. Capsule roundish; valves membranous; cells 1 seeded. Seeds oblong, convex outside. Albumen large. Radicle twice longer than the cotyledons.—Herbaceous, perennial, rarely suffruticose plants, with opposite, simple leaves: but the floral ones are sometimes alternate, sessile. Flowers terminal, panicled or corymbose, lilac, rose-coloured or red, blue, or white.

§ 1. *Leaves broad. Plants without any barren stems.*

1 P. PANICULA'TA (Lin. spec. 216. Ait. hort. kew. 1. p. 205.) erect, glabrous; leaves lanceolate, gradually narrowed, flat, with rough edges; corymbs panicled; segments of corolla roundish, of the calyx awned. ♃. H. Native of Virginia and Lower Carolina, in rich moist meadows. Mill. fig. 2. t. 205. f. 2.—Dill. elth. f. 166. f. 203. Flowers purple.

Var. β, álba; flowers white, with a tinge of red. ♃. H. Native of North America, Lyon. A more robust plant than var. *α*, and probably a distinct species.

Panicled-flowered Phlox. Fl. Aug. Sept. Clt. 1732. Pl. 3 to 4 feet.

2 P. UNDULA'TA (Ait. hort. kew. 1. p. 205.) erect, glabrous; leaves oblong-lanceolate, somewhat undulated, with scabrous edges; corymbs panicled; segments of corolla obovate, somewhat retuse; of the calyxes awned. ♃. H. Native of Virginia and Carolina, in high mountains and meadows. P. paniculàta, Michx. fl. amer. 1. p. 144. Flowers purple. A beautiful plant, resembling the preceding; and the flowers of the same colour.

Undulated-leaved Phlox. Fl. July, Aug. Clt. 1759. Pl. 4 to 5 feet.

3 P. PYRAMIDA'LIS (Smith, exot. bot. 2. p. 55. t. 87.) erect, glabrous; stem scabrous, spotted; leaves cordate-oblong, acuminated; panicle fastigiate, pyramidal; segments of corolla cuneately truncate; calycine teeth erect, lanceolate, acute, glabrous, with scabrous edges. ♃. H. Native from Pennsylvania to Carolina, in mountain meadows. Lodd. bot. cab. 342. Sweet, fl. gard. 233. P. Carolìna, Walt. fl. car. 296. Flowers pale flesh-coloured, or lilac.

Var. β, penduliflòra (Hort.) flowers rather pendulous.

Var. γ, corymbòsa (Hort.) flowers densely corymbose.

Pyramidal-flowered Phlox. Fl. Ju. Aug. Clt. 1800. Pl. 2 to 3 feet.

4 P. LATIFÒLIA (Michx. fl. amer. bor. 1. p. 143.) erect, glabrous; stem smooth; leaves cordate-ovate; flowers fastigiately corymbose; segments of corolla nearly orbicular; teeth of calyx lanceolate, hardly acuminated. ♃. H. Native of Carolina, in shady places, among *Sphágnum.* Flowers large, purple. Perhaps only a variety of *P. pyramidàlis.*

Broad-leaved Phlox. Fl. Ju. Aug. Clt. 1812. Pl. 3 feet.

5 P. CORDA'TA (Ell. fl. corol. 2. p. 40. Sweet, fl. gard. n. s. t. 13.) stems smooth, slightly tetragonal; leaves oblong-cordate, acuminated, with scabrous edges; corymbs panicled, pyramidal; pedicels and calyxes downy; calycine segments long-awned; corolla with a downy tube, and obovate, rounded, distinct segments. ♃. H. Native of Carolina. Corollas of a bright purplish lilac colour.

Cordate-leaved Phlox. Fl. July, Aug. Clt. 1827. Pl. 2 to 3 feet.

6 P. CORYMBÒSA (Hortul. ex Sweet, fl. gard. n. s. t. 114.) stem erect, downy, branched at top, rather tetragonal; leaves oblong-lanceolate, undulated, downy beneath, with scabrous edges; corymbs panicled; calycine teeth subulate; segments of corolla roundish-obovate, imbricate. ♃. H. Native of North America. Stems more or less purple. Branches of corymb many-flowered. Corollas purplish lilac, with a white star at the base. Tube of corolla downy.

Corymbose-flowered Phlox. Fl.? Clt. ? 3 to 4 feet.

7 P. MACULA'TA (Lin. spec. 216.) erect; stem scabrous, spotted; leaves oblong-lanceolate, glabrous, with rough edges; panicle oblong, crowded with flowers; segments of corolla roundish; teeth of calyx acute, recurved. ♃. H. Native from New England to Carolina, in wet meadows. Pursh, fl. 1. p. 149. Jacq. hort. vind. 2. p. 58. t. 127. Gærtn. fruct. p. 299. Flowers purplish, violet or purple. Stem marked with brown spots.

Spotted-stemmed Phlox. Fl. July, Aug. Clt. 1740. Pl. 3 feet.

8 P. ODORA'TA (Sweet, fl. gard. t. 224.) stems erect, branched at top, rather scabrous; leaves acuminated, glabrous, with scabrous edges: lower ones linear: middle oblong-lanceolate: superior ones cordate-ovate; branches corymbose, many-flowered, somewhat fastigiate; teeth of calyx ovate, shortly acuminated, erect; segments of corolla cuneately obovate. ♃. H. Native of North America. Phlóx bimaculàta, Hort. Flowers of a bright red lilac colour, sweet-scented. Branches of corymb forming a thyrsoid raceme. Nearly allied to *P. glabérrima* and *P. maculàta.*

Sweet-scented Phlox. Fl. Aug. Clt. ? Pl. 3 feet.

9 P. REFLE'XA (Hortul. Sweet, fl. gard. t. 232.) stems downy, scabrous, spotted; leaves reflexed, glabrous, shining above: lower ones narrow-lanceolate: superior ones cordate, acute; flowers crowded, panicled, with many-flowered branches; teeth of calyx lanceolate, mucronate, spreading; tube of corolla glabrous, curved; segments of the limb roundish-obovate, imbricated at the base. ♃. H. A hybrid production. Flowers dark purple, in close, crowded panicles, sweet-scented.

Reflexed-leaved Phlox. Fl. July, Sept. Clt. ? Pl. 2 or 3 feet.

10 P. SCA'BRA (Sweet, fl. gard. t. 248.) stem glabrous at bottom, and downy at top; leaves oblong-lanceolate, acute, scabrous above, with undulated, denticulately scabrous edges; flowers in loose panicles; calyxes pilose; teeth of calyx subulate, straight; tube of corolla curved, villous; segments of corolla obovate, spreading, slightly emarginate. ♃. H. Native of North America. Phlóx Americàna. Hortul. Flowers pale lilac, fragrant.

Scabrous Phlox. Fl. Aug. Clt.? Pl. 3 to 4 feet.

11 P. ACUMINA'TA (Pursh. fl. amer. sept. 2. p. 730. Sims, bot. mag. 1880.) erect, downy; stem angular; leaves ovate-

lanceolate, acuminated, narrowed below, somewhat petiolate, downy beneath; floral leaves subcordate; corymbs subpanicled; corolla with roundish segments, and a downy tube; calycine segments awned. ♃. H. Native of Georgia and South Carolina, on the mountains. Flowers variegated with pale and deep purple. P. decussàta, Lyon, mss.

Acuminated-leaved Phlox. Fl. Oct. Nov. Clt. 1812. Pl. 3 to 4 feet.

12 P. penduliflòra (Sweet, hort. brit. ed. 2d. p. 368. fl. gard. n. s. t. 46.) stem rather flexuous, obsoletely quadrangular, clothed with rough pubescence, spotted; leaves oblong-lanceolate, acuminated, nearly sessile, glabrous and shining above, having the margins and nerves scabrous beneath; corymbs many-flowered, panicled, drooping before expansion; calyxes downy, with lanceolate, mucronate segments; segments of corolla roundish, imbricate. ♃. H. Native of North America. Flowers of a rosy purple colour, sweet-scented; tube smooth, a little recurved.

Pendulous-flowered Phlox. Fl. Aug. Oct. Clt. 1823. Pl. 3 to 4 feet.

13 P. Carolìna (Lin. spec. 216.) erect; stem downy, scabrous; leaves ovate-lanceolate, acuminated, glabrous, except the margins and nerves, which are scabrous beneath; corymbs panicled, subfastigiate, with many-flowered branches; segments of corolla roundish; teeth of calyx glabrous, lanceolate, erect; segments of corolla roundly obovate. ♃. H. Native of Lower Carolina, in wet meadows; and on the mountains of Virginia. Sims, bot. mag. 1344. Mart. cent. t. 10. Sweet, fl. gard. 190. Flowers beautiful, pale purple, the size of those of *P. suavèolens;* tube of corolla smooth. P. Carolìna, Pursh, fl. amer. sept. 1. p. 149, is probably P. triflòra, Michx.

Carolina Phlox. Fl. July, Sept. Clt. 1728. Pl. 2 to 3 feet.

14 P. triflòra (Michx. fl. bor. amer. 1. p. 143.) erect; stem obsoletely tetragonal, rather downy; leaves lanceolate, glabrous; branches of corymb usually 3-flowered; teeth of calyx linear; segments of corolla roundly obcordate, slightly undulated, at length reflexed. ♃. H. Native of Virginia, on the mountains. Sweet, fl. gard. 49. P. cárnea, Sims, bot. mag. t. 2155. Lodd. bot. cab. 711. Flowers in loose spreading corymbs, pale lilac. Segments of calyx nearly as long as the tube of the corolla.

Three-flowered Phlox. Fl. July, Sept. Clt. 1816. Pl. 1 to 2 feet.

15 P. nítida (Pursh, fl. amer. sept. 2. p. 730.) erect, quite glabrous; stems terete, spotted, smooth; leaves ovate-oblong, rather fleshy, shining and dark green above, pale beneath; corymbs fastigiate; lower branches elongated, nearly naked; segments of corolla broad-obovate, rather retuse; calycine teeth lanceolate, mucronate. ♃. H. Native of South Carolina. P. suffruticòsa, Hort. Nearly allied to *P. Carolìna;* but the flowers are large, long, and of a beautiful purple colour.

Shining-leaved Phlox. Fl. July, Aug. Clt. 1800. Pl. 2 feet.

16 P. suffruticòsa (Vent. malm. 2. p. 107.) erect, glabrous; stem glabrous, trifid at top, and suffruticose at the base; leaves lanceolate, shining on both surfaces, and acute at both ends, almost veinless; corymbs crowded with flowers. ♃. H. Native of North America. Willd. enum. 1. p. 200. Poir. encycl. suppl. 4. p. 397. Mordaunt Delauny, herb. amat. 3. t. 4. Ker. bot. reg. 68. Stem much branched, ex Vent. Corolla deep purplish violet, with deeper lines at the base; segments of the limb roundish-obovate.

Suffruticose Phlox. Fl. July, Sept. Clt. 1790. Pl. 2 feet.

17 P. glabe'rrima (Lin. spec. 217. Sweet, fl. gard. n. s. t. 36.) plant tufted; stems erect, glabrous; leaves linear-lanceolate, smooth: corymbs terminal, trifid, sub-fastigiate; fascicles 3-4-flowered: segments of corolla roundish; teeth of calyx acuminated, spreading, mucronate. ♃. H. Native of Lower Carolina, in wet meadows; and on the mountains of Virginia. Pursh, fl. 1. p. 149.—Dill. elth. t. 166. f. 202.—St. Hil. 18. t. 6.—Kerner, œk. pflanz. t. 136. Flowers of a reddish lilac, dying off bluish.

Quite glabrous Phlox. Fl. Ju. Aug. Clt. 1725. Pl. 1½ to 2 feet.

18 P. tardiflòra (Penny, in Young, hort. eps. p. 38. Loud. hort. brit. p. 596.) stem roughish, obscurely spotted; leaves lanceolate, acuminated, quite glabrous on both surfaces, shining, with scabrous edges: upper leaves the broadest; racemes panicled; segments of corolla rounded; tube very long, 3 times longer than the calyx; calycine teeth lanceolate, acute, erectish. ♃. H. Native of North America. P. longiflòra, Sweet, brit. fl. gard. n. s. t. 31. Stem bluntly tetragonal. Flowers pure white, fragrant. Very nearly allied to *P. suavèolens.*

Late-flowering Phlox. Fl. Aug. Oct. Clt. 1825. Pl. 2 to 3 ft.

19 P. Sickma'nni (Lehm. sem. hort. hamb. 1826. p. 17. act. bonn. 14. p. 814. t. 46.) stems erect, obscurely tetragonal, glabrous; leaves lanceolate, acuminated, scabrous, but glabrous beneath; flowers disposed in large corymbose panicles, which are, as well as the calyxes, downy; bracteas ciliated; teeth of calyx subulate, margined with red, ciliated; segments of corolla obovate; stigma bifid. ♃. H. Native of North America. P. scàbra, Sweet, fl. gard. 3. t. 248. Stem pale purple above, marked with dark purple spots at the axils of the leaves. Leaves rather undulated; lower ones attenuated at the base; upper ones subcordate. Limb of corolla violaceous, each segment marked by an obcordate, white spot at the base.

Sickmann's Phlox. Fl. Aug. Clt. 1826. Pl. 2 to 3 feet.

20 P. suave'olens (Ait. hort. kew. 1. p. 206.) erect; stem quite glabrous, without spots; leaves ovate-lanceolate, smooth; racemes panicled; segments of corolla roundish; calycine teeth lanceolate, acute, erectish. ♃. H. Native from Canada to Virginia, in meadows. P. maculàta, *β*, cándida, Michx. fl. bor. 1. p. 145. Flowers white, sweet-scented. There is a variety of this species, having the leaves edged with white, or pale yellow.

Sweet-scented-flowered Phlox. Fl. July, Aug. Clt. 1766. Pl. 1 to 2 feet.

21 P. Drummóndi (Hook. bot. mag. t. 3441.) annual; stems erect, simple at bottom, but a little branched at top, beset with spreading hairs, as well as the edges of the leaves, calyxes, bracteas, &c.; leaves ovate-lanceolate, half stem-clasping, all mucronate and downy, lower ones opposite, upper ones alternate; panicle trichotomously corymbose; flowers on very short pedicels; calycine segments linear-subulate, mucronate, a little reflexed; tube of corolla much curved, hairy, 3 times longer than the calyx; segments of corolla imbricate, cuneate, obtuse, entire. ☉. H. Native of Mexico, in the Texas. D. Don, in Sweet, fl. gard. n. s. t. 316. Flowers of a beautiful purple, with a darker eye. Lower leaves always opposite; upper ones nearly ovate.

Drummond's Phlox. Fl. Aug. Sept. Clt. 1835. Pl. 1 foot.

§ 2. *Leaves broad. Plants with barren stems.*

22 P. ova'ta (Lin. spec. 217.) erect, glabrous; radical leaves ovate, acute, rather fleshy, cauline ones ovate-oblong; corymbs subfastigiate; segments of corolla undulated, retuse; teeth of calyx linear, acute. ♃. H. Native of North America. Willd. spec. 1. p. 842. Pursh, fl. 1. p. 150.—Plukn. mant. p. 122. t. 348. f. 4. Flowers beautiful, reddish purple.

Var. β, Listoniàna (Hort.) radicle leaves ovate: cauline ones lanceolate. ♃. H. Native of North America. P. ovàta, Curt. bot. mag. t. 582.

Ovate-leaved Phlox. Fl. May, July; *β*, July, Aug. Clt. 1759; *β*, 1816. Pl. 1 to 1½ foot.

23 P. re'ptans (Michx. fl. amer. bor. 1. p. 144. Vent. malm.

t. 107.) plant creeping, stoloniferous, downy; radical leaves obovately-spatulate: cauline leaves lanceolate; corymbs divaricate, few-flowered; segments of corolla obovate; teeth of calyx linear, reflexed. ♃. H. Native of Virginia and Carolina, on high mountains. Phlóx stolonífera, Curt. bot. mag. 563. Flowers blue, with a purple centre, very handsome.

Var. β, crassifòlia (D. Don, in Sweet, fl. gard. n. s. t. 293.) leaves thicker; flowers deeper coloured. ♃. H. Native of North America. Phlóx crassifòlia, Lodd. bot. cab. 1596. Flowers rose-coloured. Branches simple. Leaves and petioles mucronately fringed with soft hairs on the midrib and edges. Calycine segments white, lanceolate, acuminated, erect, connivent, with scarious edges. Tube of corolla deep purple, clothed with glandular hairs, twice as long as the calycine segments; limb purple, with rounded, slightly crenulated segments.

Creeping Phlox. Fl. June, Sept. Clt. 1800. Pl. ½ foot.

24 P. DIVARICA'TA (Lin. spec. 217.) decumbent, downy; leaves oval-lanceolate, superior ones alternate; branchlets divaricate, loose, few-flowered; segments of corolla somewhat obcordate; teeth of calyx linear-subulate. ♃. H. Native from Pennsylvania to Virginia, on the mountains, and on the banks of the Missouri. Curt. bot. mag. 163. Mill. fig. t. 205. f. 1. Flowers purplish blue. Corymbs dichotomous.

Divaricate Phlox. Fl. May, July. Clt. 1746. Pl. ½ to 1 foot.

25 P. CANADE'NSIS (Hort. ex Sweet. fl. gard. t. 221.) erect; stems rather downy; lower leaves ovate: superior ones broad-lanceolate, opposite and alternate; branches downy, few-flowered, compact; teeth of calyx subulate-linear; segments of corolla broad, obcordate; tube a little curved, ascending, much longer than the calyx. ♃. H. Native of Canada. Flowers blue, tinged with lilac, disposed in a terminal, corymbose panicle. This plant is very nearly related to *P. divaricàta*.

FIG. 27.

Canadian Phlox. Fl. April, May. Clt. 1825. Pl. 1 foot.

§ 3. *Leaves linear-lanceolate, linear, or subulate.*

26 P. ARISTA'TA (Michx. fl. bor. amer. 1. p. 144.) weak, erect, clothed with viscid down; leaves linear-lanceolate; panicle loose, fastigiate; pedicels generally twin; segments of corolla oboval; tube curved, downy; calycine teeth very long, subulate. ♃. F. Native from Pennsylvania to Carolina, in sandy fields; and of the Rocky mountains, in the valley of the Loup, Fork. ex Torrey. Pursh, fl. 1. p. 150. Lodd. bot. cab. 1731. P. pilòsa, Sims, bot. mag. 1307.? Flowers usually red, but sometimes white.

Var. α, vìrens (Pursh, fl. 1. p. 150.) corollas reddish purple.

Var. β. canéscens (Pursh, l. c.) corolla whitish rose-coloured.

Awned-calyxed Phlox. Fl. April. Clt. 1828. Pl. procumbent.

27 P. PILÒSA (Michx. fl. bor. amer. 1. p. 145.) humble, decumbent, downy; leaves linear-lanceolate, short, roughish; upper ones furnished with nearly sessile fascicles of flowers; segments of corolla roundish, obtuse; tube straight, glabrous; calycine teeth subulately acuminated. ♃. H. Native of Carolina, in sandy fields; and on the mountains of Georgia. Lodd. bot. cab. 1251.—Plukn. alm. t. 98. f. 1. Flowers usually purple, sometimes white, smaller than those of *P. aristàta*.

Var. β, amœ'na (Sims, bot. mag. 1308.) this is probably nothing more than a luxuriant garden production of the species. ♃. H.

Pilose Phlox. Fl. Ju. July. Clt. 1759. Pl. ½ to 1 foot.

28 P. PROCU'MBENS (Lehm. cat. hort. hamb. 1829. Sweet, fl. gard. n. s. t. 7.) stems procumbent, branched; branches ascending, clothed with hair-like down, as well as the peduncles and calyxes; leaves lanceolate, acute, attenuated at the base, smoothish, ciliated on the edges; calycine segments linear, acute; segments of corolla cuneately obcordate, with a hairy, erect tube, twice longer than the calyx. ♃. H. Native of North America. Flowers disposed in terminal, few-flowered panicles, composed of 1-2-flowered peduncles. Corollas bluish purple. In habit this species is intermediate between *P. subulàta* and *P. pilòsa*.

Procumbent Phlox. Fl. May, Clt. 1827. Pl. procumbent.

29 P. SPECIÒSA (Pursh, fl. amer. sept. 1. p. 149.) erect, branched, frutescent, glabrous; leaves linear, acuminated, pungent, dilated and somewhat ciliated at the base, with calycine segments broad from the base, membranous, acuminated, about equal in height to the tube of the corolla; segments of corolla cuneate-oblong, entire. ♄. F. Native of North America, on the plains of the Columbia. Dougl. in bot. reg. 1351. Branches of corymb 3-flowered. Corollas flesh-coloured.

Showy Phlox. Fl. May, Ju. Clt. 1826. Shrub ½ to 1 foot.

30 P. SUBULA'TA (Lin. spec. 217.) plant tufted, whitish from down; leaves linear, pungent, ciliated; corymbs few-flowered; peduncles trifid; teeth of calyx subulate, hardly shorter than the tube of the corolla; segments of corolla cuneately obcordate. ♃. H. Native from New Jersey to Carolina, on dry sandy hills and rocks. Curt. bot. mag. 411. Jacq. fragm. t. 44. f. 4.—Plukn. phyt. t. 98. f. 2. Flowers pink-coloured, with a handsome purple star in the centre. Calyx villous.

Subulate-leaved Phlox. Fl. April, June. Clt. 1786. Pl. ½ ft.

31 P. HOÒDII (Richards. in Frankl. journ. append. ed. 2d. p. 6. t. 28.) plant humble, many-stemmed: leaves subulate, with woolly edges; flowers sessile, solitary; segments of the limb obovate. ♃. H. Native of the west coast of America, about Carlton House; and of the Rocky Mountains, in the valley of the Loup Fork. This is a singular and beautiful species.

Hood's Phlox. Pl. dwarf, tufted.

32 P. CŒSPITÒSA (Nutt. journ. acad. nat. sc. phil. 7. p. 41.) plant diffuse, procumbent; leaves subulate, ciliated, short, with reflexed edges; flowers solitary, on short pedicels; calycine segments spinulose; segments of corolla cuneated, entire. ♃. H. Native of the Rocky mountains, at Flat Head river, on the sides of dry hills. General habit of *P. subulàta*. Stems downy. Leaves ending in pungent points. Flowers terminating the branches solitary, pale violet or white.

Tufted Phlox. Pl. tufted.

33 P. LONGIFÒLIA (Nutt. journ. acad. phil. 7. p. 41.) plant somewhat tufted, many-stemmed; leaves subulate, very long, and very narrow, glabrous; stems few-flowered, very short, puberulous, irregularly trichotomous; peduncles filiform, elongated; calycine segments acuminated; segments of corolla oblong-cuneated, entire. ♃. H. Native of the Rocky mountains, in valleys, flowering most part of the summer. Stems almost a span high, many from the same root. Flowers apparently white. Very nearly allied to *P. Hoòdii*.

Long-leaved Phlox. Fl. summer. Pl. ½ foot.

34 P. MUSCOÌDES (Nutt. l. c. p. 42. t. 6. f. 2.) plant densely tufted, small; leaves closely imbricated, oblong-lanceolate, copiously ciliated, very short; flowers sessile, hardly exserted; segments of corolla cuneated, entire. ♃. H. Native of Alpine situations, at the sources of the Missouri. Root large, descend-

ing. The whole plant depressed to the appearance of a hoary *Brýum*, no part of it hardly rising to the height of ½ an inch from the ground. Leaves all hoary, lanuginose at the edges, ending in acute points. Flowers large, white, with a yellow spot towards the orifice.

Moss-like Phlox. Pl. tufted, ½ inch.

35 P. He'ntzii (Nutt. l. c. p. 110.) plant tufted, downy; leaves linear or lanceolate, ciliated, pungent; flowers corymbose, glomerate, few-flowered; segments of corolla cuneated, obtuse, entire; teeth of calyx acute, shortish. ♃. H. Native of the United States in the southern pine barrens. Habit of *P. subulàta*, but producing short, leafy stems, the summits of which only are floriferous.

Hentzius's Phlox. Pl. ½ foot

36 P. niva'lis (Sweet, fl. gard. 185.) plant suffruticose, much branched, procumbent; branches ascending, crowded, downy, usually 3-flowered; leaves linear, in fascicles, cuspidate, ciliated, recurved; pedicels and calyxes villous; tube of corolla twice as long as the calycine segments, which are linear, and sharp-pointed: segments of corolla obcordate, plicately lined. ♃. H. Native of North Carolina. Phlóx nívea, Lodd. bot. cab. 780. Flowers snow-white.

Snowy-flowered Phlox. Fl. April, May. Clt. 1820. Pl. procumbent.

37 P. seta'cea (Lin. spec. 217.) tufted, downy; leaves in fascicles, subulate, pungent, ciliated; peduncles few, terminal, subumbellate; segments of corolla cuneated, emarginate; teeth of calyx subulate, 3 times shorter than the tube of the corolla. ♃. H. Native from Virginia to Carolina, on rocks and barren sandy hills. Curt. bot. mag. 415. Pursh, 1. p. 151.—Plukn. phyt. t. 98. f. 2. Flowers pale rose-coloured, with a purple star in the centre. Calyx hairy.

Setaceous-leaved Phlox. Fl. April, July. Clt. 1786. Pl. procumbent.

38 P. Sibírica (Lin. amœn. acad. 2. p. 342. spec. 217.) tufted; stems numerous, from the same centre, pale green; leaves linear, villous; pedicels 2-4, hairy from the axils of the upper leaves; segments of corolla cuneated, entire, and are, as well as the calyxes, the length of the tube of the corolla. ♃. H. Native of Siberia, at the Lena.—Gmel. sib. 4. p. 81. t. 46. f. 2. Flowers purplish, as also white, with 10 purple stripes. Calyx cylindrical, hairy, ex Gmel. Segments of corolla from 4 to 6, often emarginate.

Siberian Phlox. Pl. ¼ to ½ foot.

N.B.—*The following names occur in garden catalogues; but these, in most instances, are synonymous with some of the above, or are names given to hybrids or trifling varieties.*

1 P. excélsa, Penny. 2 P. Wheeleriàna, Sweet, a hybrid. 3 P. Shephérdii, Sweet, a hybrid. 4 P. dísticha, Sabine. 5 P. involucràta, Nutt. 6 P. læ'ta, Penny. 7 P. elàta, Penny. 8 P. Virgínica, Lodd. 9 P. intermèdia, Lodd. cat. 10 P. acutifòlia, Sweet.

Cult. *Phlóx* is a genus of elegant border flowers; the most of them thrive in common garden earth, but prefer a rich loamy soil. Those species belonging to the third section of the genus, being tender, more dwarf kinds, will require to be protected under frames in winter, if severe; and it is therefore safest to have a plant or two of all these dwarfer kinds in pots. The larger kinds are easily increased by dividing at the root; and cuttings of the dwarf kinds strike root freely if planted under a hand-glass.

IV. HU'GELIA (named by Bentham, in honour of Baron Charles de Hugel, of Vienna.) Benth. in bot. reg. under no. 1622., but not of Rchb., which is *Didiscus*.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubularly campanulate, half 5-cleft, with the recesses hardly membranous; segments rather unequal, linear, stiff, somewhat spinose. Corolla funnel-shaped, with a short exserted tube, a 5-parted limb, and oblong, quite entire segments. Stamens inserted at the throat; anthers linear, sagittate. Cells of capsule many-seeded.—Annual or perennial herbs, clothed more or less with white woolliness. Leaves alternate, linear, entire or pinnatifid. Flowers disposed in dense, corymbose heads; with the calyxes and bracteas imbricate, immersed in dense wool. *Hùgelia* differs from *Gília* in the anthers and habit.

1 H. densifòlia (Benth. l. c.) plant humble; stem smoothish; leaves numerous, nearly all pinnatifid, glabrous, with 2-3 acerose segments on each side; tube of corolla longer than the calyx; stamens about equal in length to the corolla. ⊙.? H. Native of California, Douglas. Corollas blue.

Dense-leaved Hugelia. Pl. ½ foot.?

2 H. elonga'ta (Benth. l. c.) branches elongated, divaricate or procumbent, tomentose; leaves short, simple, or furnished with 1-2 segments on each side, all clothed with white tomentum, or at length hardly glabrous; tube of corolla exserted; stamens exceeding the corolla. ⊙.? H. Native of California, Douglas. Flowers deep blue.

Elongated Hugelia. Pl. 1 foot.?

3 H. virga'ta (Benth. l. c.) plant erect; leaves elongated, simple or pinnatifid, clothed with loose white wool; tube of corolla longer than the calyx; stamens shorter than the corolla. ⊙.? H. Native of California, Douglas. Flowers deep blue.

Twiggy Hugelia. Pl. ½ foot.?

4 H. lu'tea (Benth. l. c.) erect; lower leaves elongated, simple, glabrous: superior ones short, pinnatifid, clothed with white wool; corymbs small; tube of corolla shorter than the calyx; stamens equal in length to the corolla. ⊙.? H. Native of California, Douglas. Flowers yellow.

Yellow-flowered Hugelia. Pl. ½ foot.?

Cult. For culture and propagation see *Gília*, p. 245.

V. LINA'NTHUS (from λινον, *linon*, flax; and ανθος, *anthos*, a flower; from the resemblance of the flowers to several species of *Lìnum*.) Benth. in bot. reg. under no. 1622.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, membranous; with 5 strong, green nerves, which are drawn out into subulate, recurved teeth at the apex. Corolla funnel-shaped; with a short tube, a 5-cleft limb, and obovate segments, which are crenulated at the apex. Stamens inclosed in the tube; anthers filiform, hardly sagittate at the base. Cells of capsule many-seeded. This is a very distinct genus, from the calyx, anthers, and habit.

1 L. dichótomus (Benth. l. c.) ⊙. H. Native of California. Douglas. A glabrous, annual herb. Leaves opposite, sessile, palmate, with 3-5 linear-subulate segments. Flowers solitary in the forks, almost sessile, bractless, but numerous and approximate towards the tops of the branches. Corolla size, colour, and form of *Lìnum suffruticòsum*.

Dichotomous Linianthus. Pl.

Cult. For culture and propagation see *Gília*, p. 245.

VI. LEPTOSI'PHON (from λεπτος, *leptos*, slender; and σιφων, *siphon*, a tube; the tube of the corolla is long and slender.) Benth. in bot. reg. under no. 1622.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubularly campanulate, equal, semi-5-cleft; lobes linear-subulate, acute; sinuses membranous. Corolla funnel-shaped; with a very long, very slender tube, and a campanulate 5-cleft limb, with oval, obtuse, quite entire lobes. Stamens inserted at the throat of the corolla; anthers oblong, sagittate at the base. Cells of capsule many-seeded.—Annual herbs, glabrous at the base, and downy at top. Leaves opposite, sessile, palmately cut; with linear or subulate segments. Flowers disposed in dense corymbose heads,

with the axis rather woolly. Bracteas imbricate, conforming to the leaves; with ciliately-hairy segments. This genus differs from *Gília*, sect. *Dactylophýllum*, in the form of the corolla.

1 L. GRANDIFLO'RUS (Benth. l. c.) plant nearly simple; leaves 7-11 cleft; segments subulate, straight, with revolute margins; tube of corolla hardly twice longer than the limb; filaments very short. ⊙. H. Native of California, Douglas. Corolla blue, with a golden yellow or purple bottom.

Great-flowered Leptosiphon. Pl. ½ foot.

2 L. ANDROSA'CEUS (Benth. l. c. hort. trans. n. s. 1. t. 18. f. 1. bot. reg. 1710.) leaves 5-7-cleft; segments oblong-linear; tube of corolla 2-3 times longer than the limb; stamens 3 times shorter than the limb of the corolla. ⊙. H. Native of California, Douglas. A bushy, pilose herb. Corolla smaller, and more intensely coloured than the preceding, from white to pale blue or pink: the tube usually red. The multitude of flowers gives the plant a very gay appearance.

Androsace-like Leptosiphon. Fl. June, July. Clt. 1833. ½ foot.

3 L. LU'TEUS (Benth. in bot. reg. under no. 1622.) leaves 5-7-cleft; segments oblong-linear; tube of corolla about 4 times longer than the limb; stamens about 3 times shorter than the limb of the corolla; style scarcely equal in length to the corolla. ⊙. H. Native of California, Douglas. Corolla yellow, having the throat deeper coloured.

Var. β; corollas paler.

Yellow-flowered Leptosiphon. Pl. ½ foot.

4 L. PARVIFLO'RUS (Benth. l. c.) leaves 5-7-cleft; segments oblong-linear; tube of corolla 4 times longer than the limb; stamens hardly one-half shorter than the limb of the corolla; style a little exserted. ⊙. H. Native of California, Douglas. Corolla pale yellow, with a deep yellow bottom.

Small-flowered Leptosiphon. Pl. ½ foot.

5 L. DENSIFLO'RUS (Benth. l. c. hort. trans. n. s. 1. t. 18. f. 2. bot. reg. 1725.) leaves 9-11-cleft; segments subulate, erect, with revolute margins; tube of corolla shorter than the limb. ⊙. H. Native of California, Douglas. Habit of *L. androsàceus*, only it is gayer in appearance, being more glandular. The corollas in this are, however, 3 times larger, with a short, thick tube, instead of a long, slender one; its colour varies from purple to blue and white; but are not produced in the same profusion as those of *L. androsàceus*. From the short tube of the corolla, this plant probably belongs to *Gília*, sect. I. *Dactylophýllum*, Benth.

Dense-flowered Leptosiphon. Fl. July, Nov. Clt. 1833. Pl. ½ foot,

Cult. All the species of this genus are very gay when in blossom, and are therefore worth cultivating in every garden. The seeds of them only require to be sown in the open ground, in April; and if sown in large patches, the plants, when in blossom, will have, according to the size of the patch or bed, a gayer appearance.

VII. FE'NZLIA (so called by Bentham, in honour of Dr. Fenzl, of Vienna, now publishing a monograph of *Alsíneæ*.) Benth. in bot. reg. under no. 1622.

LIN. SYST. *Pentándria, Monogýnia.* Calyx tubularly-campanulate, deeply 5-cleft, with membranous sinuses, and linear, acutish, erect segments. Corolla somewhat funnel-shaped, with a short tube, and a 5-parted limb; segments of the limb obovate, toothed. Anthers ovate-sagittate, a little exserted from the tube. Cells of capsule many-seeded.

1 F. DIANTHIFLÒRA (Benth. l. c.) ⊙. H. Native of California, Douglas. A small, annual, nearly simple herb, about 2-3 inches in height, glabrous or downy. Leaves opposite. linear, quite entire. Flowers 1-3 together, pedunculate. Corolla nearly an inch long, purplish, with a yellow bottom.

Pink-flowered Fenzlia. Pl. 2 to 3 inches.

Cult. For culture and propagation, see *Leptosìphon*, above.

VIII. GI'LIA (named after Philippe Salvador Gilio, a Spanish botanist.) Ruiz. et Pav. fl. per. 2. p. 17. t. 123. Benth in bot. reg. under no. 1622.—Ipomópsis, Smith, exot. bot. 1. p. 23. t. 13.

LIN. SYST. *Pentándria, Monogýnia.* Calyx campanulate, 5-cleft (f. 28 *a*.), with the margins and recesses membranous. Corolla funnel-shaped, or sub-campanulate (f. 28. *b*.); limb 5-parted; segments obovate, entire. Stamens inserted at the throat of the corolla, or hardly within the tube; anthers ovate-roundish. Capsule oblong, subtrigonal; valves membranous; cells many-seeded. Seeds angular. Albumen sparing. Radicle shorter than the cotyledons.—Usually annual, rarely biennial herbs. Leaves alternate, pinnate, with entire or cut segments, in the sections *Ipomópsis* and *Eugília;* but in the section *Dactylophýllum*, the leaves are opposite, palmately cut, with entire, subulate segments.

SECT. I. DACTYLOPHYLLUM (from δακτυλον, *dactylon*, a finger; and φυλλον, *phyllon*, a leaf; in reference to the palmate-cut leaves.) Benth. in bot. reg. under no. 1622. Lower leaves opposite, all sessile, and palmately cut. Flowers solitary, on long peduncles. Corolla with a very short tube, and spreading limb. Perhaps a proper genus ?, Benth. l. c.

1 G. LINIFLO'RA (Benth. l. c.) lower leaves opposite, all sessile, and palmately cut; corolla 3 times longer than the calyx. ⊙. H. Native of California, Douglas. Flowers white ?, form and size of those of *Lìnum tenuifòlium*.

Flax-flowered Gilia. Pl. ?

2 G. PHARNACEOÌDES (Benth. l. c.) lower leaves opposite, all sessile, and palmately cut; corolla twice longer than the calyx. ⊙. H. Native of California, Douglas. This species differs from the preceding, in the flowers being one half smaller.

Pharnaceum-like Gilia. Pl. ?

3 G. PUSÍLLA (Benth. l. c.) lower leaves opposite, all sessile, and palmately cut; corolla hardly exceeding the calyx. ⊙. H. Native of Chili, Bertero. Habit of *Arenària tenuifòlia*. It differs from *G. pharnaceoìdes*, in the flowers being one half smaller, and in the corollas being less spreading.

Least Gilia. Pl. ¼ foot.

SECT. II. IPOMO'PSIS (from ιπω, *ipo*, to strike forcibly; and οψις, *opsis*, sight; brilliancy of flowers.) Benth. in bot. reg. under no. 1622. Ipomópsis, Michx. and other authors. Leaves alternate, pinnate or pinnatifid. Flowers solitary, or somewhat glomerate. Tube of corolla elongated, much exserted beyond the calyx.

4 G. CORONOPIFO'LIA (Pers. ench. 1. p. 187.) stem erect, tall, panicled at top, and clothed with glandular down; leaves pectinately pinnate; leaflets linear, acuminated; tube of corolla 5 times longer than the calyx; limb of corolla spreading, with oblong or ovate, acute, flat segments. ♂. H. Native of Carolina; and on the banks of the Canadian river. Lindl. bot. reg. 1691. Sweet, fl. gard. n. s. t. 289. Ipomópsis pícta, Hort. gall. Ipomópsis élegans, Michx. fl. bor. amer. 1. p. 141. Smith, exot. bot. 1. p. 23. t. 13. Ipomópsis coronopifòlia, Nutt. gen. amer. 1. p. 124. Cántua coronopifòlia, Willd. spec. 2. p. 879. Andr. bot. rep. 415. Pursh, 1. p. 147. Cántua pinnatífida, Lam. ill. 1. p. 473. C. élegans, Poir. dict. suppl. 2. p. 80. Polemònium rùbrum, Lin. spec. 1. p. 231. Ipomæ'a rùbra, Lin. syst. 171. Cántua thyrsoìdea, Juss. ann. mus. 3. p. 119.—Dill. elth. 2. p. 321. t. 241. f. 312. Stem clothed with fine glands, mixed with downiness. Corollas scarlet, blotched with white.

Buckhorn-leaved Gilia. Fl. Aug. Sept. Clt. 1726. Pl. 3 to 5 feet.

5 G. AGGREGA'TA (D. Don, in edinb. phil. journ. 1822. Sweet, fl. gard. n. s. t. 218.) stem erect, tall, glabrous, panicled at top; leaves pectinately pinnate, and are, as well as the bracteas, covered with cobwebbed villi; leaflets or segments linear, mucronate; flowers fascicled at the extremities of the branches, drooping a little; tube of the corolla 5 times longer than the calyx; segments of the limb ovate-lanceolate, acuminated, channelled. ⊙. H. Native of the north-west coast of America, particularly towards the sources of the Columbia, and on the Canadian river. Ipomópsis élegans, Lindl. bot. reg. 1281. Gília pulchélla, Dougl. mss. Cántua aggregàta, Pursh, amer. 1. p. 147. Upper leaves undivided. Calyx clothed with glandular hairs. Corolla an inch long, scarlet; limb at first erect, at length recurved. Stamens a little exserted. Segments of corolla spotted.

Aggregate-flowered Gilia. Fl. Aug. Sept. Clt. 1827. Pl. 3 feet.

6 G. FLORIDA'NA; plant glabrous; leaves pinnate, capillary; flowers disposed in loose racemes; corolla tubular, narrowed at bottom; limb 4 times shorter than the tube; calyx short, with setaceous segments. ♂. F. Native of Florida. Cántua floridàna, Nutt. in journ. acad. phil. 2. p. 110. Very like *G. coronopifòlia*, but is a more slender plant.

Florida Gilia. Pl. 2 to 3 feet.

7 G. SE'SSEI; stem dwarf, branched, clothed with glandular down; leaves pinnatifid; segments cuneated, with pointed teeth; bracteas ovate-lanceolate, mucronate, longer than the calyx; corolla with a filiform tube, double the length of the calyx; flowers fascicled. ⊙. H. Native of Mexico. Gília pinnatífida, Sesse et Mocino, in herb. Lamb. Stamens inclosed.

Sesse's Gilia. Pl. ¼ foot.

8 G. TENUIFLO'RA (Benth. l. c.) stem erect, tall, clammy, nearly naked, and panicled at top; leaves glabrous, bipinnate; flowers usually solitary; corymbs loose, on long peduncles; corolla 4 times longer than the calyx. ⊙. H. Native of California, Douglas. Flowers blue.

Thin-flowered Gilia. Pl. 3 to 4 feet.

9 G. LONGIFLÒRA; plant quite glabrous; leaves scattered, finely pinnatifid; stem much branched, panicled at top; flowers disposed in loose terminal, panicled, pedunculate corymbs; tube of corolla very long. ⊙. H. Native on the banks of the Canadian river. Cántua longiflòra, Torrey, in ann. lyc. p. 221. Corolla salver-shaped, having the tube an inch long. A remarkable species, having much the appearance of a *Phlóx*. It differs from all other species, in the salver-shaped corolla.

Long-flowered Gilia. Pl. 2 to 3 feet.?

10 G. ARENA'RIA (Benth. l. c.) stem humble, clammy, nearly naked; leaves pinnatifid; lobes ovate; flowers somewhat glomerate; corollas 3 times longer than the calyx. ⊙. H. Native of California, Douglas. Flowers blue.

Sand Gilia. Pl. dwarf.

11 G. CRASSIFO'LIA (Benth, l. c.) stem erect, clammy, nearly naked, and panicled at top; leaves pinnatifid, rather woolly, but at length glabrous: segments oblong-lanceolate, entire or cut; flowers nearly solitary, divaricately panicled; corollas twice longer than the calyx. ⊙. H. Native of Chili, Cuming. Flowers yellowish?

Thick-leaved Gilia. Pl. 1 to 2 feet?

SECT. III. EUGI'LIA (from *eu*, well, and *Gilia;* this section is considered to contain the true species of the genus.) Benth. l. c. Leaves alternate, pinnatifid or pinnate. Flowers almost solitary, but usually glomerate. Tube of corolla rather shorter than the calyx.

12 G. PARVIFLO'RA (Spreng. syst. 1. p. 626.) stem much branched, and is, as well as the calyxes, clothed with glandular down; leaves pinnatifid, lower ones bipinnate; segments linear; flowers solitary, terminal, panicled; corolla about twice the length of the calyx. ⊙. H. Native of North-west America. Gília inconspícua, Dougl. in bot. mag. 2883. Ipomópsis inconspícua, Smith, exot. bot. 1. t. 14. Cántua parviflòra, Pursh, amer. 2. suppl. p. 730. Corolla small, blue; tube nearly white.

Inconspicuous Gilia. Fl. Sept. Nov. Clt. 1793. Pl. ½ to 1 foot.

13 G. TRÍCOLOR (Benth, l. c. hort. trans. 1. t. 18. f. 3. bot. reg. t. 1704.) stem erect, glabrous, leafy; leaves bipinnate; leaflets or segments linear-subulate; corymbs 3-6-flowered, virgately panicled; corolla about 3 times longer than the calyx. ⊙. H. Native of California, Douglas. Sweet, fl. gard. n. s. t. 264. The peduncles form a large and rather dense panicle. Corolla with an orange yellow tube and centre, and the light purple or white of the margin separated by a circle of deep purple. Nothing can be prettier than this, and other species, when thickly covering a bed a few feet in length and breadth.

Three-coloured-flowered Gilia. Fl. June, Sept. Clt. 1833. Pl. 1 foot.

14 G. LACINIA'TA (Ruiz, et Pav. fl. per. 2. p. 17. t. 123. f. *b*. Pers. ench. 1. p. 187.) downy; stem erect; leaves pinnatifid; segments narrow-oblong, sinuated; peduncles axillary, solitary, 1-3-flowered; corolla tubular, hardly longer than the calyx; calycine segments subulate. ⊙. H. Native of Chili, Peru, California, &c., on sandy hills. Cántua breviflòra, Juss. ann. mus. 3. p. 119. Thónnia multífida, Domb, herb. Corollas purplish, with lanceolate segments.

Jagged-leaved Gilia. Fl. July. Clt. 1831. Pl. ½ to 1 foot.

15 G. MULTICAU'LIS (Benth, l. c.) stem erect, smoothish; leaves somewhat bipinnate, smoothish; segments linear; corymbs 3-10-flowered, on very long peduncles, scarcely panicled; corollas hardly twice longer than the calyx. ⊙. H. Native of California, Douglas. Corollas blue.

Many-stemmed Gilia. Pl. 1 foot.

16 G. ACHILLEÆFO'LIA (Benth, l. c.) stem erect, smoothish; leaves twice or thrice pinnate; segments or leaflets linear-subulate; corymbs capitate, many-flowered, on very long peduncles; calyxes rather woolly; corollas twice longer than the calyx; stamens shorter than the corolla. ⊙. H. Native of California, Dougl. Lindl. bot. reg. 1682. Sweet, fl. gard. n. s. t. 280. Herb branched, pale green, glabrous. Bases of leaves ciliated. Corollas purplish blue. This species resembles *G. capitàta*.

Milfoil-leaved Gilia. Fl. Aug. Dec. Clt. 1833. Pl. 1 foot.

17 G. CAPITA'TA (Doug. in bot. mag. 2698. bot. reg. 1170.) plant glabrous, erect; leaves bipinnatifid; segments linear, cut; flowers sessile, disposed in dense heads, similar to those of *Jasiòne*, on long peduncles; corolla longer than the calyx; stamens shorter than the corolla. ⊙. H. Native of North-west America. Flowers blue.

Capitate-flowered Gilia. Fl. Jun. Sept. Clt. 1826. Pl. 1 to 2 feet.

Cult. All the species of *Gília* are elegant, hardy annuals, of easy culture, the seeds only requiring to be sown in the

FIG. 28.

open border in spring. The larger the quantity of each grown together, the more showy they appear.

IX. ÆGOCHLO'A (from *αιξ αιγος, aix aigos*, a goat; and *χλοα, chloa*, a green herb; from the fetid smell of some of the species.) Benth, in bot. reg. under no. 1622.—Gília species, Dougl.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubularly campanulate, membranous at the base, 5-cleft at the apex; segments unequal, stiff, entire or multifid, spinose. Corolla somewhat salver-shaped; tube about equal in length to the calyx; limb 5-parted; segments oblong, entire. Stamens inserted in the upper part of the tube inside; anthers ovate-roundish. Cells of capsule many-seeded.—Herbs usually clammy and fetid. Leaves pinnate; segments or leaflets cut, very acute.

1 Æ. interte'xta (Benth. l. c.) plant erect, branched; leaves glabrous, pinnate; leaflets or segments linear-subulate, very acute, cut, divaricate, rather spinose; calyx woolly, having the teeth for the most part multifid; corolla rather shorter than the calyx; stamens exserted. ⊙. H. Native of California and North-west America, Douglas.

Interwoven Ægochloa. Pl. 1 foot.

2 Æ. cotulæfo'lia (Benth. l. c.) plant erect, strict; leaves glabrous, bipinnate; segments linear-subulate, very acute, those of the upper and floral leaves spinose; bracteas villous; calycine teeth nearly entire; corolla equal in length to the calyx; stamens exserted. ⊙. H. Native of California, Douglas.

Cotula-leaved Ægochloa. Pl. 1 foot.

3 Æ. pube'scens (Benth. l. c.) plant clothed with soft down; stem branched; leaves pinnate; leaflets deeply pinnatifid; lobes divaricate, rather spinose; calyxes and bracteas membranous at the base, glabrous, deeply pinnatifid, and villous at the apex; corolla about twice longer than the calyx; stamens exserted from the tube. ⊙. H. Native of California, Dougl.

Downy Ægochloa. Pl. 1 foot.?

4 Æ. pu'ngens (Benth. l. c.) plant erect, much branched, clothed with clammy down; leaves pinnate; leaflets entire or cut, the lobes lanceolate-linear, very acute and spinose; bracteas ciliately hairy, dilated at the base; calycine segments lanceolate, nearly entire; corolla longer than the calyx; stamens inclosed. ⊙. H. Native of California, Douglas; and of the west coast of America, in moist ground, in mountain valleys, near the sources of the Mulnomack river, one of the southern branches of the Columbia. Gília púngens, Doug. in bot. mag. t. 2977. Gília squarròsa, Hook. et Arn. in Beech. voy. pt. bot. p. 115. Hoítzia squarròsa, Eschscholz, in mem. acad. petersb. 10. p. 283, and in Linnæa, 1823. p. 147. Flowers glomerate, terminal. Calyx longer than the corolla, ex Hooker. Tube of corolla swelling upwards, almost white; limb spreading, pale blue; segments ovate.

Pungent Ægochloa. Fl. July. Clt. 1833. Pl. 1½ foot.

5 Æ. eryngioìdes (Benth. l. c.) plant smoothish; leaves linear, opposite, floral ones pinnatifid, spiny; flowers glomerate; calyx multifid. ⊙. H. Native of Chili. Gília eryngioìdes, Bot. zeit. 1833. 1. p. 122. Gília mucronàta, Lehm. cat. sem. hort. hamb. 1832? Nearly allied to the preceding; but differs, in the smoothness of the plant, and in the leaves, calyx and corolla.

Eryngium-like Ægochloa. Pl. 1 foot.?

6 Æ. atractylioìdes (Benth. l. c.) plant very clammy; leaves pinnatifid; raches dilated; segments subulate, divaricate, spinose; floral leaves ovate, imbricated, spiny-toothed, clasping the flowers; calycine teeth subulate, entire. ⊙. H. Native of California, Douglas. Habit of *Atráctylis hùmilis.*

Atractylis-like Ægochloa. Pl. 1 foot.

7 Æ.? Torre'yi; plant erect, simple, or a little branched, stiff, glabrous; leaves sessile, digitate, alternate, imbricate; segments 5-6, pungent; flowers axillary in the upper part of the stem, solitary, sessile; segments of corolla obovate, obtuse. ⊙. H. Native of the Rocky mountains, in the valleys of Loup river. Cántua púngens, Torrey, in ann. lyc. 2. p. 220. Leaves sessile, digitate, appearing as if in clusters. Corolla salver-shaped, with a long, slender tube. Stamens inclosed. Cells of capsule many-seeded. Seeds angular. This has a very distinct habit from the other species.

Torrey's Ægochloa. Pl. 1 foot.

Cult. The species of *Ægochlòa* require the same treatment as those of *Gília.* They are singular, but by no means showy plants.

X. COLLO'MIA (from *κολλα, colla*, glue; in reference to the seeds being enveloped in a kind of gluey, sticking substance.) Nutt. gen. amer. 1. p. 126. Dougl. in bot. reg. 1166. and 1174. Gília species, Hook.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, 5-cleft, or somewhat 5-parted; lobes lanceolate or linear, equal, entire. Corolla salver-shaped; with a slender, exserted tube; and a spreading, 5-parted limb; segments oblong, entire. Stamens inserted towards the middle of the tube; anthers ovate-roundish. Cells of capsule 1-2-seeded.—Annual herbs. Leaves alternate, the lower ones rarely opposite, quite entire, or deeply toothed, rarely pinnatifid. Flowers disposed in dense heads, propped by broad ovate, quite entire bracteas.

1 C. heterophy'lla (Hook. bot. mag. 2895. Lindl. bot. reg. 1347.) plant prostrate, branched, clothed with glandular down; lower leaves pinnatifid and cut; superior ones cuneated, pinnatifid or cut; bracteas or involucral leaves, oblong, acute, quite entire. ⊙. H. Native of North-west America. Flowers crowded, shorter than the involucral leaves. Corolla red, with a white centre.

Various-leaved Collomia. Fl. Ju. Aug. Clt. 1826. Pl. ½ to ¾ foot.

2 C. coccínea (Lehm. del. sem. hort. hamb. 1832. Benth. bot. reg. 1622.) plant erect, branched, beset with glandular down; leaves lanceolate-linear; upper ones ovate-lanceolate, quite entire, or deeply 2-4-toothed at the apex; calyx semi-5-cleft, with broad-lanceolate, obtuse segments; corolla more than twice longer than the calyx; cells of capsule 1-seeded. ⊙. H. Native of Chili, about Conception and Talcahuana. C. Cavanillèsii, Hook. et Arn. p. 37. Phlóx lineàris, Cav. icon. 6. p. 17. t. 527. Phlóx biflòra, Ruiz. et Pav. fl. per. 2. p. 17. C. laterítia, D. Don, in Sweet, fl. gard. t. 206. This species resembles *C. lineàris;* but from which it is distinguished by its deep red flowers, and by the leaves being frequently divided at the apex into 2-3 sharp segments, of unequal size.

Scarlet-flowered Collomia. Fl. Ju. Oct. Clt. 1832. Pl. 1 to 1½ foot.

3 C. linea'ris (Nutt. gen. amer. 1. p. 126. Lindl. bot. reg. 1166.) plant erect, branched, clothed with glandular hairs; leaves ovate-lanceolate, quite entire, opaque, uniform, superior ones downy beneath; calyx cup-shaped, 5-parted; corolla more than twice longer than the calyx; cells of capsule 1-seeded. ⊙. H. Native of North America, from Lake Winepeg to the Western Ocean; and at the sources of the Arkansas. Hook. bot. mag. 2893. Heads of flowers involucrated like the rest. Corolla with a rufous tube, and a rose-coloured limb. Segments of calyx 3-veined.

Linear-leaved Collomia. Fl. Ju. Oct. Clt. 1826. Pl. 1 foot.

4 C. grandiflo'ra (Dougl. in bot. reg. t. 1274. Hook. bot.

mag. 2894.) plant erect, branched, rather downy at top; leaves oblong-lanceolate, entire, shining, ciliated with glands; calyx 5-cleft, villous, glandular; corolla ventricose; limb spreading; cells of capsule 1-seeded. ⊙. H. Native of North-west America, in the country bordering on the river Columbia; and as far eastward as the Rocky mountains. Stem purple. Heads of flowers hemispherical, pruinose, clammy. Corollas like those of *C. lineàris*, of a peculiar reddish yellow, or nankeen colour.

Great-flowered Collomia. Fl. Ju. Oct. Clt. 1826. Pl. 1½ to 2 feet.

5 C. gilioìdes (Benth. in bot. reg. under no. 1622.) leaves pinnate; leaflets linear, entire; calyx deeply 5-cleft; stamens inclosed; cells of capsule 1-seeded. ⊙. H. Native of California, Douglas. Corollas very like those of *C. grácilis*.

Gilia-like Collomia. Pl. 1 foot.

6 C. glutino`sa (Benth. l. c.) procumbent; leaves deeply pinnatifid, almost pinnate; segments oblong-linear, entire, or a little cut; calyx nearly 5-parted; stamens longer than the corolla; cells of capsule 1-seeded. ⊙. H. Native of California, Douglas. Corollas like those of *C. gràcilis*.

Clammy Collomia. Pl. procumbent.

7 C. Navarre`tia; leaves pinnately multifid; segments linear-subulate; flowers capitate, involucrated by numerous bracteas; stem downy, simple, or a little branched. ⊙. H. Native of Chili. Navarrètia involucràta, Ruiz. et Pav. fl. per. 2. p. 8. Segments of calyx furnished with 3 pungent teeth. Stamens exserted. Stigma bifid. Capsule 2-celled, few-seeded, ex Ruiz. et Pav. l. c. Corolla purple.

Navarretia Collomia. Pl. ½ to 1 foot.

8 C. gra`cilis (Benth. l. c.) plant erect, branched, clothed with glandular down; leaves lanceolate-oblong, obtuse; calyx 5-parted; calycine segments long, subulate; stamens inclosed; cells of capsule 1-seeded. ⊙. H. Native of the north-west coast of America, on the banks of the Spokan river; and on high ground, near Flat Head river, on light soils; and California, Douglas; Chili, Cuming; &c. Gília gràcilis, Doug. in bot. mag, 2924. Lower leaves opposite. Flowers crowded at the extremities of the branches, at length elongated into racemes. Calyx clothed with black glands. Corolla small, with a yellow tube, rose-coloured limb, and oval segments.

Slender Collomia. Fl. Ju. Oct. Clt. 1826. Pl. 1 foot.

9 C. Cavanillesia`na; suffruticose; leaves pinnate; leaflets long, linear, entire; peduncles axillary, solitary, usually 5-flowered; corolla 3 times longer than the calyx, which is 5-cleft; cells of capsule 1-seeded. ♄. G. Native of Monte Video and Buenos Ayres. Phlóx pinnàta, Cav. icon. 6. p. 17. t. 528. f. 1. Poir. dict. suppl. 4. p. 397. Cántua glomeriflòra, Juss. ann. mus. 3. p. 119. Rœm. et Schultes, syst. 4. p. 368. Flowers disposed in heads, small, cream-coloured.

Cavanilles's Collomia. Pl. 1 to 2 feet.

Cult. All the species are of the most easy culture, the seeds only requiring to be sown in the open border in spring. Some of the kinds are rather showy.

XI. CALDA`SIA (named after J. Caldas, a botanist of Santa Fe de Bogota.) Willd. hort. berol. 1. p. 71. t. 71. enum. 1. p. 202. H. B. et Kunth, nov. gen. amer. 3. p. 166. D. Don, in edinb. phil. journ. Bonplándia, Cav. icon. 6. p. 21. t. 532.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, 5-toothed, equal to the corolla in length. Corolla somewhat funnel-shaped, unequal; limb 5-lobed; lobes cuneated, emarginate. Stamens 5, equal, inserted in the middle of the tube, declinate, exserted. Capsule oblong, trigonal; valves membranous; cells 1-seeded. Seeds oblong, somewhat trigonal, convex outside, mucilaginous. Albumen sparing. Radicle hardly shorter than the cotyledons.—A much branched, annual, erect herb, clothed with glandular hairs. Leaves alternate, simple, elliptic-acuminated, serrated. Flowers axillary, twin, pedicellate, bractless. Corolla of a violet-blue colour, or purple.

1 C. heterophy`lla (Willd. l. c.) ⊙. S. Native of New Spain, gathered by Humboldt and Bonpland, in the Botanic Garden of Mexico. Bonplándia geminiflòra, Cav. l. c. Pers. ench. 1. p. 187. Rœm. et Schultes, syst. 4. p. 370. Leaves lanceolate. Corolla an inch long; with linear segments, red filaments, and yellow anthers.

Various-leaved Caldasia. Fl. Ju. Aug. Clt. 1813. Pl. 1½ foot.

Cult. This plant requires the treatment of other tender annuals; that is, the seeds should be sown on a hot-bed, in spring, and the plants, when of sufficient size, should be planted in separate pots, and placed in the greenhouse during summer.

XII. LŒSE`LIA (so named, by Linnæus, after John Lœsel, author of Flora Prussica, 1654, published at Gottsched, with additions, in 1703.) Lin. gen. 767. Schreb. gen. no. 1029. Gærtn. fruct. 1. p. 295. t. 62. Juss. gen. p. 135. Lam. ill. 527. Royèna, Houston, in phil. trans.—Cántua species, Willd. Hoítzia, Juss. gen. ed. Usteri, p. 152. Cav. icon. 4. p. 44. t. 366. H. B. et Kunth, nov. gen. amer. 3. p. 162.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, dry, 5-cleft (f. 29. *a.*), with pungent segments, furnished with 5 lanceolate, pungently mucronate bracteas outside (f. 29. *f.*). Corolla funnel-shaped (f. 29. *b.*), 3 times longer than the calyx; tube a little curved; limb 5-lobed; lobes broadly obovate, entire. Stamens equal, exserted (f. 29. *c.*). Capsule trigonal; cells few-seeded; valves membranously crustaceous. Seeds compressed, nearly orbicular, girded by a very narrow membrane. Albumen sparing. Radicle about equal in length to the cotyledons.—Stiff, branched shrubs, natives of Mexico; branches terete, downy or villous. Leaves alternate, ovate or lanceolate, mucronate, hairy, sharply serrated, reticulately veined, cuneated at the base, on very short petioles. Flowers solitary or twin, axillary, pedicellate, large, showy, scarlet or violaceous.

1 L. cilia`ta (Lin. spec. 875.) leaves ovate-lanceolate, acutely serrated; corymbs many-flowered; stamens, 4 of which are exserted, and the fifth short, seated on the middle of the segment; bracteas roundish-ovate, cordate, ciliately toothed. ♄. G. Native of Vera Cruz. Lam. ill. 527. Gærtn. fruct. 1. p. 295. t. 62. f. 3. Stem quadrangular, branched. Flowers yellow. Bracteas imbricated. Cells of capsule 2-seeded.

Ciliated-bractead Lœselia. Shrub 4 to 6 feet.

2 L. coccínea; leaves nearly sessile, ovate; flowers axillary, solitary, on short peduncles; bracteas lanceolate, subserrated, veiny, hairy. ♄. G. Native of Mexico, plentiful near Guanaxuato, and elsewhere.; it is also cultivated in the gardens. Hoítzia coccínea, Cav. icon. 4. p. 44. t. 365. H. B. et Kunth, nov. gen. amer. 3. p. 162. Hoítzia Mexicàna, Lam. dict. 3. p. 134. Cántua Hoítzia, Willd. spec. 1. p. 878. Cántua coccínea, Poir. suppl. 2. p. 80. Bracteas villous. Leaves acutely mucronate, cuneated at the base, scabrous above, and hairy beneath; serratures mucronately awned. Calycine segments lanceolate-subulate, 1-nerved. Corollas scarlet, glabrous; segments of the limb obovate, spreading.

FIG. 29.

Scarlet Lœselia. Fl.? Clt. 1824. Shrub 3 to 4 feet.

3 L. cœrùlea; leaves nearly sessile, lanceolate or oblong-lanceolate, sharply serrated; flowers usually solitary, on the tops of the branchlets; bracteas obovate, mucronately serrated, diaphanous, white, veined with green, smoothish. ♄. G. Native of Mexico, along with the preceding species. Hoítzia cœrùlea, Cav. icon. 4. p. 44. t. 366. H. B. et Kunth, nov. gen. 3. p. 163. Cántua cœrùlea, Poir. suppl. 2. p. 80. Stems diffuse. Branches clothed with hair-like down. Leaves acutely mucronate, obtuse at the base, scabrous above, and hairy on the veins beneath; serratures mucronately awned. Flowers usually solitary, but sometimes twin or tern, ex Bonpl. Calycine segments oblong, mucronate, 3-nerved in the middle. Corolla blue, glabrous, with obovate, spreading segments.

Blue-flowered Lœselia. Fl.? Clt. 1824. Shrub 1 to 2 feet.

4 L. glandulòsa; leaves ovate-lanceolate, petiolate, spiny-toothed; those of the branches nearly linear; flowers axillary, solitary, pedunculate; bracteas lanceolate, obsoletely denticulated. ♄. G. Native of Mexico, between Actopan and Salvatierra, where it is called by the natives, *Huitzitziltzin;* hence the generic name. Hoítzia glandulòsa, Cav. icon. 4. p. 45. t. 367. Cántua glandulòsa, Poir. suppl. 2. p. 80. Stem beset with glandular hairs. Calycine segments subulate. Bracteas beset with glandular pili on the back. Corolla red. Capsule ovate-oblong.

Glandular Lœselia. Fl.? Clt. 1825. Shrub 2 feet.

5 L. arista'ta; leaves petiolate, ovate, doubly serrated; flowers numerous, crowded at the tops of the branches; bracteas ovate, dentately awned, diaphanous, reticulated with green veins, glabrous, outer ones cordate, remote, and smaller. ♄. G. Native of Mexico, between Lagura and Actopan, &c. Hoítzia aristàta, H. B. et Kunth, nov. gen. amer. 3. p. 164. Branches glabrous, but the branchlets are downy. Leaves acute, rounded at the base, scabrous above, and paler and hairy on the nerves and veins beneath; teeth mucronately awned. Calycine segments lanceolate, subulate at the apex, 1-nerved. Corolla violaceous; with spatulate, rounded, ciliated segments.

Awned Lœselia. Shrub.

6 L. Cervante'sii; branches clothed with glandular hairs; leaves nearly sessile, oblong or oblong-lanceolate, sharply serrulated; flowers twin, crowded at the tops of the branches; bracteas linear, 1-nerved, mucronate, acutely serrulated towards the top, and beset with glandular villi. ♄. G. Native of Mexico, with the preceding. Hoítzia Cervantèsii, H. B. et Kunth, nov. gen. amer. 3. p. 164. H. spicàta, Rœm. et Schultes, syst. 4. p. 165. Shrub much branched. Leaves scabrous on the nerves and veins, on both surfaces; teeth mucronate. Calycine segments lanceolate, acutely mucronate, serrulated at apex, marked with 3 green nerves. Corolla violaceous; with obovate segments.

Cervantes' Lœselia. Shrub.

7 L. conglomera'ta; branches clothed with glandular villi; leaves on short petioles, ovate, sharply serrated; flowers solitary, crowded into heads at the tops of the branchlets; bracteas lanceolate, acutely serrulated, veiny, and clothed with glandular hairs. ♄. G. Native of Mexico. Hoítzia conglomeràta, H. B. et Kunth, nov. gen. 3. p. 165. H. capitàta, Willd. rel. in Rœm. et Schultes, syst. 4. p. 370. Shrub canescent. Leaves acuminated, narrowed at the base, hairy on both surfaces; teeth mucronate. Calycine segments 5-toothed at top; teeth subulate. Corolla violaceous.

Conglomerate-flowered Lœselia. Shrub.

8 L. nepetæfòlia (Schlecht. et Cham. in Linnæa, 6. p. 385, under Hoítzia.) stems erect, terete, compressed at the nodi, and are, as well as the bracteas, downy; cauline leaves cuneated, entire, ovate, acute, serrated, tapering into the petioles; serratures acuminated, paler beneath, with that part of the stem ciliated which runs from the middle of the nerves of the leaves; flowers nearly sessile, solitary, or loosely approximate, each involucrated by 4-5 bracteas; teeth of bracteas cuspidate; stamens equal in length to the corolla. ♄. G. Native of Mexico, in meadows, about Misàntla and Colipa. Habit of *Labiàtæ*. Flowers small, purple, or bluish purple.

Nepete-leaved Lœselia. Shrub.

9 L. involucra'ta; plant clothed with minute, glandular pubescence; leaves petiolate, ovate, acute, doubly toothed, and fringed on the margins; bracteas about as long as the flowers; flowers in fascicles. ♄. G. Native of Mexico. Phlóx involucràta, Sesse et Moc. in herb. Lamb. Calyx with membranous, acuminated segments. Stem nearly glabrous, slender.

Involucrated Lœselia. Shrub 2 to 3 feet.

Cult. The species of *Lœsèlia* are extremely elegant shrubs, particularly while in blossom. A mixture of loam, peat, and sand, is the best soil for them; and cuttings will strike root in sand, under a hand-glass.

XIII. CA'NTUA (Cantu is the Peruvian name of one of the species.) Juss. gen. ed. Usteri, p. 152. ann. mus. 3. p. 117. Lam. ill. t. 106. f. 1. H. B. et Kunth, nov. gen. amer. 3. p. 161. D. Don, in edinb. phil. journ.—Periphrágmos, Ruiz. et Pav. fl. per. 2. p. 17.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, 5-toothed, usually cleft to the middle on both sides. Corolla funnel-shaped, 3 times longer than the calyx; tube curved a little; limb 5-lobed; lobes obcordate, convolute in æstivation. Stamens inserted in the tube near the base, exserted. Capsule oblong, trigonal, with 3 deep furrows opposite the dissepiments; valves coriaceously crustaceous; cells many-seeded; seeds oval, compressed, girded by an oblong, membranous wing. Albumen sparing. Radicle shorter than the cotyledons.—Erect, branched shrubs, natives of Peru, with the habit of *Lýcium*. Leaves alternate, petiolate, elliptic, acuminated, or cuneate-oblong, quite entire, or serrated, or rarely pinnatifidly sinuated, downy on both surfaces while young, but always on the under surface. Flowers terminal, corymbose, rarely almost solitary, as in *C. ovàta*, white or purple; in *C. buxifòlia*, large and showy.

1 C. pyrifòlia (Juss. ann. mus. 3. p. 117. t. 7.) leaves elliptic, acuminated, quite entire; corymbs dense-flowered; peduncles downy; stamens twice as long as the corolla, which is curved. ♄. G. Native of Peru, near Loxa, where it is called *Turu* by the natives. Lam. ill. 1. t. 106. f. 1. H. B. et Kunth, nov. gen. amer. 3. p. 161. Periphrágmos flexuòsus, Ruiz. et Pav. fl. per. 2. p. 17. t. 131. Cántua flexuòsa, Pers. ench. 1. p. 187. Cántua Peruviàna, Gmel. syst. 1. p. 347. Cántua Loxénsis, Willd. herb. in Rœm et Schultes, syst. 4. p. 369. Leaves fascicled. Corolla white. Calyx 3-5-toothed, ex Ruiz. et Pav. The saliva becomes yellow by chewing the leaves of this species.

Pear-leaved Cantua. Shrub 5 to 6 feet.

2 C. theæfòlia (D. Don, in edinb. phil. journ. 1823.) leaves ovate-lanceolate, bluntly acuminated, serrated; corymbs few-flowered; peduncles glabrous; stamens shorter than the corolla, which is curved. ♄. G. Native of Peru. Periphrágmos species, nova Pavon mss. Habit of the preceding; but differs in characters indicated above, and in the larger flowers, in the longer capsules, and much larger seeds.

Tea-leaved Cantua. Shrub 5 to 6 feet.

3 C. quercifòlia (Juss. ann. mus. 3. p. 118.) leaves oblong, sinuately pinnatifid, acuminated; corymbs many-flowered; peduncles clothed with glandular hairs; stamens much exceeding the corolla, which is salver-shaped. ♄. G. Native of Peru, where it is called *Pipiso* by the natives; and on the Andes, near Nabon. H. B. et Kunth, nov. gen. 3. p. 161. Branches

clothed with clammy, glandular hairs. Leaves truncate at the base, hairy and clammy beneath. Calyx 5-cleft. Corollas white.

Oak-leaved Cantua. Shrub 10 to 12 feet.

4 C. buxifòlia (Juss. ann. mus. 3. p. 118. t. 8.) tomentose; leaves cuneate-oblong, mucronulate, quite entire; corymbs few-flowered; peduncles tomentose; stamens longer than the corolla, which is straight. ♄. S. Native of Peru, where it is called *Cocantu* by the natives. Lam. dict. 1. p. 603. ill. 1. t. 106. f. 2. Cántua depéndens, Pers. ench. 1. p. 187. Periphrágmos depéndens, Ruiz. et Pav. fl. per. 2. p. 18. t. 133. Cántua tomentòsa, Cav. icon. 4 p. 43. t. 364. Tops of branches, calyxes, and young leaves, downy. Corollas pale red. The showy flowers of this beautiful shrub are used in adorning temples. Leaves and wood of this, as well as of other species, when bruised or chewed, affords an elegant yellow colour, and might therefore be useful in dyeing cloth.

Box-leaved Cantua. Shrub 5 to 6 feet.

5 C. ova'ta (Cav. icon. 4. p. 43. t. 363. Juss. ann. mus. 3. p. 118.) glabrous; leaves obovate, mucronate, entire, rarely cut or toothed; peduncles solitary, 1-flowered, glabrous; stamens longer than the corolla, which is straight. ♄. S. Native of Peru, where it is called *Cantuttica*, i. e. *Cantu flos*, by the natives. Corolla bluish red, or white.

Ovate-leaved Cantua. Shrub 6 to 8 feet.

6 C.? corda'ta (Juss. ann. mus. 3. p. 119.) branches opposite, sarmentose, downy; leaves nearly opposite, cordate, downy; flowers axillary, solitary, pedicellate; corolla tubular, much exceeding the calyx, which is short, 5-cleft, and downy; anthers exserted; fruit unknown. ♄. S. Native of Peru.

Cordate-leaved Cantua. Shrub 4 to 6 feet.

7 C. cuneifòlia (Juss. l. c.) this is a very doubtful species of the genus. ♄. S. Native of Peru.

Wedge-leaved Cantua. Shrub 4 to 6 feet.

8 C.? Megapota'mica (Spreng. syst. add. p. 64.) leaves oblong-lanceolate, attenuated at both ends, quite glabrous, entire, shining above; panicles axillary. ♄. S. Native of Brazil, at Rio Grande, Sello.

Rio Grande Cantua. Shrub.

Cult. All the species are showy, and worth cultivating. See *Lœsèlia*, p. 248, for culture and propagation.

Order CLXIII. HYDROLEA'CEÆ (this order contains plants agreeing in important characters with the genus *Hydròlea*.) D. Don, in edinb. phil. journ. July 1833. Choisy. in mem. soc. phys. gen. 6. p. 106. Hydròleæ, R. Br. cong. p. 32.—Convolvulàceæ, part. Juss. gen.

Calyx 5-cleft; segments equal, usually distinct even to the base, frequently spatulately dilated at top, permanent. Corolla monopetalous, usually campanulate, 5-lobed at top. Stamens inserted in the corolla, alternating with its lobes, sometimes inclosed, and sometimes exserted. Styles 2, exceeding the stamens; stigmas thick or capitate. Ovarium 2-celled; cells many-seeded. Capsule 2-celled, loculicidal-2-valved; dissepiment fixed to the middle of the valves; placentas 2 in each cell, fixed to the middle of the dissepiment, sometimes spongy and combined, sometimes laminæform and separated. Seeds very numerous, sessile on the placentas. Albumen fleshy. Embryo straight.—Annual, herbaceous, or shrubby plants. Stems straight or diffuse, glabrous or downy, also very hispid, rarely exceeding 2 feet in height; with alternate branchlets. Leaves alternate, simple, entire, or usually toothed, more or less crowded, usually petiolate. Flowers corymbose or spicate, sometimes also disposed in the manner of *Heliotròpium*.

This order is often combined with *Convolvulàceæ*, but is more closely allied to *Scrophularíneæ* and *Solàneæ*; but it differs from these orders, in the regular corolla, 5 stamens, and straight embryo.

Synopsis of the genera.

1 Hydròlea. Calyx 5-sepalled. Corolla rotately campanulate. Stamens inserted in the tube of the corolla. Stigmas depressedly capitate. Capsule 2-celled; placentas spongy, terete.

2 Hydròlia. Calyx 5-cleft. Corolla rotate. Stamens inserted in the lobes of the corolla. Capsule 2-celled, dehiscing at top; receptacles or placentas fleshy.

3 Na'ma. Calyx 5-sepalled. Corolla tubularly funnel-shaped. Stamens nearly inclosed. Stigmas bluntish. Capsule 2-celled; placentas 4, laminæform, at first joined by twos, afterwards free.

4 Wiga'ndia. Calyx 5-sepalled. Corolla funnel-shaped. Stamens exserted. Stigmas depressedly capitate. Capsule 2-celled; placentas like those of *Nàma*.

5 Còdon. Calyx 10-12-parted. Corolla tubular; limb 10-12-cleft. Stamens 10-12. Stigmas simple. Capsule 2-celled, dehiscing at top; dissepiment double, with seminiferous edges.

I. HYDRO'LEA (from ὑδωρ, *hydor*, water; and ελαια, *elaia*, an olive; in reference to the habitats of the species, and their oiliness.) Lin. gen. no. 318. Gærtn. fruct. 1. p. 268. t. 55. Juss. gen. 134. Stèris, Lin. gen. edit. Reich. 342. Nàma species, Lin. Sagònea, Aubl. guian. 1. p. 285. t. 111. Reichèlia, Schreb. gen. no. 512.

Lin. syst. *Pentándria Digýnia*. Calyx permanent, of 5 sepals. Corolla rotately campanulate. Stamens inserted in the tube of the corolla. Styles 2; stigmas depressedly capitate. Capsule 2-celled; dissepiment placentiferous in the middle; placentas terete, spongy.—Annual or perennial plants, either unarmed or spiny. Flowers panicled or corymbose, axillary or terminal.

§ 1. *Plants unarmed.*

1 H. Zeyla'nica (Vahl, symb. 2. p. 46.) branched; leaves lanceolate, attenuated at both ends, glabrous; panicles axillary, branched, leafy; sepals lanceolate-linear, clothed with viscid down at the base. ⊙. S. Native of the East Indies. Nàma Zeylánica, Lin. spec. p. 327. fl. zeyl. 117. 49. t. 2. Stèris Javàna, Lin. mant. p. 54. syst. p. 264. Stèris aquática, Burm. ind. p. 73. t. 39. f. 3. Attalerie, Poir. suppl. 1. p. 535.—Plukn. alm. 22. t. 130. f. 2.—Anagállis Zeylánica, &c. Herm. mus. zeyl. p. 36. Burm. zeyl. 19. Tsjeru-vallel, Rheed, mal. 10. p. 55. t. 28. Stem a little compressed, glabrous. Leaves 1-2 inches long. Peduncles usually opposite the leaves, downy, viscid. Corollas blue, a little longer than the calyx.

Var. β; leaves finely ciliated above. ⊙. S. Native of Java, about Bamtam. Hydròlea Javánica, Blum. bijdr. p. 725.

Var. γ; stem downy at top; flowers on short peduncles. ⊙. H. Native of Mexico. Stèris villòsa, Pav. mss. in herb. Deless.

Var. δ; plant quite glabrous; flowers on short peduncles; peduncles in the forks; sepals quite glabrous. ⊙. S. Native about Rio Janiero. Evólvulus, no. 1365, Burchell, mss.

Ceylon Hydrolea. Pl. 1 foot.?

2 H. ine'rmis (Lour. coch. p. 172.) simple; leaves linear-

lanceolate, nearly sessile, glabrous; peduncles 1-3-flowered; sepals acute, quite glabrous. ⊙. G. Native of China, about Canton, in humid places. Flowers blue. Very nearly allied to the preceding; but the leaves are longer and broader, and the peduncles axillary, 1-3-flowered, twin and tern, 1-flowered. Capsule wrinkled, ovate.

Unarmed Hydrolea. Pl. 1 foot.

3 H. corymbòsa (Ell. carol. 1. p. 336.) branched; leaves ovate-lanceolate, sessile, smoothish; flowers terminal, corymbosely approximate; sepals acute, lanceolate, hispid; corolla 3 times higher than the calyx. ♃. F. Native of Carolina, in sterile, stagnate places, at St. Stephens; and of Georgia, in like situations. Branchlets hairy. Leaves rather downy on the veins and edges, reflexed. Corolla azure blue, veined with yellow, marked by 5 white spots at the base, much longer than the calyx. Capsule globose, glabrous.

Corymbose-flowered Hydrolea. Pl. 2 feet.

§ 2. *Spiny shrubs.*

4 H. quadriva'lvis (Walt. fl. carol. 1. p. 109—110.) leaves lanceolate, very acute, attenuated at both ends; flowers 1-5 together, axillary, almost sessile; sepals ovate-lanceolate; capsule glabrous. ♃. F. Native of South Carolina, in stagnate places. Hydròlea Caroliniàna, Michx. fl. bor. amer. 1. p. 177. Stem somewhat compressed, hispid from long, rarely spreading, white hairs. Leaves 1-3 inches long, quite glabrous, or hardly hispid on the middle nerves. Spines straight, axillary, acutish. Peduncles and sepals hispid. Corolla blue, a little longer than the calyx.

Var. β; unarmed; flowers commonly trigynous. ♃. S. Native of Guiana, on the banks of rivulets. Sagònea palústris, Aubl. guian. 1. p. 285. t. 111. Reichèlia palústris, Schreb. gen. no. 512. Willd. spec. 1. p. 1502. Stem glabrous, or hardly downy. Leaves 3-4 inches long, glabrous, rough from dots. Flowers axillary, 5-6 together.

Four-valved capsuled Hydrolea. Fl. July, Aug. Clt. 1824. Pl. 1 to 2 feet.

5 H. ova'ta (Nutt. in amer. phil. trans. n. s. 5. p. 196. ex Choisy, in mem. soc. phys. gen. 6. p. 109. t. 1.) leaves ovate, acute at both ends, petiolulate; flowers corymbose, somewhat dichotomously disposed; sepals lanceolate; capsule downy. ♃. F. Native of the Arkansas territory, on the edges of ponds. The whole plant downy, branching only at the time of flowering. Stem a little compressed, clothed with grey, velvety down. Leaves deciduous, soft, downy on the nerves beneath, $1\frac{1}{2}$ inch long, those of the radical shoots almost linear. Spines long, acute, terete, downy. Flowers bright blue, crowded towards the summits of the fastigiate branches. Sepals hairy. Corolla pelviform, campanulate, larger than those of *H. spinòsa*. Styles 2-3-filiform. Capsule 2-3-valved.

Ovate-leaved Hydrolea. Pl. 1 to 2 feet.

6 H. spinòsa (Lin. spec. p. 328. Aubl. guian. 1. p. 281. t. 110.) leaves ovate-lanceolate, acute, attenuated at both ends, nearly sessile; flowers terminal, sub-corymbose; sepals linear-lanceolate; capsule glabrous. ♄. S. Native of South America, by the sides of rivulets. Andr. bot. rep. 566. Hydròlea trígyna, Swartz, fl. ind. occ. 1. p. 558. Cav. icon. 6. p. 10. t. 529. f. 1. Plant downy and clammy. Spines axillary, spreading, villous. Peduncles 5-6-flowered, villous. Sepals joined at the base, villous and ciliated. Corollas blue, exceeding the calyx.

Var. β; styles 3; stamens, sepals, and lobes of corolla, 6; cells of capsule 3.

Spiny Hydrolea. Fl. Ju. July. Clt. 1791. Shrub 1 to 2 feet.

7 H. gla'bra (Herb. mus. brit. ex Miller. Choisy, in mem. soc. phys. gen. 6. p. 110.) leaves lanceolate, acute, attenuated at both ends, nearly sessile, quite glabrous; flowers terminal, few; sepals linear-lanceolate; capsule glabrous. ♄. S. Native of New Spain; and of Guinea, ex Schum. pl. guin. p. 161. Stems terete, glabrous; branches ascending. Spines axillary, stiff, horizontal, very acute, glabrous. Peduncles few, at the tops of the branches, 1-flowered, villous. Sepals downy. Corolla blue, a little longer than the calyx. Very nearly allied to *H. spinòsa*.

Glabrous Hydrolea. Shrub 1 to 2 feet.

Cult. All the species of *Hydròlea* are rather handsome when in blossom. The shrubby and perennial species grow well in a mixture of loam and peat; and cuttings of them will root, if planted in sand, with a hand-glass over them. The annual kinds require the treatment of other tender annuals.

II. HYDRO'LIA (see last genus for derivation.) Pet. Th. gen. mad. p. 9. Choisy, in mem. soc. phys. gen. 6. p. 111.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-cleft. Corolla rotate. Stamens inserted in the lobes of the corolla. Styles 2, arched. Capsule 2-celled, dehiscing at top; receptacle fleshy. —A marsh herb. Segments of the calyx dilated at the base. Corolla with a short, ventricose tube. Filaments short; anthers sagittate. Ovarium simple; valves 2, bent in a little, conniving with the receptacle. Seeds minute, nestling, sulcate. Pet. Th. l. c.

1 H. Madagascarie'nsis (Choisy, in mem. soc. phys. gen. 6. p. 111.) stems simple, terete, naked at the base; flowers axillary, pedunculate, twin or solitary. ♃. S. Native of Madagascar, in marshes.

Madagascar Hydrolia. Pl. 1 foot.

Cult. For culture and propagation see *Hydròlea.*

III. NA'MA (from *ναμα, nama,* a stream or spring of water; habitat of plants.) Lin. gen. no. 317. Schreb. gen. no. 444. Gærtn. fruct. t. 44. Juss. gen. p. 134.—Nàma and Hydròlea species, Willd. and Ruiz et Pav.

Lin. syst. *Pentándria, Digýnia.* Calyx permanent, of 5 sepals. Corolla tubularly funnel-shaped. Stamens sub-inclosed. Styles 2; stigmas bluntish. Capsule 2-celled, loculicidal-2-valved. Dissepiment placentiferous in the middle; placentas 4, laminiform, at first combined by pairs, afterwards free.

1 N. undula'ta (H. B. et Kunth, nov. gen. amer. 3. p. 130. Choisy, in mem. acad. phys. 6. p. 112. t. 2. f. 1.) herbaceous; leaves lanceolate-linear, sessile, with undulately curled edges; flowers terminal or axillary, 3-5 in a fascicle, on short pedicels; corolla hardly exceeding the calyx. ♃. S. Native among rubbish, near Mexico, Laredo, Matamoros, &c. Hydròlea congésta, Willd. mss. in Rœm. et Schultes, syst. 6. p. 192. Hydròlea rupícola, Moc. et Sesse, fl. mex. ined. Hyd. ràdians, Moc. et Sesse, fl. mex. ined. with a figure. Stem multifid at the base, ascending, clothed with cinereous down. Leaves obtuse, sometimes obovate-lanceolate, downy. Sepals downy. Corolla violaceous, glabrous inside, downy outside.

Var. β, macrántha (Choisy, in mem. soc. phys. gen. 6. p. 112.) leaves obovate-lanceolate, sessile, with sub-undulated edges; flowers axillary or terminal, 3-5 together, on long pedicels; corolla twice longer than the calyx.

Undulated-leaved Nama. Pl. 1 foot.

2 N. Jamaice'nsis (Lin. spec. p. 327.) herbaceous; leaves obovate-sub-spatulate, attenuated into the petioles at the base, and a little decurrent; flowers 1-3, axillary, on short pedicels; corolla hardly exceeding the calyx. ⊙. S. Native of Jamaica, St. Domingo, and Mexico. Brown, jam. 185. t. 18. f. 2. Hydròlea decúrrens, Moc. et Sesse, fl. mex. ined. Stem diffuse, prostrate, hairy. Leaves hairy. Pedicels hispid. Sepals hairy. Valves of capsule keeled.

Jamaica Nama. Pl. prostrate.

3 N. dichótoma (Ruiz et Pav. fl. per. 3. p. 22. t. 244. f. *b.*) herbaceous; leaves oblong-spatulate, tapering into the petioles;

floriferous branches dichotomous; flowers solitary, and nearly sessile in the forks; corolla shorter than the calyx. ☉. S. Native of Peru, near Huanaco; and of Mexico. Nàma tetrándra, Pav. mss. Stems branched, reddish, clothed with clammy down. Leaves downy and ciliated. Floriferous branches fastigiate. Sepals linear-spatulate. Capsule ovate, villous.

Var. β; leaves long-lanceolate; flowers few. ☉. H.

Dichotomous Nama. Pl. 1 foot.

4 N. ORIGANIFÒLIA (H. B. et Kunth, nov. gen. amer. 3. p. 130. t. 218.) woody; leaves oblong-lanceolate, very obtuse, tapering into short petioles; flowers 2-4 together, terminal, or in the axils of the superior leaves, pedunculate; corolla a little higher than the calyx. ♄. S. Native of St. Jago, in valleys. Nàma subincàna, Willd. mss. ex Rœm. et Schultes, syst. 6. p. 189. Hydròlea tenélla, Moc. et Sesse, fl. mex. ined. icon. Root thick, twisted. Stems tufted, clothed with greyish down, as well as the leaves and pedicels. Sepals spatulate, downy. Corolla white, downy outside.

Marjoram-leaved Nama. Pl. ½ foot.

5 N. RUPÍCOLA (Bonpl. herb. ex Choisy, in mem. phys. gen. 6. p. 114.) suffruticose; leaves ovate, obtuse, petiolate; flowers few, terminal, pedicellate; corolla exceeding the calyx. ♄. S. Native along with the preceding. Stem slender, having the epidermis separating at the base, clothed with grey down. Leaves clothed with velvety down; petioles villous. Flowers intermixed with leaves. Pedicels villous. Sepals sub-spatulate, downy. Capsule small, smoothish.

Rock Nama. Shrub.

6 N. LONGIFLÒRA (Choisy, in mem. soc. phys. 6. p. 114.) suffruticose; leaves ovate-lanceolate, acute at both ends, clothed with silky, hoary down beneath, on short petioles; flowers disposed in loose, few-flowered, leafy cymes; corollas twice longer than the calyx. ♄. G. Native of Mexico. Nàma serícea, Bonpl. herb. Willd. mss. Rœm. et Schultes, syst. 6. p. 189. Hydròlea violàcea, Moc. et Sesse, fl. mex. icon. ined. Stem villous. Leaves ciliated, downy and blackish above; petioles villous. Peduncles villous. Sepals spatulate, clothed with silky down. Corolla of a bluish violet colour. Stigmas acutish.

Long-flowered Nama. Shrub dwarf.

N.B.—Nama evolvuloìdes, and N. convolvuloìdes, Willd. mss. in Rœm. et Schultes, syst. 6. p. 189, is *Evólvulus alsinoìdes.*

Cult. For culture and propagation see *Hydròlea*, p. 250.

IV. WIGA'NDIA (named by Kunth, in memory of John Wigand, author of Veræ Historiæ de succino Prussico, et de herbis in Borussia nascentibus, Jen. 1590.) H. B. et Kunth, nov. gen. amer. 3. p. 126. Choisy, in mem. soc. gen. 6. p. 115.—Hydròlea species, Ruiz et Pav. Willd. and Lam.

LIN. SYST. *Pentándria, Digýnia.* Calyx permanent, of 5 sepals. Corolla funnel-shaped. Stamens exserted. Styles 2; stigmas depressedly capitate. Capsule 2-celled, loculicidal-2-valved; dissepiment placentiferous in the middle; placentas 4, laminiform, at first combined by twos, but at length free.—Usually suffruticose herbs, very hispid and unarmed. Leaves alternate, entire. Spikes terminal, panicled, secund. Flowers sessile, bractless, violaceous, white or yellow.

1 W. U'RENS (Ruiz et Pav. fl. per. 3. p. 21. t. 243.) plant very hispid; leaves ovate-cordate, doubly serrated, acutish, pilose on both surfaces: spikes unilateral, scorpioid; sepals linear-lanceolate, very acute, clothed with hispid tomentum on both surfaces; capsule hispid or smoothish. ♃. S. Native of Peru, among broken rocks. Stem angular. Flowers dense, disposed in 2 rows. Corolla pale violet.

Stinging Wigandia. Pl. 3 to 4 feet.

2 W. KU'NTHII (Choisy, in mem. phys. gen. 6. p. 116.) plant very hispid; leaves ovate-cordate, doubly crenated, pilose on both surfaces obtuse; panicles terminal, branched; sepals linear-lanceolate, acutish, clothed with hoary tomentum; capsule densely clothed with hoary hairs. ♃. A. Native of Mexico, near Tasco. Wig. ùrens, H. B. et Kunth, nov. gen. amer. 3. p. 127, but not of Ruiz et Pav. Hydròlea auriculàta, Moc. et Sesse, fl. mex. icon. ined. Hydròlea ùrens, Willd. herb. no. 5459. Leaves clothed with rusty tomentum above, as well as the petioles. Corolla pale violet, clothed with silky hairs outside.

Kunth's Wigandia. Shrub 6 feet.

3 W. CARACASSA'NA (H. B. et Kunth, nov. gen. amer. 3. p. 128.) plant hairy; leaves elliptic-cordate, doubly crenated: teeth acutish, and are, as well as the tips of the leaves, clothed with hairy tomentum on both surfaces; spikes secund, revolute at the apex; sepals linear-lanceolate, clothed with hoary tomentum; capsule hardly clothed with hoary down. ♄. S. Native near Caraccas. Hydròlea móllis, Willd. rel. in Rœm. et Schultes, syst. 6. p. 190. Very nearly allied to the preceding. Leaves longer and acuter, clothed with rusty tomentum above, as well as the petioles. Corolla villous outside, violaceous.

Caraccas Wigandia. Shrub 12 feet.

4 W. CRÍSPA (H. B. et Kunth, nov. gen. amer. 3. p. 129.) plant very hairy; leaves ovate-cordate, acutish, irregularly and doubly serrated, pilose on both surfaces: teeth acute; spikes panicled, secund, revolute at top, very hispid; sepals linear-lanceolate, very hispid; corolla showy. ♄. S. Native of Quito, near Alausi; and on the banks of the river Pozuzo. Hydròlea crísp a, Ruiz et Pav. fl. per. 3. p. 22. t. 244. f. a. Nicotiàna ùrens, Plum. amer. p. 204. t. 211. Wigándia pruritìva, Spreng. syst. 1. p. 865. Leaves long and broad, hoary, tomentose. Corolla large, yellow, ex Humb., campanulate, hoary from down outside.

Curled-leaved Wigandia. Shrub 2 to 3 feet.

5 W. MACROPHY'LLA (Cham. in Linnæa, 6. p. 382.) stinging; stem branched; spikes scorpioid, thin, bractless; flowers sessile, subalar, on short pedicels. ♄. S. Native of Mexico. Plant 6 feet high. Flowers blue.

Large-leaved Wigandia. Shrub 6 feet.

6 W. HERBA'CEA (Choisy, in mem. soc. phys. 6. p. 117.) plant villous; leaves lanceolate, entire, acute at both ends, attenuated into the short petioles; flowers disposed in loose, corymbose panicles; sepals linear-lanceolate. ♃.? S. Native of Monte-Video. Leaves 1-2 inches long. Sepals acute. Capsule glabrous. Hydròlea Megapotámica, Herb. Kunth, ex Otto.

Herbaceous Wigandia. Pl. 1 to 2 feet.

† *A species hardly known.*

7 W. SCORPIOÌDES (Choisy, in mem. soc. phys. 6. p. 117.) plant downy; leaves ovate-cordate, toothed, acutish, clothed with white tomentum beneath; spikes loosely panicled, revolute; sepals acutish, downy. ♃. G. Native of Mexico. Hydròlea scorpioìdes, Moc. et Sesse, fl. mex. icon. ined. Leaves petiolate. Panicles terminal. Flowers superior. Corolla violaceous, with a short tube, and a spreading, 5-cleft limb.

Scorpion-like Wigandia. Pl.?

Cult. The species are all very pretty when in flower. A mixture of loam, peat, and sand, is the best soil for them; and young cuttings will strike root readily in sand, under a hand-glass, in a little bottom heat.

V. CO'DON (from *κωδων, kodon,* a bell; shape of corolla.) Lin. gen. edit. Reich. no. 563. Schreb. gen. 715. Juss. gen. 424. Gærtn. fruct. 2. p. 88. t. 95. D. Don, in edinb. phil. journ. July 1833.

LIN. SYST. *Decándria, Monogýnia.* Calyx 10-12-parted; segments subulate, erect; alternate ones smaller. Corolla tubular, longer than the calyx, torulose at the base, and furnished

with as many ribs as there are lobes of the limb; limb 10-12-cleft: lobes oblong, obtuse, keeled, imbricate in æstivation; alternate ones smaller. Stamens 10-12, alternating with the lobes of the corolla, rising from an equal number of compressedly tetragonal arches, which are inserted in the bottom of the corolla; filaments subulate, glabrous. Anthers adnate by their middle, incumbent, 2-celled; cells combined at the extremities; pollen mealy. Style semi-bifid, pilose at the base; stigmas simple, obtuse. Capsule ovate-acuminated, 2-celled, 2-valved, dehiscing at top. Dissepiment double, with revolute, seminiferous edges. Seeds numerous, angular, papillose; testa simple, cartilaginous. Albumen copious, horny. Embryo erect, slender, a little arched, with very short cotyledons, and a long, filiform, obtuse radical, looking to the hylum. This genus agrees with *Hydroleàceæ*, although the stamens, and the divisions of the calyx and corolla, are double in number, the symmetry of the flower is preserved; but this mere increase of parts is of little importance, when the number of points of agreement are taken into account. In *Còdon*, and some of the *Hydroleàceæ*, particularly in *Wigándia*, the leaves have lobed margins, and are clothed with bristly points, which in the former genus are developed into prickles. The stamina and pistilla entirely agree in both genera; but the albumen is more copious, and the stigmata less developed in *Còdon*, whose affinities, however, to the *Hydroleàceæ*, may be considered as completely established.

1 C. Roye'ni (Lin. syst. nat. ed. 13. p. 292. Thunb. prod. p. 80. Willd. spec. 2. p. 540. Andr. bot. rep. t. 325.) ⊙. F. Native of the Cape of Good Hope. Codòn aculeàtum, Gærtn. fruct. 2. p. 88. An annual herb, furnished with copious white, straight, subulate prickles. Root fusiform? Stem erect, branched, terete, flexuous, robust. Leaves alternate, petiolate, ovate-oblong, a little attenuated towards the apex, but obtuse, thickish, fleshy, and ribbed beneath, with recurved, sub-repand edges. Flowers large, solitary, pedunculate, extra-axillary, somewhat racemose at the top of the stem, usually bracteate by two narrower leaves at the base. Corolla white, variegated with purple.

Royen's Codon. Fl. Sept. Clt. 1801. Pl. 1 to 1½ foot.

Cult. This is a singular plant, the seeds of which should be sown in a pot, in rich, light earth, and the pot placed in a frame; and when the plants are of sufficient size, they may be moved into separate, small pots, and shifted into other larger ones by degrees, as they grow. They may afterwards be placed among other greenhouse plants.

Order CLXIV. CONVOLVULA'CEÆ (this order contains plants agreeing with the genus *Convólvulus* in important characters.) Juss. gen. p. 132. edit. Usteri. p. 148. R. Br. prod. p. 481. H. B. et Kunth, nov. gen. amer. 3. p. 94. Choisy, in mem. soc. phys. gen. 6. p. 383.

Calyx of 5 sepals (except in *Wilsònia*, which is gamosepalous and 5-toothed;) sepals permanent, equal or unequal, disposed in one, two, or three series, often enlarged round the fruit. Corolla monopetalous, hypogynous, regular, tubular, campanulate or funnel-shaped; having the limb sometimes of 5 plaits, and sometimes of 5 lobes, which are twisted in æstivation. Stamens 5, opposite the sepals, and therefore alternating with the lobes or plaits of the corolla; filaments usually unequal, dilated at the base, sometimes villous, naked, or furnished with scales, usually inclosed, rarely exserted; anthers long, usually sagittate, and adnate at the base, often twisted afterwards. Nectarium or hypogynous disk annular, surrounding the ovarium in most of the species, more or less showy. Ovarium usually simple, 2-4-celled, rarely almost 1-celled, or altogether 1-celled: sometimes the ovarium is double or quadruple; in each cell there is 1 or 2 erect ovula. Style usually simple, entire, or more or less deeply cleft; rarely two. Stigmas acute, flattened or globose; in those with the simple style, 2-lobed. Fruit a capsule or a dry berry, 1-4-celled; cells 1-2-seeded. Capsule usually dehiscing valvately, rarely transversely. Seeds usually rounded on one side, and flattened on the other, inserted by the base, glabrous or villous; having the testa usually black and hard. Albumen mucilaginous. Cotyledons foliaceous, corrugated, except in the genus *Marìpa*, in which they are thick and straight. Radicle incurved, inferior.—Stems herbaceous, suffruticose, fruticose, also arboreous; sometimes erect, sometimes creeping, but for the most part twining. Leaves alternate, simple, entire or lobed, sessile or petiolate. Peduncles axillary or terminal, 1 or many-flowered. Pedicels articulated to the peduncles, usually bibracteate; bracteas more or less, approximating the flower, sometimes also involving the flower. Roots simple or tuberous, edible or medicinal. Juice milky, purgative, often filling the stem.

Nearly the whole of the *Convolvulàceæ* are twining plants, with showy flowers, expanding under the influence of sunshine. A few are shrubs, but the greater part are herbaceous, and very many annual. All parts of the world produce them. *Cuscùta* is a singular parasite, wholly destitute of leaves. The root of many is filled with a milky, acrid juice, which is very purgative. Scammony, jalap, and some other drugs, are the produce of *Convolvulàceæ*. The roots of *Ipomæ'a flórida, scopària*, and *Quámoclit*, are stimulatory; that of *Ipomæ'a Batàtas*, which is the sweet potato of America and South Europe; and that of *Ipomæ'a edùlis*, are wholesome articles of food.

Synopsis of the genera.

Tribe I.

Argyre'ieæ. Embryo cotyledonous. Carpels combined into a simple ovarium. Pericarp baccate, indehiscent.

1 Rìvea. Ovarium 4-celled; cells 1-seeded.

2 Marìpa. Ovarium 2-celled; cells 2-seeded. Cotyledons not plicate? Stigma furrowed.

3 Argyre'ia. Ovarium 2-celled; cells 2-seeded. Stigma 2-lobed; lobes capitate. Corolla campanulate.

4 Blinkwórthia. Ovarium 2-celled; cells 2-seeded. Corolla urceolate. Calyx calyculate.

5 Humbe'rtia. Ovarium 2-celled; cells 2-seeded. Stigma hollow-flattened. Stamens exserted.

6 Moorcróftia. Ovarium 2-celled; cells 1-seeded.? Fruit 2-seeded.

Tribe II.

Convolvu'leæ. Embryo cotyledonous. Carpella combined into a simple ovarium. Pericarp capsular, dehiscent.

§ 1. *Style simple, entire even to the stigma.*

7 Qua'moclit. Ovarium 4-celled; cells 1-seeded. Corolla tubular. Genitals exserted.

8 Leptoca'llis. Ovarium 4-celled; cells 1-seeded. Stigma 2-lobed, capitate. Corolla with a slender tube, and a spreading limb.

9 Bata'tas. Ovarium 4-celled; cells 1-seeded. Corolla campanulate. Genitals inclosed.

10 Pharbìtis. Ovarium 3-celled; cells 3-seeded.

11 Calony'ction. Ovarium 2-celled, or somewhat 4-celled, 4-seeded. Corolla funnel-shaped. Genitals exserted.

12 Exogònium. Ovarium 2-celled; cells 2-seeded. Corolla tubular. Genitals exserted.

13 Lepiste'mon. Ovarium 2-celled; cells 2-seeded. Stamens inclosed, with a scale at the base of each.

14 Ipomæ'a. Ovarium 2-celled; cells 2-seeded. Stamens inclosed. Stigma 2-lobed; lobes capitately globose.

15 Jacquemóntia. Ovarium 2-celled; cells 2-seeded. Stamens inclosed. Stigma 2-lobed; lobes complanately ovate.

16 Convólvulus. Ovarium 2-celled; cells 2-seeded. Stamens inclosed. Stigma 2-lobed; lobes teretely filiform.

17 Anise'ia. Ovarium 2-celled; cells 2-seeded. Lobes of stigma capitate. Sepals not verticillately inserted.

18 Polyme'ria. Ovarium 2-celled; cells 1-seeded; stigmas 4-6, teretely filiform.

19 Calyste'gia. Ovarium 1-celled, as also somewhat 2-celled, 4-ovulate. Lobes of stigma filiform. Bracteas 2, involucrate.

20 Shutere'ia. Ovarium 1-celled, 4-ovulate. Stigma 2-lobed; lobes complanately ovate.

21 Skinne'ria. Ovarium 1-celled, 4-ovulate. Stigma 2-lobed; lobes capitately globose.

22 Pora'na. Ovarium 1-celled, 2-4-ovulate. Sepals increasing unequally after flowering. Stigmas globose.

23 Duperrè'ya. Capsule 1-celled, 1-seeded. Stigma large, thick. Calyx propped by 2 small bracteas.

§ 2. *Style bifid, or styles two.*

24 Neurope'ltis. Ovarium 1-celled. Styles 2; stigmas fleshy. Capsule 1-seeded. Bracteas large, surrounding the capsule.

25 Prevóstea. Ovarium 2-celled. Style 1, bifid. Outer sepals involving the flower.

26 Brewe'ria. Ovarium 2-celled. Style 1, bifid. Sepals nearly equal. Genitals inclosed.

27 Bona'mia. Ovarium 2-celled. Style 1, bifid. Sepals nearly equal. Genitals exserted.

28 Cre'ssa. Ovarium 2-celled. Styles 2; stigmas globose. Stamens exserted.

29 Evólvulus. Ovarium 2-celled. Styles 2, bifid.

30 Cladóstyles. Capsule 1-celled, 1-seeded. Styles 2, bifid.

31 Wilsònia. Ovarium small, 2-seeded. Style 1, bifid. Calyx tubular.

Tribe III.

Dichóndreæ. Embryo without cotyledons. Carpella distinct.

32 Dichóndra. Ovaria two.

33 Fa'lkia. Ovaria 4.

Tribe IV.

Cuscu'teæ. Embryo acotyledonous.

34 Cuscu'ta. Plants parasitical.

† *A genus doubtful whether it belongs to the present order.*

35 Mouroucòa. Calyx 5-parted: the 2 outer segments covering the rest. Corolla funnel-shaped; limb large, spreading, 5-lobed. Stamens inserted in the upper part of the tube, and opposite the lobes. Stigma bilamellate. Capsule girded by the calyx, 3-celled; cells 1-seeded.

Tribe I.

ARGYRE'IEÆ (this tribe contains plants agreeing with the genus *Argyrèia*, in having a baccate pericarp.) Choisy, in mem. soc. phys. genev. 6. p. 407. Embryo cotyledonous. Carpels combined into a single ovarium. Pericarp baccate, indehiscent.

I. RI'VEA (this genus is dedicated by Choisy, to his friend Auguste de la Rive, a physician of Geneva.) Choisy, in mem. soc. phys. gen. 6. p. 407.—Convólvulus, Ipomæ'a, and Lettsòmia, species of authors.

Lin. syst. *Pentándria, Monogýnia.* Sepals 5. Corolla tubular or funnel-shaped, showy, Style 1; stigma capitate or lamelliform, 2-lobed. Ovarium 4-celled, 4-ovulate. Capsule baccate.—Twining, suffruticose, very showy plants, the flowers of which exceed in size all other convolvulaceous plants.

1 R. tiliæfòlia (Choisy, l. c. p. 407.) leaves cordate-roundish; peduncles usually 1-flowered, rarely 2-4-flowered; sepals ovate-roundish, very blunt, equal; corolla inflato-cylindrical. ♄. ⌒. S. Native of the East Indies, as of Penang, Travancore, Philippine Islands, banks of the Ganges, &c; also of the Isle of France, Cape of Good Hope. The same plant is said also to be found in America, as in St. Domingo, St. Vincent, and Peru. Convólvulus tiliæfòlius, Desr. in Lam. dict. 3. p. 544. Ipomæ'a tiliæfòlia, Rœm. et Schultes, syst. 4. p. 229. Ipomæ'a Gangética, Sweet, hort. brit. ed. 2d. p. 288. Ipomæ'a Benghalénsis?, Roth. ex Rœm. et Schultes, syst. 4. p. 229. Convólvulus Gangéticus, Roxb. fl. ind. 2. p. 46. Convólvulus spectábilis, Brit. mus. Conv. grandiflòrus, Brit. mus. Lettsòmia microcàlyx, Wight. Convólvulus leucántha, and Ipomæ'a salicifòlia, Herb. madr. Conv. marginàtus, Hamilt. herb. Ipomæ'a baccífera, Russell, herb. Stem downy or smoothish. Young branches villous. Leaves obtuse or acuminated, downy beneath, while young rather tomentose. Corolla tubular, 2-3 inches long, white. Seeds silky on the angles. Sepals reniform, emarginate, increasing in size with the fruit, and covering it at all times, ex Roxb. Lobes of stigma round.

Tilia-leaved Rivea. Fl. May, Aug. Clt. 1812. Shrub tw.

2 R. hypocraterifórmis (Choisy, l. c. p. 408.) leaves cordate-roundish; peduncles 1-flowered, sometimes axillary and solitary, sometimes disposed in a spicate manner at the tops of the branches; sepals ovate, obtuse, unequal; limb of corolla salver-shaped: tube very narrow. ♄. ⌒. S. Native of the East Indies, in forests, over the southern parts of the Carnatic and Tanjore country, Trincomala, and Travancore. Convólvulus hypocraterifórmis, Desr. in Lam. dict. 3. p. 561. Conv. candícans, Rœm. et Schultes, syst. 4. p. 302. but not of Roth. Lettsòmia uniflòra, Roxb. fl. ind. 2. p. 85. Ipomæ'a candícans, Roxb. herb. Argyrèia uniflòra, Sweet, hort. brit. p. 289. Stem downy or villous. Leaves obtuse, rarely white and villous beneath. Peduncles villous, furnished with 2 bracteas at or near

the top. Corolla pure white, 3-4 inches long; tube very long, and limb large. Lobes of stigma linear-oblong.

Salver-shaped-flowered Rivea. Fl.? Clt. 1817. Shrub tw.

3 R. ORNA'TA (Choisy, l. c. p. 409. t. 3.) leaves orbicularly cordate, or reniform; peduncles elongated, spicately panicled or umbellate; sepals ovate-lanceolate, bluntish; corolla tubular, very narrow. ♄. ⌒. S. Native of the East Indies, as of Cawnpore, Nipaul, Coromandel, Mungger, &c. Convólvulus candícans, Roth, nov. spec. p. 106. Rœm. et Schultes, syst. 4. p. 273, 790. Lettsòmia ornàta, Roxb. fl. ind. 2. p. 86. Argyrèia ornàta, Sweet, hort. brit. p. 289. Conv. ornàtus, Roxb. mss. Wall. cat. no. 1369. Conv. tarìta, Wall. cat. no. 2253. Stem white; branches silky. Leaves clothed with cinereous tomentum beneath, large. Bracteas villous. Corolla 3 inches long, purple. Berry cherry-shaped. Lobes of stigma linear-oblong. According to Roxb. l. c., the flowers are large, and pure white.

Adorned Rivea. Fl.? Clt. 1824. Shrub tw.

4 R. BÒNA-NÓX (Choisy, l. c.) leaves cordate-roundish, or altogether roundish, sometimes villous beneath; peduncles shorter than the petioles, commonly 3-flowered; sepals ovate-cordate, obtuse; corolla very wide. ♄. ⌒. S. Native of Bengal, in the forests of Midnapore. Lettsòmia Bòna-nóx, Roxb. fl. ind. 2. p. 84. Argyrèia bòna-nóx, Sweet, hort. brit. p. 289. Clove-scented creeper, Asiat. res. 4. p. 257. Young branches hairy. Leaves acuminated or obtuse, sometimes emarginate; petioles villous. Peduncles 1-3-flowered. Corolla white, fragrant; lobes of stigma capitate. Berry 1-celled, 1-4-seeded. The flowers of this species are large. and pure white, expanding at sun-set, and perfuming the air to a considerable distance, with a fragrance resembling that of the finest cloves; in fact, it is the prince of convolvulaceous plants.

Good-night Rivea, or Midnapore Creeper. Fl. July, Oct. Clt. 1799. Shrub tw.

5 R.? OBTE'CTA (Choisy, l. c. p. 410.) leaves lanceolate, acuminated, glabrous above, and silky beneath; peduncles many-flowered, longer than the petioles, but not so long as the leaves; sepals ovate-obtuse, tomentose outside; corolla campanulate. ♄. ⌒. S. Native of Tavoy and Amherst. Convólvulus obtéctus, Wall. cat. no. 1416. Branches strigosely tomentose, from adpressed white hairs. Flowers umbellate. Corolla showy, silky and hairy outside, 3 inches long. Stigma capitate, 2-lobed.

Covered Rivea. Shrub tw.

Cult. The species of *Rìvea* are strong, growing, extensive, twining plants, bearing very large and very showy flowers. They require a great deal of room to flower them. They may be trained up the rafters, or upon trellis-work, in a stove. A rich, light soil, or a mixture of loam and peat, is the best for them; and cuttings strike root readily in sand or mould, under a hand-glass, if placed in heat.

II. MARI'PA (the Caribbean name of the tree.) Aubl. guian. 1. p. 230. t. 91. Lam. ill. t. 110. Choisy, in mem. soc. phys. genev. 6. p. 411.—Ehrètia species, Lam. and Poir.

LIN. SYST. *Pentándria, Monogy'nia.* Sepals 5, coriaceous, imbricate. Corolla campanulate, 5-lobed at top. Stamens 5, equal in height to the tube of the corolla. Style 1; stigma capitate, simple, furrowed. Ovarium 2-celled; cells 2-ovulate. Fruit baccate, coriaceously woody, 1-celled by abortion, and 1-seeded. Albumen wanting.? Cotyledons thick, ovate. ?—Trees and shrubs, natives of Guiana. Branches scandent, tendrilled at top. Leaves alternate, smooth. Flowers white, disposed in loose or thick panicles; bracteas scale-formed at the peduncles, which are villous.

1 M. SCA'NDENS (Aubl. l. c.) scandent, cirrhiferous; leaves ovate, petiolate, acuminated, glabrous; panicles loose, bracteate; calyx villous; corolla spreading; style elongated. ♄. ⌒. S. Native of Guiana, on the banks of the river Sinemari. Ehrètia cirrhòsa, Lam. dict. 1. p. 527. Ehrètia scándens, Poir. suppl. 3. p. 590. Segments of corolla short, ovate-roundish, obtuse, crenulated.

Climbing Maripa. Shrub tw.

2 M. ERE'CTA (Meyer. pim. ess. p. 115.) arboreous, erect; leaves oblong, glabrous; panicle strict; limb of corolla erect, exceeding the style. ♄. S. Native of Guiana, about the river Essequibo.

Erect Maripa. Tree.

3 M. VILLÒSA (Spreng. syst. 1. p. 648.) stem suffruticose, erect; leaves sessile, roundish, acutish, villous, ciliated; panicles strict, bracteate. ♄. S. Native of Brazil.

Villous Maripa. Shrub erect.

Cult. For culture and propagation see *Rìvea*, above.

III. ARGYRE'IA (from *αργυρειος, argyreios,* silvery; in reference to the silvery undersides of the leaves.) Lour. coch. p. 134. Choisy, in mem. soc. phys. gen. 5. p. 411.—Lettsòmia, species, Roxb. and Wall.—Convólvulus and Ipomæ'a, species of authors.

LIN. SYST. *Pentándria, Monogy'nia.* Sepals 5. Corolla campanulate. Style 1; stigma capitate, 2-lobed. Ovarium 2-celled; cells bi-ovulate. Capsule baccate.—Extensive, twining shrubs, with a showy aspect, for the most part silvery, but sometimes silky and tomentose.

SECT. I. PTYXA'NTHUS (from *πτυξ, ptyx,* a plait; and *ανθος, anthos,* a flower; in reference to the plicate corolla.) Corolla nearly entire, with 5 plaits at top. Stamens inclosed.

1 A. SPECIO'SA (Sweet, hort. brit. p. 289. Choisy, in mem. soc. phys. 6. p. 411.) tomentose; leaves large, cordate, acute, glabrous above, or rarely villous, thickly nerved beneath, and clothed with silky, silvery down; peduncles about equal in length to the petioles, umbellately capitate; bracteas acute, unequal; sepals ovate, very blunt. ♄. ⌒. S. Native of the East Indies, in forests and hedges in Hindostan, Java, and the Isle of France. Convólvulus nervòsus, Burm. ind. 48. t. 20. f. 1. Conv. speciòsus, Lin. suppl. p. 137, exclusive of the country. Smith, icon. ined. 17. Ipomæ'a speciòsa, Pers. ench. 1. p. 183. Sims, bot. mag, 2446. Lettsòmia nervòsa, Roxb. fl. ind. 2. p. 78. Samùdra stògam, Rheed, mal. 11. p. 125. t. 61. Leaves 3-12 inches long, and 2-4 broad, dark green above. Corolla nearly 2 inches long, of a deep rose-colour, hairy in the plicæ outside.

Showy Argyreia. Fl. July, Aug. Clt. 1818. Shrub tw.

2 A. BRACTEA'TA (Choisy, in mem. soc. phys. gen. 6. p. 412.) clothed with silky hairs; leaves oblong-roundish, acute at apex, glabrous above, and clothed with silky, rufescent down beneath; peduncles exceeding the petioles a little, cymose, many-flowered; bracteas lanceolate, compassing the cyme; sepals ovate-lanceolate or elliptic, acutish. ♄. ⌒. S. Native of the East Indies. Convólvulus pomàceus? Roxb. ex Wall. cat. no. 1419. Ipomæ'a bracteàta, Heyne, herb. Leaves 2-3 inches long, and 1-2 broad, clothed with silky, rufescent down beneath, with ciliated edges; petioles, bracteas, and outside of sepals, villous.

Bracteate-flowered Argyreia. Shrub tw.

3 A. LESCHENAU'LTII (Choisy, mem. soc. phys. gen. 6. p. 413) clothed with cinereous, silky down; leaves ovate-elliptic, acutish, beset with strigose hairs above, and silky tomentum beneath; peduncles shorter than the leaves, cymose, many-flowered; bractéas ovate or linear, intermixed with the flowers; sepals ovate, bluntish, glabrous. ♄. ⌒. S. Native of Mysore, and the Neelgherry mountains. Convólvulus Choisyànus, Wall. cat. no. 2259. 1. no. 2. Stem fistular. Leaves nerved, 2-3 inches long,

and 1-2 broad. Petioles and peduncles clothed with hoary tomentum. Corolla 18 lines long, hairy outside. Sepals rather hairy outside, with scarious edges.

Leschenault's Argyreia. Shrub tw.

4 A. pomàcea (Choisy, l. c. p. 413.) clothed with cinereous tomentum; leaves ovate-elliptic, obtuse, clothed with cinereous, velvety down on both surfaces, but especially beneath; peduncles exceeding the petioles a little, cymose, many-flowered; bracteas linear-lanceolate, adpressed to the flowers; sepals ovate-lanceolate, obtuse, rather villous. ♄. ◠. S. Native of Mysore. Lettsòmia pomàcea, Roxb. fl. ind. 2. p. 83. Ipomæ'a Zeylánica, Gærtn. fruct. 2. p. 482. t. 178. f. 1. Convólvulus Rottlèri. Spreng. syst. 4. p. 61. Lettsòmia strigòsa, Roxb. fl. ind. 2. p. 80. Ipomæ'a strigòsa, Roth. Convólvulus capitàtus, Vahl, symb. 3. p. 28.? Convólvulus Choisyànus, Wall. cat. Leaves sometimes sub-emarginate at apex. Petioles and peduncles villous. Bracteas sometimes cuneated. Flowers large, rose-coloured. Berry 4-seeded, size of a cherry, yellow. Peduncles dichotomous, 3-7-flowered.

Apple-fruited Argyreia. Shrub tw.

5 A. Neelghe'rya (Choisy, l. c. p. 414.) clothed with rufescent hairs; leaves cordate-orbicular, or oblong, acuminated, sinuated, beset with strigose hairs on both surfaces; peduncles exceeding the petioles, umbellately many-flowered; bracteas ovate or linear, intermixed with the flowers; sepals ovate-elliptic, obtuse, hairy outside. ♄. ◠. S. Native of Neelgherry mountains. Stem fistular. Leaves 3-4 inches long, scabrous and green above. Corolla 2-3 inches long, campanulately funnel-shaped, rose-coloured. Very nearly allied to the preceding species.

Neelghery Argyreia. Shrub tw.

6 A. populifòlia (Choisy, l. c. p. 414.) glabrous; leaves cordately-orbicular, short-acuminated; peduncles usually exceeding the leaves, dichotomously cymose; flowers loose, intermixed with linear-lanceolate bracteas; sepals small, ovate-roundish, very obtuse, villous. ♄. ◠. S. Native of the East Indies, at Gualpara and Colomba. Ipomæ'a Kleiniàna, Rœm. et Schultes, syst. 4. p. 789. Ipomæ'a bracteàta, Willd. herb. Convólvulus Malabáricus, Hamilt. herb. madr. Wall. cat. no. 1414. Conv. fastigiàtus, Roxb. ex Wall. cat. no. 2258. Tops of branchlets rather villous. Leaves paler beneath. Petioles sometimes rather villous. Peduncles a foot long. Corolla tubularly campanulate, hairy outside; tube coarctate at the base.

Poplar-leaved Argyreia. Shrub tw.

7 A. sple'ndens (Sweet, hort. brit. p. 289. Choisy, l. c. p. 415.) leaves ovate-oblong, or ovate-elliptic, entire, or pandurately sinuated, sometimes somewhat 3-lobed, smooth above, but clothed with silvery, silky down beneath; peduncles exceeding the petioles, corymbosely many-flowered; bracteas none; sepals ovate, obtuse, clothed with hoary tomentum. ♄. ◠. S. Native of the East Indies. Lettsòmia splèndens, Roxb. fl. ind. 2. p. 75. Convólvulus splèndens, Horn. hort. hafn. suppl. p. 123. Ipomæ'a splèndens, Sims, bot. mag. t. 2628. Conv. splèndidus, Hamilt. herb. Stem clothed with hoary villi. Leaves acuminated, 6 inches long; petioles hoary. Corolla tubularly campanulate, 1½ inch long, rather villous outside, pale red. Berry scarlet, size of a large pea.

Splendid Argyreia. Fl. Nov. Clt. 1820. Shrub tw.

8 A. fu'lgens (Choisy, l. c. p. 415.) tomentose; leaves lanceolate, long-acuminated, glabrous and dark green above, but clothed with silvery tomentum beneath; peduncles not exceeding the petioles, brachiately and loosely many-flowered; bracteas almost wanting; sepals ovate, very obtuse, equal, villous. ♄. ◠. S. Native of the East Indies, at Quilon. Convólvulus fulgens, Wall. cat. no. 1394. Conv. argénteus, Heyne, herb. Leaves nerved beneath, 3-4 inches long, 9-15-lines broad. Pedicels villous. Corolla tubular, 1½ inch long, glabrous.

Fulgent Argyreia. Shrub twining.

9 A. pa'llida (Choisy, l. c. p. 416.) smoothish; leaves ovate-oblong, acute and mucronate at the apex, glabrous above, clothed with cinereous down beneath; peduncles very short, shorter than the petioles, 3-4-flowered; sepals ovate-orbicular, very blunt, villous. ♄. ◠. S. Native of the East Indies, between Yandaboo and Paghumew, on the road to Petiwell Wells. Convólvulus pállidus, Wall. cat. no. 1418. Branches clothed with cinereous, white wool at top. Corolla tubular, glabrous, hardly 5-8 lines long. Fruit black, acute, 2-celled.

Pale Argyreia. Shrub tw.

10 A. cunea'ta (Ker. bot. reg. 661.) smoothish; leaves obovate-cuneated, emarginate, glabrous above, but beset with short, crowded hairs beneath, hardly petiolate; peduncles shorter than the leaves, 3-6-flowered; bracteas linear, very acute; sepals ovate, obtuse, equal, villous. ♄. ◠. S. Native of the East Indies. Convólvulus cuneifórmis, Buch. draw. mys. pl. Ipomæ'a atrosanguínea, Sims, bot. mag. 2170. Lettsòmia cuneata, Roxb. fl. ind. 2. p. 81. Conv. cuneàtus, and Conv. cymòsus, Herb. madr. Stem clothed with powdery down at top. Petioles villous. Peduncles and pedicels downy. Corolla large, of a beautiful deep bright purple colour. Berry smooth, yellowish outside.

Cuneate-leaved Argyreia. Fl. July, Aug. Clt. 1822. Shrub tw.

11 A. ellíptica (Choisy, in mem. soc. phys. gen. p. 417.) smoothish or downy; leaves ovate or obovate-elliptic, usually villous; peduncles sometimes exceeding the leaves; flowers in loose, corymbose panicles; bracteas small, linear, caducous; sepals equal, very blunt. ♄. ◠. S. Native of the East Indies, as of Mysore, Ceylon, Taong Dong, and Lower Nipaul. Convólvulus ellípticus, Spreng, syst. 1. p. 613. Ipomæ'a ellíptica, Roth. nov. spec. 113. Rœm. et Schultes, syst. 4. p. 248. Convolv. laurifòlius, Roxb. fl. ind. 2. p. 50. and 573. Ipomæ'a laurifòlia, Sweet, hort. brit. p. 288. Convolv. pedunculàris, Wall. cat. no. 1417. Branches and peduncles downy or villous. Bracteas and calyx villous. Corolla tubularly campanulate, an inch long, of a rose-colour. Berry round, 4-seeded.

Elliptic-leaved Argyreia. Shrub twining.

12 A. arge'ntea (Choisy, l. c. p. 418.) stem downy; leaves roundish-cordate, short-acuminated, glabrous above, rarely beset with short hairs, and clothed with silvery, silky down beneath; peduncles stiff, about equal in length to the petioles; flowers loosely umbellate; bracteas lanceolate or linear, intermixed with the flowers; sepals lanceolate: exterior ones larger, with revolute margins, villous outside. ♄. ◠. S. Native of Silhet, and Chittagong; and in woods about Calcutta. Lettsòmia argéntea, Roxb. fl. ind. 2. p. 79. Convolv. argénteus, Herb. madr. Leaves 3-4 inches long, and the same broad. Bracteas silky. Flowers many, large, of a beautiful rich pink colour, glabrous, except the outside of the plicæ, which is villous. Berry 4-seeded.

Silvery Argyreia. Shrub tw.

13 A. venu'sta (Choisy, l. c. p. 419.) altogether like the preceding, except the leaves, which are not silky beneath, but clothed with wool-like down. ♄. ◠. S. Native of the East Indies, as of Goalpara, Rangoon, Pegu, Ava, Prome, Segaen. Convolv. Malabáricus, Wall. cat. no. 1414. Lettsòmia argéntea, Roxb., from Rangoon. Berry glabrous, black in the dried state, 4-seeded. Sepals stiff, glabrous, and bluntish.

Beautiful Argyreia. Shrub tw.

14 A. Roxbu'rghii (Choisy, l. c. p. 419.) very nearly allied to the two preceding species; but the leaves are clothed with cinereous villi on both surfaces, but particularly beneath. ♄. ◠. S. Native of the East Indies, in woods and hedges. Ipomæ'a multiflòra, Roxb. fl. ind. 2. p. 89. Ipomæ'a Burmánni? Kœn. mss. ex Wall. Ipomæ'a Roxbúrghii, Sweet, hort. brit. p. 289. Ipomæ'a amœ'na, Blum. bijdr. 718. Convólvulus Roxbúrghii, Wall. cat. no. 1415. Stems clothed with cinereous

villi. Bracteas and sepals villous outside. Corolla 2 inches long, rose-coloured; inside of the tube a bright red.

Roxburgh's Argyreia. Fl. June, Aug. Clt. 1816. Shrub tw.

15 A. Malaba'rica (Choisy, l. c. p. 420.) stem downy; leaves roundish-cordate, acute, glabrous, or furnished with a few scattered hairs on both surfaces; peduncles about equal to, or exceeding the leaves, many-flowered at the apex; sepals lanceolate, acute, exterior ones larger, and clothed with hoary villi, with revolute edges. ♄. ⌒. S. Native of Coromandel, Malabar, Mysore, Cochinchina, Java. Convólvulus Malabáricus, Lin. spec. 221. Willd. spec. 1. p. 857. Ipomæ'a Malabárica, Rœm. et Schultes, syst. 4. p. 235. Kattu-Kalengu, Rheed. mal. 11. p. 105. t. 51. Petioles villous. Leaves paler beneath, 3-4 inches long, and the same in breadth. Peduncles trifid, villous. Flowers rather small; the bottom of the bell deep purple; throat pink, with the edges paler, almost white, and slightly 10-lobed. Desrousseaux and Blum. say, that the peduncles are 1-3-flowered; the flowers cream-coloured, with a purple bottom.

Malabar Argyreia. Fl. Ju. Aug. Clt. 1823. Shrub tw.

16 A. a'mpla (Choisy, l. c.) leaves ovate-roundish, somewhat cordate at the base, short-acuminated at the apex, clothed with woolly tomentum on both surfaces while young, but when old nearly glabrous; peduncles very short, umbellately many-flowered; bracteas linear-lanceolate, villous; sepals equal, linear-lanceolate, hairy outside. ♄. ⌒. S. Native of Nipaul. Convólvulus ámplus, Wall. cat. no. 1420. Stem fistular, villously tomentose while young. Leaves 6 inches long, and about the same in breadth. Umbels 4-6-flowered. Corolla $2\frac{1}{2}$ inches long, showy, glabrous.

Large-leaved Argyreia. Shrub twining.

17 A. Wallíchii (Choisy, l. c. 421.) leaves ovate or lanceolate, hardly cordate at the base, acuminated at the apex, glabrous and wrinkled above, nerved and clothed with white tomentum beneath; peduncles almost wanting, many-flowered; bracteas permanent, linear-lanceolate, rather villous; sepals linear-lanceolate: exterior ones the longest. ♄. ⌒. S. Native of the Burman Empire, on mount Taong Dong. Convólvulus erythrocárpus, Wall. cat. no. 1413. Petioles villous, 4-6 inches long. Leaves length of petioles. Flowers 3-4 in a fascicle, nearly sessile. Berry red.

Wallich's Argyreia. Shrub twining.

18 A.? lanceola'ta (Choisy, l. c.) clothed with cinereous, silky down; leaves linear-lanceolate, acute, glabrous above, and blackish, clothed with silky, silvery down beneath; flowers solitary, nearly sessile; sepals ovate-lanceolate, acute, clothed with silky hairs outside. ♄. ⌒. S. Native of Martaban and Tavoy, in the East Indies. Convólvulus argyrophýllus, Wall. cat. no. 1395. Leaves $2\frac{1}{2}$ inches long, and 3-5 lines broad. Corolla tubularly campanulate, an inch long, purple, hairy outside.

Lanceolate-leaved Argyreia. Shrub twining.

19 A.? móllis (Choisy, l. c.) stem glabrous, or hardly downy; leaves elliptic-lanceolate, hairy above, and blackish, but clothed with silvery-silky down beneath; peduncles equal in length to the petioles, many-flowered; flowers umbellate; bracteas involucrating the flowers, ovate-obtuse; sepals ovate-oblong, obtuse, hairy outside. ♄. ⌒. S. Native of the Prince of Wales Island. Convólvulus móllis, Burm. ind. 44. t. 17. Convolv. seríceus, Lin. mant. p. 43. Convolv. gràcilis, Sal. prod. 124.? Ipomæ'a serícea, Blum. bijdr. p. 720. Lettsòmia híspida, Hook. mss. Leaves 2-3 inches long. Peduncles hoary, 3-6-flowered. Corolla 2 inches long, pur[illegible], beset with long white hairs outside. Berry red. *Convólvulus Kàtion*, and *C. Kleiniàna*, Herb mus. par. is probably referrible to this species.

Soft Argyreia. Fl.? Clt.? Shrub tw.

20 A. nítida (Choisy, l. c. p. 422.) clothed with silvery-silky villi; leaves ovate-elliptic, acute, silky on both surfaces, blackish above, and silvery beneath; peduncles very short, 2-3-flowered, but usually 1-flowered; bracteas small, linear-lanceolate; sepals acute, outer ones the longest. ♄. ⌒. S. Native of the East Indies and Philippine Islands. Convólvulus nítidus, Desr. in Lam. dict. 3. p. 544. Leaves 3 inches long, and 2 broad, sometimes furnished with fascicles of smaller ones in the axils of the older ones. Petioles 1-2 inches long. Corolla inflated, tubular, 2 inches long, coarctate at the base, clothed with silky hairs outside; limb spreading a little.

Shining Argyreia. Shrub twining.

21 A. Guichenòtii (Choisy, l. c. p. 423.) clothed with silvery down; leaves ovate-cordate, quite glabrous above, clothed with adpressed down beneath; peduncles shorter than the leaves, commonly 3-flowered; sepals clothed with silky-silvery down: outer ones ovate-orbicular: inner ones smaller, ovate-oblong. ♄. ⌒. S. Native of the islands of Timor and Java. Ipomæ'a púlchra, Blum. bijdr. p. 716. Leaves acute, cordate at the base, 3-5 inches long, and 1-3 broad. Corolla tubularly funnel-shaped, fine red, silky outside; limb obtuse, 5-lobed.

Guichenot's Argyreia. Shrub twining.

22 A. capita'ta (Choisy, l. c.) clothed with strigose hairs; leaves cordate-ovate, acuminated, hairy on both surfaces; hairs glandular at the base; peduncles exceeding the petioles; flowers capitate; bracteas ovate-lanceolate, involucrate, hairy, as well as the sepals, which are linear-lanceolate. ♄. ⌒. S. Native of Silhet, Goalpara, Tavoy, Madras, &c. Convólvulus capitifórmis, Poir. ency. suppl. 3. p. 469. Convolv. capitàtus, Vahl, symb. 3. p. 28. Ipomæ'a capitàta, Rœm. et Schultes, syst. 4. p. 238. Lettsòmia strigòsa, Roxb. fl. ind. 2. p. 80. Ipomæ'a trichótoma, Blum. bijdr. p. 717. Convólvulus strigòsus, Roxb. herb. Leaves 2-5 inches long, and 1-3 broad. Corolla 1-2 inches long, rose-coloured or purple, hairy outside. Berry red, 4-seeded, round.

Var. β, conférta (Choisy, l. c. p. 424.) peduncles very short, crowded on the tops of the branches, forming long, hairy spikes; bracteas and sepals smaller than in the species. ♄. ⌒. S. Native of the Burman empire, on mount Taong Dong. Convólvulus hirsutíssimus, Wall. cat. no. 1400.

Capitate Argyreia. Fl. July, Aug. Clt. 1823. Shrub tw.

23 A. barbígera (Choisy, l. c. p. 424.) clothed with adpressed hairs; leaves cordate, acuminated; clothed with strigose hairs on both surfaces, but particularly beneath; peduncles exceeding the petioles, stiff, many-flowered; flowers capitate; bracteas ovate, very blunt, surrounding the pedicels and flowers; sepals like the bracteas, but more strigose. ♄. ⌒. S. Native of the Burman empire, at Prome. Convólvulus bárbiger, Wall. cat. no. 1404. Lettsòmia strigòsa, Roxb. hort. beng., but hardly of fl. ind. Hairs on the petioles and peduncles spreading. Corolla purple, hairy outside. Leaves 2-3 inches long, and 1-2 broad.

Beard-bearing Argyreia. Shrub twining.

Sect. II. Schizan'thus (from σχιζω, *schizo*, to cut; and ανθος, *anthos*, a flower; the corolla is 5-cleft.) Corolla 5-cleft, or 5-parted at the apex. Stamens exserted.

24 A. setòsa (Choisy, l. c. p 425.) clothed with adpressed hairs; leaves cordate-ovate, or cordate-roundish, acuminated, quite glabrous above, and beset with adpressed strigæ beneath; peduncles exceeding the petioles, stiff, corymbosely many-flowered; bracteas compassing the flowers and pedicels, reniformly orbicular, very obtuse; sepals very strigose outside; ovate, orbicular, obtuse. ♄. ⌒. S. Native of Sukanagur and Lower Nipaul, as well as of the island of Timor. Ipomæ'a strigòsa, Roth, nov. spec. p. 113. Rœm. et Schultes, syst. 4. p. 242. Lettsòmia setòsa, Roxb. fl. ind. 2. p. 80. Convólvulus strigòsus, Spreng. syst. 1. p. 600. Convólvulus setòsus, Roxb.

mss. Convolv. multiflòrus, Heyne, herb. Conv. confértus, Ham. herb. Leaves 2-3 inches long, and 1 to 2½ broad; the older leaves sometimes 6 inches long, and as much broad. Corolla 6-9 lines long, pink-coloured, clothed with strigose hairs outside; lobes acute. Berry pea-formed, red. Flowers sessile on the branches of the peduncle.

Bristly Argyreia. Fl. July, Aug. Clt. 1818. Shrub tw.

25 A. rubicu'nda (Choisy, l. c. p. 426.) downy; leaves roundish, hardly-cordate, obtuse, furnished with a few hairs above, tomentose beneath; peduncles stiff, exceeding the petioles, brachiately corymbose; bracteas ovate or ovate-roundish; sepals unequal: outer ones the largest, ovate-roundish, very blunt: inner ones shorter and narrower; corolla small. ♄. ⌒. S. Native of the Burman Empire, on Mount Taong Dong. Convólvulus rubicúndus, Wall. cat. no. 1409. Leaves rather silvery beneath, an inch long, and as much broad. Peduncles tomentose. Corolla 4-5 lines long, glabrous, silky outside; lobes acute. Flowers disposed loosely.

Reddish-flowered Argyreia. Shrub twining.

26 A. tomentòsa (Choisy, l. c.) clothed with down; leaves ovate, obtuse at the base, bluntish at the apex, and mucronulate, smoothish above, but clothed with cinereous tomentum beneath; peduncles very short, capitately many-flowered; bracteas ovate or ovate-orbicular, or ovate-lanceolate, repand; sepals linear-lanceolate: outer ones the largest. ♄. ⌒. S. Native of the Burman empire, on the banks of the Irawaddi. Convólvulus multibracteàtus, Wall. cat. no. 1408. 1. Leaves 2-3 inches long, and 1 to 1½ broad. Corolla tubularly salver-shaped; tube glabrous; limb acute, silky outside.

Var. β, cordàta (Choisy, l. c. p. 427.) leaves dilated at the base, and cordate, with a rather deep, very blunt recess. ♄. S. Native on the banks of the Irawaddi, and Lower Nipaul. Convólvulus *β* cordàtus, Wall. mss. Conv. vestìtus, Wall. cat. no. 1411. Berry pea-shaped.

Tomentose Argyreia. Shrub twining.

27 A. aggrega'ta (Choisy, l. c. p. 427.) clothed with hoary tomentum; leaves ovate-cordate, glabrous above, but clothed with hoary tomentum beneath; peduncles exceeding the petioles a little; many-flowered; flowers capitate; bracteas involucrating, ovate-orbicular, hoary; sepals ovate, obtuse; corolla small. ♄. S. Native of Coromandel, Orissa, Ceylon, Mysore, Taong Dong, Ava, &c. Lettsòmia aggregàta, Roxb. fl. ind. 2. p. 76. Convólvulus Orixénsis, Rottler, and Klein, mss. Conv. canéscens?, Roth, nov. spec. p. 107. Rœm. et Schultes, syst. 4. p. 274.? Conv. Hèynii?, Spreng. syst. 1. p. 699. Ipomæ'a imbricàta, Roth, nov. spec. p. 112. Rœm et Schultes, syst. 4. p. 249. Conv. imbricàtus, Spreng. syst. 1. p. 613. Conv. aggregàtus, Bot. gard. Conv. canéscens, Spreng. Leaves obtuse at top, sometimes sub-emarginate, 2-3 inches long, and about the same in breadth. Corolla campanulate, hardly longer than the calyx, red; lobes acute, villous outside, emarginate, ex Wall.

Aggregate-flowered Argyreia. Shrub not tw.

28 A. cymòsa (Sweet, hort. brit. p. 289. Choisy, l. c. p. 428.) clothed with pruinose down; leaves roundish-cordate, or reniformly-cordate, obtuse, terminated by a very short mucrone, glabrous on both surfaces, or clothed with pruinose down; peduncles equal in length to the leaves, as also exceeding them, leafy at top, and cymosely many-flowered; bracteas ovate-roundish, obtuse, plicately recurved; outer sepals like the bracteas; inner sepals ovate-linear; corolla showy. ♄. ⌒. S. Native of Malabar, on the mountains. Lettsòmia cymòsa, Roxb. fl. ind. 2. p. 82. Stems compressed. Leaves green, 1-2 inches long, and about the same in breadth. Corolla tubularly funnel-shaped, villous outside, pale pink. Berry yellow, 1-4-seeded.

Cymose-flowered Argyreia. Clt. 1823. Shrub twining.

29 A. acu'ta (Lour. coch. p. 135.) frutescent; leaves ovate, subcordate, mucronate, clothed with silvery-silky down beneath, glabrous above; flowers numerous, disposed in loose, terminal panicles; bracteas oblong, obtuse, clothed with hoary, silky down outside; outer sepals largest, ovate, bluntish: all clothed with hoary tomentum outside; corolla white, showy. ♄. ⌒. S. Native of China. Argyrèia festìva, Wall. pl. asiat. rar. 1. p. 68. t. 76. Leaves 4-5 inches long, and 3 to 3½ broad. Panicle corymbose. Corolla an inch long, campanulate, much higher than the calyx; lobes lanceolate, obtuse, hairy, outside. Berry red.

Acute Argyreia. Shrub tw.

30 A. obtusifo'lia (Lour. coch. p. 134. Choisy, l. c. p. 429.) frutescent; leaves ovate, obtuse, glabrous above, but clothed with silky down beneath; flowers disposed in loose, panicled corymbs; bracteas linear-lanceolate; flowers adpressed; sepals oblong-linear, outer ones the largest. ♄. ⌒. S. Native of Cochinchina, in hedges. Stem clothed with velvety down. Leaves 2-4 inches long, and 1-2 broad, sometimes mucronulate. Corolla white. Berry red.

Blunt-leaved Argyreia. Shrub twining.

† *A species hardly known.*

31 A. arbòrea (Lour. coch. p. 135. Choisy, l. c. p. 430.) arboreous; leaves ovate, acute, wrinkled, entire, glabrous, reflexed; racemes terminal; sepals inflated, red; corolla with a longish, filiform tube, and roundish segments. ♄. G. Native of Cochinchina, in woods. Stem 8 feet high, with spreading branches. Corolla white or yellow. Berry 4-celled, 1-seeded.

Arboreous Argyreia. Shrub 8 feet.

Cult. Argyrèia is a most splendid genus of plants, well worth the cultivator's care. The greater number of the species are robust, extensive twiners or climbers, usually requiring more space to run than can well be spared for that purpose in any stove or hothouse, before they will flower; some of them, however, as *A. cuneifòlia*, being dwarfer plants, produce their elegant blossoms in abundance. All the species grow well in rich light soil, or a mixture of peat, loam, and sand; and cuttings root readily if planted in sand or mould, with a hand-glass placed over them, in a little bottom heat.

IV. BLINKWO'RTHIA (named by Choisy, after Mr. Blinkworth, who collected numerous specimens of plants, around Rangoon, and transmitted them to Dr. Wallich.) Choisy, in mem. soc. phys. genev. 6. p. 430. t. 4.

Lin. syst. *Pentándria, Monogýnia.* Bracteas 3, forming an involucrum, and as if it were another calyx. Sepals 5. Corolla short, cylindrically urceolate. Style 1; stigma capitately 2-lobed. Berry 1-seeded.—A shrub, allied to *Argyrèia*; but is distinguished from it, in the involucrum, corolla, and habit.

1 B. lycioìdes (Choisy, l. c.) stem terete, villous; leaves linear, obtuse, mucronulate, on very short petioles, glabrous above, and rather silky beneath; peduncles short, 1-flowered; sepals ovate-orbicular. ♄. ⌒.? S. Native on the banks of the Irawaddy, &c. Convólvulus lycioìdes, Wall, cat. no. 1390. Leaves 6-9 lines long, and 1-3 broad. Corolla a little longer than the calyx, 5-toothed at apex, blackish in the dried state, and glabrous. Berry girded by the calyx.

Lycium-like Blinkworthia. Shrub tw.?

Cult. For culture and propagation see *Argyrèia*, above.

V. HUMBE'RTIA (probably named after some individual of the name of Humbert.) Lam. dict. 2. p. 356. ill. t. 103. Choisy, conv. in. mem. soc. phys. gen. 6. p. 431.—Endràchium, Gmel. syst. veg. 1. p 339. Juss. gen. p. 133.—Thouínia, Smith,

icon. ined. 1. p. 7. t. 7. Smíthia, Gmel. syst. 1. p. 308.—Endrach, Flacourt, hist. mad. p. 137. t. 100.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 sepals. Corolla 5-cleft. Stamens exserted, deflexed. Ovarium one; stigma hollow, complanate. Capsule baccate, woody, 2-celled; cells 2-seeded.—A tall tree, native of Madagascar. Branches terete. Leaves obovate-lanceolate, quite entire, emarginate. Peduncles 1-flowered, axillary, on the tops of the branches, shorter than the leaves, furnished with 2 little teeth in the middle of each. Flowers large, similar to those of other Convolvulaceous plants.

1 H. Madagascarie'nsis (Lam. dict. 2. p. 357.) ♄. S. Native of Madagascar. Endràchium Madagascariénse, Juss. et Gmel. syst. 1. p. 339, exclusive of the syn. of Bruce. Pers. ench. 1. p. 176. Thouínia spectábilis, Smith, icon. ined. 1. p. 7. t. 7. Smíthia Thouínia, Gmel. syst. 1. p. 389. Humbértia ævitérnia, Commers.

Madagascar Humbertia. Tree tall.

Cult. For culture and propagation see *Argyrèia*, p. 257.

VI. MOORCRO'FTIA (named after William Moorcroft, a gentleman in the service of the East India Company, who travelled in Nipaul, and in the neighbouring countries to the north.) Choisy, conv. in mem. soc. phys. gen. 6. p. 431.—Convólvulus species, Wall. Perhaps this genus is not distinct from *Erysìbe*.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 sepals. Corolla unknown. Style one. Berry 1-seeded, 1-celled by abortion, very rarely 2-celled.—*M. Pinangiàna*, from the baccate fruit, is nearly allied to *Argyrèia;* but the habit and inflorescence are quite distinct.

1 M. adpre'ssa (Choisy, l. c.) stem hairy; leaves ovate or lanceolate, hairy on both surfaces; peduncles brachiately corymbose, exceeding the petioles a little, 3-6-flowered; sepals linear, recurved at apex. ♄. S. Native of Penang. Convólvulus adpréssus, Wall. cat. no. 1424. Leaves obtuse or acutish, 2-4 inches long, and 1-2 broad, pale beneath. Flowers hairy. Berry usually 1-celled, 1-seeded.

Adpressed Moorcroftia. Shrub.

2 M. Pinangia'na (Choisy, l. c. p. 432.) stem glabrous; leaves ovate-lanceolate, acuminated, quite glabrous on both surfaces; peduncles slender, much exceeding the petioles, loosely 4-8-flowered; sepals cuneate-ovate, stiff, small. ♄. ◠. S. Native of Penang. Convólvulus Pinangiànus, Wall. cat. no. 1425. Leaves 2-3 inches long, and 1½ to 2 broad, whitish beneath the nerves, sometimes furnished with a few adpressed hairs. Outer sepals and corolla hairy outside. Berry 1-celled, 1-seeded.

Pinang Moorcroftia. Shrub tw.

Cult. For culture and propagation see *Argyrèia*, p. 257.

Tribe II.

CONVOLVU'LEÆ (so called, because the genera contained in the section agree with *Convólvulus* in the characters indicated below.) Choisy, in mem. soc. phys. gen. 6. p. 433. Embryo cotyledonous. Carpella combined into a single ovarium. Pericarp capsular, dehiscent.

VII. QUA'MOCLIT (from κυαμος, *kyamos*, a kidney bean; and κλιτος, *klitos*, dwarf; because it resembles the kidney bean in its climbing stems, but is less tall.) Tourn. inst. 116. Mœnch, meth. Choisy, in mem. soc. phys. gen. 6. p. 433.—Convolvulus and Ipomœ'a, species of authors.—Calbòa, Cav. icon. 5. p. 51. t. 476.- Macrostémma, Pers. ench. 1. p. 185.—Exogònium, Moc. et Sesse, ined.—Mìna and Morenòa, La Lav. et Lexar.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 sepals, which are usually mucronate on the back under the apices. Corolla tubularly cylindrical. Stamens exserted. Style one; stigma capitate, 2-lobed. Ovarium 4-celled; cells 1-seeded.—Twining herbs, mostly natives of America.

1 Q. phœnícea (Choisy, in mem. soc. phys. gen. 6. p. 433.) leaves cordately reniform, with angularly toothed margins, sometimes 3-lobed; lobes acute, with dentately sinuated edges, glabrous on both surfaces; peduncles many-flowered, loosely spicate. ⊙. ◠. S. Native of the southern parts of the Coromandel Coast, Moluccas, &c. Ipomœ'a phœnícea, Roxb. Wall. fl. ind. 2. p. 92. Convólvulus phœníceus, Spreng. syst. 1. p. 596. Ipomœ'a angulàris, Willd. act. am. N. C. berol. 4. p. 197. Convólvulus angulàtus, herb. Ham. Ipomœ'a coccínea. Andr. bot. rep. t. 449. Plant glabrous. Leaves paler beneath. Sepals awned. Flowers remote, of a beautiful bright crimson colour; tube 2 inches long. This is a very gaudy plant; no painter can do justice to the brightness of its flowers.

Crimson Quamoclit. Fl. June, Sept. Clt. 1806. Pl. tw.

2 Q. angula'ta; leaves cordate, angular, somewhat 3-lobed, glabrous on both surfaces: upper ones entire, mucronate; peduncles many-flowered, racemose, usually dichotomous. ⊙. ◠. S. Native of the Isle of France and Bourbon. Ipomœ'a angulàta, Lam. ill. no. 2116. Poir. dict. 6. p. 12. Ipomœ'a dentàta, Willd. herb. Leaves large. Calycine segments narrow, acute. Corolla scarlet, with a long tube; lobes of limb ovate. Capsule 3-celled.

Angular-leaved Quamoclit. Pl. tw.

3 Q. Ruizia'na; leaves cordately sagittate, acuminated, and acute; peduncles usually 2-flowered. ⊙. ◠. S. Native of Peru, in elevated, stony places, about Lima. Ipomœ'a angulàta, Ort. dec. 7. p. 8. Ruiz. et Pav. fl. per. 2. p. 11. t. 120. f. b. Ipomœ'a dùbia, Rœm. et Schultes, syst. 4. p. 216. Leaves entire; segments of calyx unequal, somewhat tubercled. Peduncles 1-3-5-flowered; bracteas ovate, dilated at top. Tube of corolla long, slender, of a reddish copper colour; limb short, spreading, scarlet, with revolute edges. Capsule 3-4-celled. Perhaps a variety of *Q. coccínea*.

Ruiz's Quamoclit. Pl. tw.

4 Q. coccínea; leaves cordate, acuminated, angular at the base; peduncles 3-6-flowered; calyxes warted, awned. ⊙. ◠. H. Native of St. Domingo, New Spain; and of Carolina, at the Mississippi. Ipomœ'a coccínea, Lin. hort. ups. p. 39. spec. p. 163. Michx. fl. bor. amer. 1. p. 140. Curt. bot. mag. t. 221. St. Hil. 30. t. 6. Ipomœ'a stylòsa, Comm. rar. t. 21. Conv. coccíneus, Spreng. syst. 1. p. 599.—Plum. icon. 89. t. 103. Plant nearly glabrous. Leaves 3-4 inches long, and 2 broad. Tube of corolla long; limb small, pale scarlet. Capsule 3-4-celled.

Var. β, pubéscens (Cham. et Schlecht. in Linnæa, 5. p. 118.) leaves hastately-cordate, never 3-lobed; hind lobes angularly-toothed at the base, down dense, soft, adpressed. ⊙. ◠. H. Native of Mexico, near Hacienda de la Laguna.

Scarlet-flowered Quamoclit. Fl. June, Sept. Clt. 1713. Pl. tw.

5 Q. lute'ola; leaves cordate, acuminated, rather angular, glabrous; peduncles at first dichotomous, then racemose. ⊙. ◠. H. Native of Guatimala. Ipomœ'a lutèola, Jacq. icon. rar. 1. t. 35. coll. 2. p. 266. Willd. enum. 1. p. 207. Ipomœ'a coccínea, *β*, Willd. spec. 1. p. 880. Conv. lutèolus, Spreng. syst. 1. p. 599. Sepals lanceolate-linear. Corolla of an orange yellow colour; limb acute, short. Perhaps only a variety of *Q. coccínea*.

Yellow-flowered Quamoclit. Fl. Ju. Sept. Clt. 1759. Pl. twining.

6 Q. leuca'ntha; leaves cordate, bluntly acuminated, glabrous; flowers solitary; calyx rather hairy, bractless; corolla

tubular; stigmas globose. ⊙. ? ⌒. S. Native of Cuba. Ipomœ'a leucántha, Desv. herb. ex Ham. prod. p. 25. Corolla white. Genitals exserted.

White-flowered Quamoclit. Pl. twining.

7 Q. serótina; leaves cordate, acuminated, angular at the base; peduncles thickened, 3-flowered. ⊙. ⌒. S. Native country unknown. Ipomœ'a serótina, Rœm. et Schultes, syst. 4. p. 215. Plant glabrous. Leaves $2\frac{1}{2}$ inches long, and 2 broad. Sepals obtuse, unequal. Said to be nearly allied to *Q. lutèola*. Convólvulus serótinus, D. C. icon. t. 27. ex Spreng. syst. 1. p. 598.

Late Quamoclit. Fl. June, Sept. Clt. 1824. Pl. tw.

8 Q. hederifòlia; leaves cordate, 3-lobed, glabrous; peduncles racemose, many-flowered. ⊙. ⌒. S. Native of West Indies. Ipomœ'a hederifòlia, Lin. spec. p. 229. Willd. spec. 1. p. 885. Conv. hederifòlius, Spreng. syst. 1. p. 594.—Plum. spec. 3. edit. Burm. t. 93. f. 2.—Tourn. inst. p. 116. Corolla 4 times longer than in *C. trîloba*, violaceous, cylindrical. Stem rather angular.

Ivy-leaved Quamoclit. Fl. July. Clt. 1773. Pl. tw.

9 Q. vitifòlia; leaves cordate, 3-lobed, toothed at the base, glabrous; peduncles bifid, umbelliferous; sepals acute; tube of corolla widened above: limb obtuse, 5-cleft. ⊙. ⌒. S. Native of South America. Calbòa vitifòlia, Cav. icon. 5. p. 51. t. 476. Macrostèma vitifòlia, Pers. ench. 1. p. 185. Convólvulus Neèi, Spreng. syst. 1. p. 593. Lobes of leaves acuminated: middle one contracted at the base. Corolla yellowish outside, purplish-red inside, an inch long.

Vine-leaved Quamoclit. Pl. twining.

10 Q. trîloba; leaves cordate, 3-lobed, glabrous, intermediate lobe ovate, lateral ones semicordate; peduncles 3-flowered. ⊙. ⌒. S. Native of South America. Ipomœ'a trîloba, Lin. spec. p. 229. Mill. dict. no. 6. Willd. spec. 1. p. 884. Convólvulus trîlobus, Desr. in Lam. dict. 3. p. 564.—Knip. cent. 7. no. 37. Stem angular. Corolla cylindrical, violaceous. Capsule pilose.

Three-lobed-leaved Quamoclit. Fl. Ju. July. Clt. 1752. Pl. tw.

11 Q. Eustachia'na; leaves cordate, 3-lobed, glabrous; peduncles 2-flowered. ⊙. ⌒. S. Native of the Island of St. Eustache, among *Opúntias*; and of Mexico, on hills, between Funas and Vera Cruz. Ipomœ'a Eustachiàna, Jacq. obs. 2. t. 36. Vittm. summ. 1. p. 440. Corolla deep purple, funnel-shaped; segments short, acute.

Eustache Quamoclit. Pl. tw.

12 Q. hastígera; leaves hastately trifid, glabrous: intermediate segment lanceolate, large: lateral ones angular; peduncles axillary, many-flowered. ↄ. ⌒. S. Native near the city of Mexico. Ipomœ'a hastígera, H. B. et Kunth, nov. gen. amer. 3. p. 111. Ipomœ'a angulàris, Willd. mss. Ip. Humboldtiàna, Rœm. et Schultes, syst. 4. p. 789. Conv. hastígerus, Spreng. syst. 1. p. 605. Stem angularly striated. Leaves 2 inches long, cordate: lateral segments triangular. Peduncles dichotomous, 6-7-flowered. Sepals roundish, obtuse, awned. Corolla flesh-coloured. Capsule 3-celled.

Halbert-bearing Quamoclit. Fl. May, July. Clt. 1824. Pl. tw.

13 Q. sanguínea; glabrous; leaves cordately 3-lobed or hastate; peduncles longer than the leaves, cymosely trichotomous, ex Ker; 3-flowered, ex Vahl. ♄. ⌒. S. Native of the Island of Santa Cruz. Ipomœ'a sanguínea, Vahl. symb. 3. p. 33. Ker. bot. reg. t. 9. Willd. spec. 1. p. 885. Conv. sanguíneus, Spreng. syst. 1. p. 595. Hind lobes of leaves angularly lobed, ex Vahl. The two lateral pedicels trifid, 3-flowered, middle one 1-flowered. Sepals setaceous, dilated at bottom. Corolla erect, arched, of a crimson-blood colour, an inch long, narrow, clavately tubular, compressed; limb oblately globose, with a contracted, 5-toothed mouth. Stamens ascending, much exserted. Stigma papillosely granular.

Bloody-flowered Quamoclit. Fl. Feb. Nov. Clt. 1812. Shrub tw.

14 Q. longiflòra; leaves hastately 3-lobed, glabrous: intermediate lobe large, oblong: lateral ones quite entire; peduncles axillary, many-flowered; tube of corolla very long. ↄ. ⌒. S. Native of Cuba, near Havannah. Ipomœ'a longiflòra, H. B. et Kunth, nov. gen. 3. p. 111. Stems angular. Leaves cordate; lateral segments triangular. Sepals oblong, obtuse, awned. Corolla white; tube 3 inches long.

Long-flowered Quamoclit. Fl. May, July. Clt. 1803. Pl. tw.

15 Q. hasta'ta; leaves sagittately hastate, glabrous; peduncles 2-flowered. ⊙. ⌒. S. Native of Java. Ipomœ'a hastàta, Lin. mant. p. 204. Willd. spec. 1. p. 884. Ipomœ'a sagittæfòlia, Burm. ind. 50. t. 18. f. 2. Conv. Javánicus, Garc. Hind lobes of leaves acuminated. Corolla yellow, tubularly funnel-shaped, an inch long; limb short, flattish, with ovate, acute lobes.

Hastate-leaved Quamoclit. Pl. tw.

16 Q. Cholule'nsis; leaves roundish-ovate, acuminately cuspidate, deeply cordate, downy above, glabrous beneath; peduncles terminal and axillary, 5-flowered; calyx glabrous. ⊙. ⌒. S. Native of New Spain, near the city of Cholula. Ip. Cholulénsis, H. B. et Kunth, nov. gen. amer. 3. p. 112. Convólvulus Cholulénsis, Spreng. syst. 1. p. 599. Stem somewhat trigonal. Flowers size of those of *Q. coccínea*, scarlet.

Cholula Quamoclit. Pl. tw.

17 Q. dichótoma; leaves ovate, acuminated, glabrous; panicles terminal, dichotomous; calyx glabrous. ⊙. ⌒. S. Native of New Granada, at the mouth of the river Sinu, in humid places. Ipomœ'a dichótoma, H. B. et Kunth, nov. gen. 3. p. 112. Stems nearly terete. Pedicels and bracteas downy. Sepals linear, acuminated. Corolla tubularly funnel-shaped, scarlet.

Dichotomous-panicled Quamoclit. Pl. twining.

18 Q. Mìna; stems glabrous, terete; leaves roughish, and rather villous below, and glabrous above, cordate, 3-lobed; peduncles long, bearing twin, secund racemes, each bearing 7-9-11 flowers; calyx fleshy, with oblong, keeled segments, which are mucronate. ⊙. ? ↄ. ? ⌒. S. Native of Mexico. Mìna lobàta, La Lave, et Lexarza, nov. veg. mex. fasc. 1. p. 3. Corolla tubular, curved, dilated at the base, red at top, the rest yellowish red, fading to yellowish white: limb narrow, 5-toothed; teeth roundish, mucronate; tube 5-angled. Stamens inserted in the mouth of the tube. Ovarium girded by a fleshy gland.

Mina's Quamoclit. Pl. tw.

19 Q. grandiflòra; stems terete, scabrous; leaves somewhat hastately 3-lobed, deeply cordate, glabrous; peduncles longer than the petioles; flowers disposed in racemose fascicles; sepals furnished with a small fleshy horn at the top of each; limb of corolla explicate. ↄ. ⌒. S. Native of Mexico, at St. Jose del Corral. Morenòa grandiflòra La Lave, et Lexarza, nov. veg. mex. fasc. 1. p. 17. Corolla scarlet, with a narrow curved tube and a wide limb, 2 inches long. Stamens a little exserted. The leaves of the specimens of this plant we have seen are angularly cordate, acuminated, and sometimes 3-lobed; the lobes and auricles acuminated.

Great-flowered Quamoclit. Fl. Year. Clt. 1826. Pl. tw.

20 Q. globòsa; stems terete; leaves on long petioles, glabrous, hastate: middle lobe lanceolate, acuminated: lateral ones protracted into acute angles in front, which are prolonged, angular, and truncate behind; peduncles elongated: flowers somewhat fascicled; sepals rounded, equal; corolla with a

globose limb. ♃. ⌒. S. Native of Mexico, at St. Jose del Corral. Morenòa globòsa, La Lave et Lexarza, nov. veg. mex. fasc. 1. p. 5. Corollas scarlet.

Globose-flowered Quamoclit. Fl. Year. Clt. 1827. Pl. tw.

21 Q. digita'ta; glabrous; leaves palmate: segments 5-7, lanceolate, obtuse; peduncles 2-3-flowered. ⊙. ? ⌒. S. Native of tropical America. Ipomœ'a digitàta, Lin. spec. p. 162. Mill. dict. no. 8. Willd. spec. 1. p. 882. Conv. digitàtus, Spreng. syst. 1. p. 592. Quámoclit, foliis digitatis, flore coccineo, Plum. spec. 3. icon. 92. f. 1. Corolla funnel-shaped or tubular, fine purple or scarlet. Stigma globose, obsoletely 3-lobed. Capsule globose, 3-celled; cells 1-seeded.

Digitate-leaved Quamoclit. Fl. Aug. Oct. Clt.? Pl. tw.

22 Q. vulga'ris (Choisy, in mem. soc. gen. 6. p. 434.) leaves pinnatifid, even to the middle nerve; segments linear, parallel, acute; peduncles 1-flowered; sepals ovate-lanceolate. ⊙. ⌒. S. Native of various parts of the East Indies; Isle of France; and North and South America. Ipomœ'a Quámoclit, Lin. spec. 227. Curt. bot. mag. t. 244. Lam. ill. t. 104. f. 1. Convólvulus pinnàtus, Lam. dict. 3. p. 567. Conv. Quámoclit, Spreng. syst. 1. p. 591. Conv. pennatifòlius, Sal. prod. p. 124. Flós cardinàlis, Rumph. amb. 5. p. 421. t. 155. f. 2. Tsiùria-Cránti, Rheed, mal. 11. p. 123. t. 60. Camalàta, Asiat. res. 4. p. 256.—Sabb. hort. 1. t. 515. Plant glabrous. Sepals acute. Corolla scarlet, an inch long; tube narrow; limb acute. Capsule usually 4-celled. The American plant is said to have the peduncles generally 2-flowered.

Var. β, albiflòra; flowers white.

Common Quamoclit. Fl. July, Sept. Clt. 1629. Pl. tw.

Cult. The most of the species of *Quámoclit* are beautiful half hardy annual plants. They should be reared on a hot bed; and about the end of May they may be planted out in an open border, in a warm, sheltered situation, where they will flower freely, and ripen their seed. Some of the more tender kinds may be grown in pots, in the greenhouse, during summer. The perennial herbaceous and shrubby kinds should be treated in the manner recommended for *Batàtas*, p. 262.

VIII. LEPTOCA'LLIS (from λεπτος, *leptos*, slender; and καλλος, *kallos*, beauty; the plants are slender, and very pretty.) Ipomœ'a species of Cav.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla tubularly funnel-shaped, narrow. Stamens inclosed. Style 1; stigma globose, 2-lobed. Ovarium 4-celled? 4-valved; cells 1-seeded? Capsule roundish. Seeds angular.—Small erect plants, with quinate or ternate leaves, and flowers resembling those of *Quámoclit vulgàris* in shape; except that the stamens are inclosed.

1 L. quina'ta; glabrous; leaves quinate; leaflets linear; peduncles axillary, 1-flowered. ♃. G. Native of Mexico. Ipomœ'a muricàta, Cav. icon. 5. p. 52. t. 478. f. 2. Ipomœ'a armàta, Rœm. et Schultes, syst. 4. p. 214. Stems filiform, erect. Peduncles furnished with 2 scale-formed bracteas under the calyx. Calyx muricated?, with ovate, acuminated segments. Corolla of a reddish-violet colour, tubular, an inch long; segments of the limb ovate, acuminated. Filaments villous at the base.

Quinate-leaved Leptocallis. Pl. 1 to 1½ foot.

2 L. terna'ta; glabrous; leaves ternate; leaflets linear; peduncles axillary, 1-flowered. ♃. G. Native of Mexico, about Acapulco. Ipomœ'a ternifòlia, Cav. icon. 5. p. 52. t. 478. f. 1. Stems filiform, erect. Calycine segments acuminated. Corolla tubular, purplish-violet, with ovate, obtuse segments. Stamens villous at the base.

Ternate-leaved Leptocallis. Pl. 1 to 1½ foot.

Cult. The species of *Leptocállis* are very elegant, slender, upright plants, with flowers similar to those of *Quámoclit*. They will do well in a mixture of loam, peat, and sand, or any rich light soil; and cuttings of them will readily strike under a hand-glass, in a little bottom heat.

IX. BATA'TAS (Batatas is Malay according to Rumphius, Mexican according to Nieremberg.) Rumph. amb. 5. p. 367. t. 130. Choisy, in mem. soc. phys. gen. 6. p. 434.—Ipomœ'a and Convólvulus species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 sepals. Corolla campanulate. Stamens inclosed. Style one; stigma capitate, 2-lobed. Ovarium 4-celled; cells 1-seeded. Capsule 4-celled, or only 3-celled by abortion.—Creeping or twining herbs.

1 B. edu'lis (Choisy, in mem. soc. phys. gen. 6. p. 435.) stem creeping, rarely twining; leaves variable, usually angular, also lobed; peduncles equal in length to the petioles, or exceeding them, 3-4-flowered; sepals acuminately mucronate, rarely subtruncate, outer ones a little shorter. ♃. S. Native of the East Indies, and now cultivated every where within the tropics. Convólvulus Batàtas, Michx. fl. bor. amer. 1. p. 138. Lin. amœn. acad. 6. p. 138. Roxb. in Wall. fl. ind. 2. p. 69. Ipomœ'a Batàtas, Lam. dict. 6. p. 14, exclusive of the syn. of Feuille. Convólvulus I'ndicus Orientàlis, &c. Moris. hist. 2. sect. 1. t. 3. f. 4. Convólvulus esculéntus, &c. Catesb. car. 2. p. 60. t. 60. Ipomœ'a Catesbæ'i, Meyer, prim. esseq. p. 113. Conv. esculéntus, Sal. prod. p. 123. Spreng. syst. 1. p. 607. Conv. edùlis, Thunb. jap. p. 84. Batàtas, Rumph. amb. 5. p. 367. t. 130. Kappa-Kalénga, Rheed. mal. 7. p. 95. t. 50. Root tuberous, edible. Stems prostrate. Leaves cordate. Corolla an inch long, glabrous, white outside, and purple inside. The red-rooted sort is in general cultivation all over the warmer parts of Asia, and very deservedly esteemed one of the most palatable and nutritious roots; the white-rooted sort is more generally cultivated in other parts.

The Spanish or Sweet Potatoe is a native of both Indies, and was cultivated by Gerarde, in 1597. He calls the roots potatus, potades, or potatoes, and says they are by some named skirrets of Peru. They flourished in his garden till winter, when they perished and rotted. Batatas were then sold at the exchange in London, and are still annually imported into England from Spain and Portugal. They were, in 1315, the common potatoes of our old English writers, the now common potatoe, *Solànum tuberòsum*, Lin., being then little known. The tubers of the Batatas are sweet, sapid, and nourishing. They are very commonly cultivated in all tropical climates, where they eat not only the roots, but the young leaves and tender shoots, boiled. There are several varieties, differing in the size, figure, colour, and taste of the roots, as well as the form, hairiness, and smoothness of the leaves, and colour of the flowers. In warm climates this plant is cultivated in the same manner as we do the potatoe, but requires much more room, for the trailing stalks extend 4 or 5 feet every way, sending out large tubers, 40 or 50 to a plant. In the national garden at Paris, the plants are raised on a hot-bed, and, about the middle of May, transplanted into the open ground, where they are earthed up, and otherwise treated like the potatoe. In warm seasons they produce a tolerable crop. M. Thouin considers it a much lighter food than the potatoe, and equally nourishing. In England, Miller observes, the roots must be planted on a hot bed in spring; and if the plants are kept covered in bad weather with glasses, they will produce flowers, and many small tubers, from the joints; but if they are exposed to the open air, they seldom make much progress.

Batatas, or Sweet or Spanish Potatoe. Fl.? Clt. 1797. Pl. tw.

2 B. paniculàta (Choisy, l. c. p. 436.) twining, glabrous; leaves palmate, 5-7-cleft: lobes ovate-lanceolate or elliptic, bluntish, rarely sub-acuminated; peduncles much exceeding the petioles, many-flowered, dichotomously and corymbosely panicled; sepals ovate-roundish-concave, very blunt, equal. ♃. ◠. S. Native of the East Indies, as of Silhet, banks of the Irawaddi, Tavoy, Goalpara, &c.; New Holland; Java; Africa, in Guinea; Cayenne, Maranham, and the banks of the Orinoco, in America. Conv. paniculàtus, Lin. spec. 223. Schum. pl. guin. p. 94. Roxb. fl. ind. 2. p. 63. Ipomœ'a paniculàta, R. Br. prod. p. 486. Ker. bot. reg. t. 62, but not of Burm. Ipomœ'a Mauritiàna, Jacq. coll. 4. p. 216. hort. schœnbr. 2. p. 39. t. 200. Ipomœ'a gossypifòlia, Willd. enum. 208. Conv. gossypifòlius, herb. br. mus. Conv. insígnis, Spreng. syst. 1. p. 592. Ipomœ'a eriospérma, Beauv. fl. d. ow. 2. p. 73. t. 105. Convólvulus ròseus, H. B. et Kunth, nov. gen. amer. 3. p. 108. Ipomœ'a quinquéloba, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 789. Ipomœ'a insígnis, Andr. bot. rep. t. 636. Ker, bot. reg. t. 75. Sims, bot. mag. t. 1790. Ipomœ'a spléndens, G. Don, in Sweet, hort. brit. Pal-Modécca, Rheed, mal. 11. p. 101. t. 49, exclusive of Modecca. Conv. macrorhìzus, Heyne, herb. Root thick, round, in the Guinea plant elongated. Leaves large, 3-4 inches long, and as much broad. Corolla large, purple. Capsule usually 4-celled, but sometimes 3-celled by abortion. Seeds furnished with long hairs at top, which are bent in within the capsule.

Panicled-flowered Batatas. Fl. June, Sept. Clt. 1799. Pl. twining.

3 B. heterophy'lla; plant very villous; stem twining; leaves quinately palmate: lobes or leaflets ovate-spatulate, acute; peduncles solitary, axillary, bearing each 3 sessile flowers; corolla blue. ♃. ◠. S. Native of Cuba and New Spain. Ipomœ'a heterophýlla, Ort. dec. p. 9. Jacq. fragm. p. 37. t. 42. f. 4. Cav. descr. p. 99. Ipomœ'a Ortègæ, Poir. suppl. 4. p. 633. Conv. heterophy'llus, Spreng. syst. 1. p. 592. Root tuberous, fleshy. Outer sepals larger, cuspidate, somewhat cordate. Capsule 4-celled.

Various-leaved Batatas. Fl. July, Oct. Clt. 1817. Pl. tw.

4 B.? Willdenòwii; stem twining, beset with silky pili; leaves palmately 5-7-cleft, clothed with adpressed, silky hairs. leaflets or lobes ovate, nearly equal, the 2 outer lobes always smaller; peduncles 3-flowered: corolla purple. ♃. ◠. S. Native country unknown. Ipomœ'a Willdenòwii, Rœm. et Schultes, syst. 4. p. 211. Ipomœ'a heterophy'lla, Willd. enum. 1. p. 207. Calyx enveloped in a cordate bractea. Corollas large.

Willdenow's Batatas. Fl. July, Aug. Clt. 1818. Pl. tw.

5 B. macrorhìzos; glabrous; leaves digitate, with 7 entire, ovate, lanceolate, acute leaflets; peduncles 3-flowered; corolla scarlet. ♃. ◠. S. Native of St. Domingo. Convólvulus macrorhìzos, Lin. spec. 223. Desr. in Lam. dict. 3. p. 567.—Plum. spec. 1. Burm. amer. 90. f. 1. Plum. cat. p. 1. Tourn. 84. Root tuberous, turnip-formed. Petioles and middle nerve of leaves purplish. Peduncles 5-6-flowered. Limb of corolla undulated. Root purgative.

Large-rooted Batatas. Fl. July, Oct. Clt. 1817. Pl. tw.

6 B. Senegale'nsis; glabrous; stem white, tubercular, twining; leaves quinately palmate; lobes ovate, obtuse, middle one the largest; peduncles usually 3-flowered; corolla white or purplish. ♃. ◠. S. Native of Guinea, from Senegal to the Line, &c. Ipomœ'a Senegalénsis, Lam. ill. 1. p. 464. no. 2113. Poir. dict. 6. p. 11. Calyx short; sepals ovate, with white, membranous edges. Corollas large. Root tuberous. Very like *B. paniculàta*, and probably only a variety of it.

Senegal Batatas. Fl. July, Aug. Clt. 1823. Pl. tw.

7 B. Papìrin; hairy; leaves quinately palmate, cordate; lobes lanceolate, entire; peduncles 1-flowered; corolla funnel-shaped, purplish. ♃. ◠. S. Native of Peru, upon the hills of Tarma, where it is called *Papirin*. Ipomœ'a Papìrin, Ruiz. et Pav. fl. per. 2. p. 11. t. 120. f. a. Pers. ench. 1. p. 182. Conv. Papìrin, Spreng. syst. 1. p. 592. Root large, drastic, globose or oblong. Stems numerous, filiform. Bracteas subulate. Sepals subcordate. Corollas large.

Papirin Batatas. Pl. tw.

8 B. subtríloba; downy; leaves cordate, somewhat 3-lobed; peduncles 1-flowered. ♃. ◠. S. Native of Peru, along with the preceding. Ipomœ'a subtríloba, Ruiz. et Pav. fl. per. 2. p. 11. Ipomœ'a Papìrin, β, subtríloba, Pers. syn. 1. p. 185. Corolla purple, as in *B. Papìrin*. Root tuberous, drastic.

Sub-trilobed-leaved Batatas. Pl. tw.

9 B. bignonioìdes; glabrous; leaves 3-lobed: hind lobes rounded, imbricate; peduncles many-flowered, nutant, shorter than the petioles; sepals ovate, nearly equal; corolla funnel-shaped; with a curled limb. ♃. ◠. S. Native of Cayenne. Ipomœ'a bignonioìdes, Herbert, ex Sims, bot. mag. 2645. Root tuberous. Corollas dark purple.

Bignonia-like Batatas. Fl. July, Aug. Clt. 1824. Pl. tw.

10 B.? venòsa; glabrous; leaves digitately quinate; leaflets petiolate, acuminated, quite entire; peduncles many-flowered. ♃. ◠. S. Native of the Isle of France and Bourbon. Ipomœ'a venòsa, Rœm. et Schultes, syst. 4. p. 212. Convólvulus venòsus, Vahl, symb. 3. p. 32. Willd. spec. 1. p. 865. Desr. Lam. dict. 3. p. 180. no. 78. Root tuberous. Intermediate leaflets obovate, 2 inches long, lateral ones gradually smaller and narrower. Peduncles umbellate, with an ovate-cordate, solitary leaf at the base of each pedicel. Corolla funnel-shaped.

Var. β; leaflets usually 7, narrower. ♃. ◠. S. Native of the Isle of France, Desr. in Lam. dict. l. c.

Veiny Batatas. Fl. July, Aug. Clt. 1820. Pl. tw.

11 B. pentaphy'lla (Choisy, in mem. soc. phys. gen. 6. p. 436.) hairy; leaves quinate; leaflets petiolate, elliptic-lanceolate or oblong, entire, acuminated; peduncles longer than the leaves, loose, dichotomous; corolla white, or cream-coloured. ♃. ◠. S. Native of the East Indies, Guinea, Islands of Bourbon and France; South America, as in St. Domingo, St. Thomas, Martinico, &c.; as well as of the Sandwich and Friendly Islands. Convólvulus pentaphýllus, Roy, lugdb. p. 429. Lin. amœn. acad. 8. p. 252. spec. 223. Schum. pl. guin. p. 97. Conv. aphýllus, Viviani, ann. bot. 1. p. 95. Ipomœ'a pentaphýlla, Jacq. coll. 2. p. 297. icon. rar. t. 319. Ipomœ'a pilòsa, Cav. icon. 4. p. 11. t. 323. Conv. hirsùtus, Roxb. fl. ind. 2. p. 65. Conv. munìtus, Wight. ill. ind. bot. p. 17. t. 7. Conv. tenuifòlius, Ham. herb.—Plum. amer. t. 91. f. 2. The whole plant is clothed with long, yellow hairs, which rise from black glands. The 3 outer sepals lanceolate, acute. Corolla exceeding the calyx a little, white or cream-coloured. Capsule covered by the calyx. Seeds glabrous.

Five-leaved Batatas. Fl. Aug. Sept. Clt. 1739. Pl. tw.

12 B. cissoìdes (Choisy, l. c. p. 437.) hairy; leaves quinate; leaflets ovate, acutish, toothed, somewhat mucronate; peduncles 2-3-flowered, equal in length to the leaves; sepals ovate, acuminated, hispid at the base; corolla white. ♃. ◠. S. Native of the East Indies, and tropical America. Convólvulus cissoìdes, Vahl. ecl. 2. p. 15. Lam. ill. p. 462. no. 2103. Conv. calycìnus, H. B. et Kunth, nov. gen. amer. 3. p. 109. Conv. trichósporus, Wall. cat. no. 1423. Conv. digitàtus, Ham. herb. Stem scabrous from black dots. Leaflets petiolate. Common petioles downy. Corolla veiny, a little longer than the calyx. Capsule girded by the calyx. Seeds glabrous.

Var. β; all parts of the plant larger. ♃. ◠. S. Native of

Cayenne, Cuba, Brazil, banks of the Orinoco. Convólvulus ripàrius, H. B. et Kunth, nov. gen. 3. p. 109. Conv. Orinocénsis, Willd. herb. ex. Rœm. et Schultes, syst. 4. p. 303.

Cissus-like Batatas. Pl. tw.

13 B. Cavanille'sii; glabrous; leaves quinate; leaflets ovate, entire, unequal; peduncles 1-3-flowered; corolla of a pale whitish red. ♃. ⌒. S. Native country unknown. Ipomœ'a Cavanillèsii, Rœm. et Schultes, syst. 4. p. 214. Ipomœ'a pentaphýlla, Cav. icon. 3. p. 29. t. 256. Pers. ench. 1. p. 184. Ip. Cavanillèsii, Rœm. et Schultes, syst. 4. p. 214. Convólvulus Cavanillèsii, Spreng. syst. 1. p. 590. Stems filiform. Sepals ovate, coriaceous, the 2 outer ones rough from dots. Lobes of corolla obtuse, crenulated.

Cavanilles's Batatas. Fl. Aug. Sept. Clt. 1815. Pl. tw.

14 B. terna'ta; glabrous; leaves ternate; leaflets petiolulate, ovate, repandly crenated; peduncles axillary, 1-flowered; corolla dirty white, with the rays cream coloured; calyx clammy; sepals obovate, obtuse, inflated. ♃. ⌒. S. Native of Brazil. Ipomœ'a ternàta, Jacq. hort. schœnbr. 1. p. 16. t. 37. Poir. suppl. 4. p. 632. Conv. ternàtus, Spreng. syst. 1. p. 590. Root tuberous, large. Peduncles purplish. Lobes of corolla bearded. Stamens exserted.

Ternate-leaved Batatas. Fl. July, Aug. Clt. 1824. Pl. tw.

15 B. glaucifòlia; glabrous; leaves sagittate, truncate behind, on long petioles; peduncles 2-flowered, length of leaves; sepals ovate, acute. ♃. ⌒. S. Native of Mexico, in corn fields. Ipomœ'a glaucifòlia, Lin. spec. 229. Willd. spec. 1. p. 884. Convólvulus glaucifòlius, Spreng. syst. 1. p. 604.—Dill. elth. 103. t. 87. f. 101. Corolla small, purplish or flesh-coloured; with an inflated tube, and ovate, acute segments. Capsule 3-4-celled; cells 1-seeded.

Glaucous-leaved Batatas. Fl. May, July. Clt. 1732. Pl. tw.

16 B. Loure'irii; stems procumbent; leaves cordate, palmate, on long petioles; corolla purple. ♃. ⌒. S. Native of Cochinchina. Ipomœ'a tuberòsa, Lour. coch. p. 138. Tubers oblong, edible, as in *B. edùlis*, to which they are much like in size, taste, and form.

Loureiro's Batatas. Pl. procumbent.

Cult. The species of *Batàtas* are strong, free growing plants, of easy culture, only requiring plenty of room to spread. They are well adapted for trellis-work, or to run up pillars in stoves. They are all tuberous rooted plants; and, therefore, require to be kept dry when in a dormant state. Light rich soil answers them best. Young cuttings strike root readily under a hand-glass, in heat. They are all very showy when in blossom.

X. PHARBITIS (meaning unknown to us.) Choisy in mem. soc. phys. gen. 6. p. 438.—Convólvulus and Ipomœ'a species of authors.—Convolvuloìdes, Mœnch. meth. 452.

Lin. syst. *Pentándria Monogýnia.* Calyx of 5 sepals. Corolla campanulate, or campanulately funnel-shaped. Style one; stigma capitately granulate. Ovarium 3, rarely 4-celled; cells 2-seeded.—The species of this genus are readily distinguished from other convolvulaceous plants. They are mostly climbing American herbs, usually beset with retrograde hairs.

§ 1. *Leaves cordate, entire.*

1 P. híspida (Choisy in mem. soc. phys. 6. p. 438.) leaves cordate, acuminated, entire: auricles diverging; peduncles usually exceeding the leaves, 3-5-flowered, somewhat umbellate; sepals ovate-lanceolate, acute. ⊙. ⌒. H. Native of South America, Sandwich Islands, and probably cultivated in the East Indies. Convólvulus purpùreus, Lin. spec. p. 219. Ehrh. pict. t. 7. f. 2. Curt. bot. mag. t. 113. 1005. and 1682. H. B. et Kunth, nov. gen. amer. 3. p. 104. Ipomœa purpùrea, Lam. ill. no. 2129. Ipomœ'a híspida, Zucc. cent. obs. no. 36. Ipomœ'a Zuccágni, Rœm. et Schultes, syst. 4. p. 230. Ipomœ'a glandulífera, Ruiz. et Pav. fl. per 2. p. 12. t. 121. f. a. Ipomœ'a intermèdia, Schultes, obs. no. 236. p. 37. Ip. Schultèsii, Schultes, syst. 4. p. 790. Conv. mutábilis, Sal. prod. 123. Convolvuloìdes leucospérma, and Conv. purpùrea, Mœnch. meth. p. 452. Conv. glandúlifer, Spreng. syst. 1. p. 599. Ipomœ'a díscolor, Spreng. mss. ex Schultes, obs. Conv. eriocaúlos? Willd. mss. in Rœm. et Schultes, syst. 4. p. 301.—Dill. elth. 97. t. 82. f. 94. ibid. p. 100. t. 84. t. 97. Stem beset with retrograde hairs. Pedicels usually drooping or twisted. Sepals hispìd, particularly so at the base; inner ones smoothish. Capsule glabrous, 3-celled. Seeds brown, roundish.—This species varies much in the colour of the flowers; white, purple, violet, and mixed with these colours.

Hispid Pharbitis. Fl. June, Sept. Clt. 1629. Pl. tw.

2 P. insula'ris (Choisy, l. c. p. 439.) leaves entire, cordately acuminated, clothed with greyish down; peduncles exceeding the petioles from 2 to many-flowered; sepals cuneate-lanceolate, very acute, downy. ⊙. ⌒. H. Native of Marianne Island; Sandwich Islands; Norfolk Island; New South Wales, at Endeavour river. Convólvulus multiflòrus, herb. britt. mus. Stem beset with retrograde soft hairs. Petioles villous. Bracteas narrow, villous. Corolla tubularly campanulate, 2-3 inches long, purple.

Var. β; down on the plant longer, of a rusty, silky colour.

Island Pharbitis. Pl. tw.

3 P. barbígera; stem downy; leaves cordate, acuminated, entire, hairy on both surfaces; hind lobes rounded: peduncles 1-flowered, shorter than the petioles, bibracteate near the calyx; sepals acuminated, spreadingly reflexed at apex, and densely bearded at the base. ⊙. ⌒. H. Native of North America. Ipomœ'a barbígera, Sweet. fl. gard. t. 86. Corolla campanulately funnel-shaped, 5-lobed, slightly crenulated; limb of a bright azure blue; tube pale, or nearly white. Stigma capitate, hardly lobed. Capsule smooth, 3-celled; cells 2-seeded. Seeds black, roughish, downy.

Beard-bearing Pharbitis. Fl. July, Oct. Pl. tw.

§ 2. *Leaves 3-5-lobed.*

4 P. Níl (Choisy, l. c.) hairy; leaves cordate, 3-lobed: intermediate lobe dilated at the base, and not contracted; peduncles 2-3-flowered, commonly exceeding the petioles; sepals ovate-lanceolate, hispid at the base. ⊙. ⌒. H. Native everywhere within the tropics, both in America, Africa, and Asia. Convólvulus Níl, Lin. spec. 219. Ipomœ'a Níl, Roth. cat. bot. 1. p. 36. Ipomœ'a cærùlea, Kœn. mss. Roxb. fl. ind. 2. p. 91. Ker. bot. reg. 276. Convólvulus hederàceus, Lin. spec. p. 219. Ipomœ'a hepaticifòlia, Hayne, herb. Conv. hederàceus, pilòsus, and purpùreus, Herb. madr. Conv. Caladòna, and Conv. Sucbèdea, Ham. herb. Conv. hepaticifòlius, Russ. herb.—There are several varieties of this species, particularly the following. Flowers blue. Gerarde says this plant is called by the Arabians Nil; of Serapio Hab al Nil; and in Syria, the inhabitants call it Hasmisen; and the Italians *Campana azurea.* Plant hairy.

Var. β. *Ipomœ'a cærule'scens* (Roxb. fl. ind. edit. Wall. 2. p. 90.) This differs from the species, in the leaves being never lobed, and in the plant being perennial. Flowers of a beautiful lively pale blue.

Var. γ. *Conv. Cæléstis* (Forst. prod. no. 77.) The leaves of this variety are described as entire, downy. ⊙. ⌒. H. Native of the Island of Tarma, in the Pacific.

Nil Pharbitis. Fl. July, Sept. Clt. 1597. Pl. tw.

5 P. HEDERA'CEA (Choisy, l. c. p. 440.) leaves cordate, 3-5-lobed; middle lobe ovate, acuminated, and coarctate at the base; peduncles very short, usually 1-flowered, shorter than the petioles; sepals lanceolate-linear, dilated at the base, and hispid from yellow bristles. ⊙. ◠. H. Native of North America, and New Holland; and of the province of Caraccas, near La Victoria; also of Mexico, near Jalapa. Ip. hederàcea, Lin. syst. 15. p. 207. Jacq. coll. 1. p. 124. icon. rar. t. 36. R. Br. prod. p. 485. Ker. bot. reg. t. 85.—Dill. elth. t. 80. f. 91.? Plant pilose. Corolla deep blue. Stem beset with retrograde hairs. Leaves clothed with strigose down.

Ivy-like Pharbitis. Fl. Aug. Oct. Clt. 1729. Pl. tw.

6 P. VA'RIA; leaves cordate, entire, and 3-5-lobed; peduncles erect, 1-flowered; sepals spreading at apex, bearded on the back, the 3 outer ones cordate-lanceolate; root fusiform. ↄ.? ◠. S. Native country unknown. Ipomœ'a vària, Roth. cat. 2. p. 17. Convolvuloìdes pilòsus, Mœnch meth. 452. Convólvulus pubéscens, Willd. enum. 1. p. 203. Poir. suppl. 3. p. 463. Ipomœ'a tuberòsa, Hortul. Stem beset with retrograde white pili. Corolla bluish-violet, like those of *P. barbàta*.

Various-leaved Pharbitis. Fl. May, Oct. Clt. 1816. Pl. tw.

7 P. PU'RSHII; hairy; leaves cordate, 3-lobed, acuminated: lateral lobes small: middle lobe large, dilated at the base; peduncles short, 1-2-flowered; bracteas subulate; calyxes very villous, long, acuminated. ⊙. ◠. H. Native of Virginia and Carolina, near gardens, and in hedges on river sides. Conv. Níl, Michx. fl. amer. bor. 1. p. 139. Sims, bot. mag. t. 188, but not of Lin. Ipomœ'a Níl, Pursh, fl. amer. sept. 1. p. 146.—Dill. elth. t. 80. f. 91. Flowers beautiful pale blue, only open early in the morning, from which it has been called Morning-glory.

Pursh's Pharbitis. Fl. July, Sept. Clt. 1597. Pl. tw.

8 P. SCA'BRIDA; leaves cordate, somewhat 5-lobed, and are as well as the stem, scabrous from hairs: peduncles usually 1-flowered; sepals beset with strigose hairs. ⊙. ◠. H. Native country unknown. Ipomœ'a scábrida, Rœm. et Schultes, syst. 4. p. 223. Ipomœ'a scàbra, Schultes, obs. bot. p. 238. Said to be intermediate between *Ipomœ'a hederàcea* and *Ipomœ'a tríloba*. Corolla white.

Scabrous Pharbitis. Pl. tw.

9 P. FORSKŒ'LI; leaves 5-lobed, scabrous on both surfaces, as well as the calyxes; peduncles solitary, 1-flowered. ⊙. ◠. H. Native of Arabia, at Hadie. Ipomœ'a scàbra, Forsk. ægypt. p. 44. Flowers blue. Bracteas linear. Stigma capitate. Said to be nearly allied to *P. hederàcea*.

Forskoel's Pharbitis. Pl. tw.

10 P. CUSPIDA'TA; leaves cordate, 3-lobed; lobes cuspidate; peduncles 1-flowered; sepals linear, very hairy at the base. ⊙. ◠. H. Native of Peru, in stony places. Ipomœ'a cuspidàta, Ruiz. et Pav. fl. per. 2. p. 13. t. 119. f. a. Poir. dict. 6. p. 20. Conv. Peruviànus, Spreng. syst. 1. p. 593. Leaves on long petioles. Lateral lobes of leaves short. Peduncles shorter than the petioles. Bracteas subulate. Corolla funnel-shaped, purplish; limb spreading, nearly entire. Stamens exserted. Stigma 3-lobed.

Cuspidate-leaved Pharbitis. Fl. June, July. Clt. 1732. Pl. tw.

11 P. BARBA'TA; leaves cordate, 3-lobed; peduncles 1-flowered, twisted; calyx bearded; sepals and bracteas revolutely spreading at the apex. ⊙. ◠. H. Native of Virginia and Carolina, from whence the seeds were sent to Dillenius. Ipomœ'a barbàta, Roth. cat. 1. p. 27. Pers. ench. 1. p. 184. Ipomœ'a hederàcea, Ker. bot. reg. t. 85, but not of Lin.—Dill. elth. t. 80. f. 92. Calyx beset with elevated warts. Capsule 3-celled, cells 2-seeded.

Bearded-calyxed Pharbitis. Fl. Aug. Oct. Clt. 1729. Pl. tw.

12 P. DILLE'NII; hairy; leaves cordate, entire, and 3-lobed; flowers solitary, almost sessile; calyxes oblong, pilose. ⊙. ◠. H. Native of Æthiopia. Ipomœ'a Dillènii, Rœm. et Schultes, syst. 4. p. 227. Conv. Dillènii, Desr. in Lam. dict. 3. p. 544.—Dill. elth. 97. t. 81. f. 93. Stem beset with long hairs, as well as the petioles. Leaves rather villous. Corolla beautiful blue, with a white bottom, and a spreading, nearly entire limb.

Dillenius's Pharbitis. Fl. June, July. Clt.? Pl. tw.

13 P. SCA'BRA; leaves cordate, 3-lobed; peduncles 3-flowered, longer than the petioles; calyx tubercled; fruit nutant. ⊙. ◠. H. Native country unknown. Ipomœ'a scàbra, Gmel. syst. Cav. descr. p. 101. Stem filiform. Flowers white. Capsule small, 3-celled.

Scabrous Pharbitis. Fl. June, Nov. Clt. 1823. Pl. tw.

14 P. VILLÒSA; very villous; leaves cordate, 3-lobed; lobes acuminated: lateral ones excavated outside: intermediate one elongated, attenuated at the base; peduncles 3-flowered, involucrated. ⊙. ◠. H. Native of Peru, in groves, and on the edges of fields. Ipomœ'a villòsa, Ruiz. et Pav. fl. per. 2. p. 12. t. 121. f. 1. Poir. dict. 6. p. 20. Conv. Ruìzii, Spreng. syst. 1. p. 594. Corolla funnel-shaped, purplish, glabrous, with an entire, large, revolute limb. Stamens villous at the base. Stigma capitate, granular, 3-lobed.

Villous Pharbitis. Pl. twining.

15 P. PUNCTA'TA; pilose; leaves cordate, entire, or 3-lobed; peduncles usually 3-flowered; calyx beset with long hairs and black tubercles; sepals acute, unequal. ⊙. ◠. H. Native of India, Asia, Africa, and America. Ipomœ'a punctàta, Pers. ench. 1. p. 184. Conv. hederàceus, Lin. spec. 219. Willd. spec. 1. p. 851.—Dill. eth. 99. t. 83. f. 96. Stems dark red. Corolla of a purplish-violet colour, middle sized; limb spreading, nearly entire.

Dotted-calyxed Pharbitis. Fl. July, Nov. Clt.? Pl. tw.

Cult. Pharbìtis is a genus of very showy, tender, annual, twining plants. They should be reared in a hot-bed; and when the plants are of sufficient size, they should be planted into other pots, and afterwards shifted from size to size of pots as they grow; and some of them may be tried in the open ground, in a warm sheltered situation. A light, rich soil, or a mixture of loam and decayed leaves suits them best.

XI. CALONY'CTION (from καλος, *kalos*, beautiful; and νυξ, *nyx*, night; the flowers are large and showy, and expand at night.) Choisy in mem. soc. phys. gen. 6. p. 441. Convólvulus and Ipomœ'a species of authors.—Bòna nóx, Rafin.

LIN. SYST. *Pentándria, Monogýnia*. Sepals 5. Corolla very showy, funnel-shaped. Stamens exserted. Style one; stigma capitate, 2-lobed. Ovarium 2-celled, or somewhat 4-celled, from the rudiment of a dissepiment, 4-ovulate. Pedicels fleshy. —Twining showy herbs, bearing flowers resembling those of *Datùra*. Peduncles axillary, usually 1-flowered.

1 C. SPECIÒSUM (Choisy, l. c.); sepals unequal, awned. ♂. ◠. S. Native of most parts of America within the tropic. Ipomœ'a bòna-nóx. Lin. spec. p. 228. Sims, bot. mag. t. 752. Pursh. fl. amer. 1. p. 145. Cav. icon. 3. p. 52. t. 300. Jacq. schœnbr. 1. p. 16. t. 36. Argyrèia bòna nóx. Sweet. hort. brit. p. 289. Conv. bòna-nóx. Spreng. syst. 1. p. 600.—Sloane jam. p. 55. hist. 1. p. 151. t. 96. f. 1.—Plukn. alm. 115. t. 276. f. 3. Leaves cordate, entire, acuminated, or hastately 3-5-lobed; peduncles racemose, 3-5-flowered. Corolla with a long cylindrical yellowish tube, and a white spreading limb; lobes rounded, mucronate.

Showy Calonyction. Fl. July, Oct. Clt. 1773. Pl. tw.

2 C. ROXBU'RGHII; sepals unequal, awned; leaves cordate, entire, rarely lobed, glabrous. ♂. ◠. S. Native of the East Indies. Ipomœ'a grandiflòra, Roxb. fl. ind. 2. p. 87. but not of Lin. Ipomœ'a longiflòra, Wild. enum. 1. p. 207. Mundaválli, Rheed. mal. 11. p. 103. t. 50. Asiat. res. 4. p. 257.

Conv. muricàtus, Ham. herb. Stem hardly prickly. Peduncles clavate, 2-4-flowered. Flowers very large, pure white, the border being from 4-6 inches in diameter, delightfully but faintly fragrant, opening at sun-set and drooping at day-light; tube very long, cylindrical.

Roxburgh's Calonyction. Fl. July, Oct. Clt. 1799.

3 C. MURICA'TUM; sepals equal, long, acuminated; leaves cordate, acuminated, entire. ☉. ⌒. S. Native of Persia and the East Indies. Ipomœ'a muricàta, Jacq. schœnbr. 3. p. 40. t. 323. Roxb. fl. ind. 2. p. 89. Convólvulus muricàtus, Lin. mant. p. 44. Willd. enum. 1. p. 204. Ipomœ'a turbinàta, Lagasc. gen. et spec. nov. diagn. p. 10. no. 139. C. speciòsum, var. β. muricàtum, Choisy, l. c.) I. bòna-nóx. β. purpuráscens, Ker. bot. rep. 290. Stem and peduncles muricated from prickles. Flowers large, pale bluish-purple; lobes mucronate, tube widening a little towards the mouth, hairy inside, ex Roxb. Peduncles 2-6-flowered.

Muricated Calonyction. Fl. July, Oct. Clt. 1777. Pl. tw.

4 C. PSEUDOMURICA'TUM (Bernh. hort. elfort, ex Link. enum. 1. p. 200. under *Ipomœ'a*) stem muricated; leaves cordate, acuminated, glabrous, 7-nerved; peduncles shorter than the petioles; sepals acuminated. ♄. ⌒. S. Native country unknown. Corolla purple. Very like *C. muricàtum*, but smaller, and the leaves are 7-nerved instead of 9-nerved.

False-muricated Calonyction. Fl. July, Oct. Clt. 1820. Shrub tw.

5 C. A'SPERUM (Choisy, l. c. p. 442.) sepals unequal, short-acuminated. ♂. ⌒. S. Native of Silhet. Convólvulus ásper, Wall. cat. no. 1388. Stem beset with retroflexed, spiny tubercles, particularly on the older branches. Leaves cordate, acuminated; hind lobes sometimes roundish-obtuse, and sometimes angularly toothed. Peduncles 1-flowered. Sepals adpressed to the base of the calyx. Corolla tubularly funnel-shaped, 3-6 inches long. Capsule glabrous, size of a cherry. Seeds angular, downy, especially on the angles.

Rough-stemmed Calonyction. Pl. tw.

6 C. TRICHOSPE'RMUM (Choisy, l. c.) sepals unequal, obtuse. ♃. ? ⌒. S. Native of Java. Ipomœ'a trichospérma, Blum. bijdr. p. 710. Stem quite glabrous. Leaves hastately 3-5-lobed; middle lobe elliptic-oblong, attenuated at both ends, very acute at apex; lateral ones acute at apex, and cuneated at the base, as also bifid, quite glabrous. Peduncles 1-flowered. Sepals ovate; inner ones rarely mucronate at apex. Corolla tubular, much longer than the calyx, white. ?

Hairy-seeded Calonyction. Pl. tw.

7 C. GRANDIFLÒRUM (Choisy, l. c.) sepals equal, acute. ♃. ⌒. S. Native of the West Indies. Convólvulus grandiflòrus, Lin. suppl. p. 136. Desr. in Lam. dict. 3. p. 543. And. bot. rep. t. 403. Convólvulus latiflòrus, Desr. in Lam. dict. 3. p. 561. Ipomœ'a latiflòra, Rœm. et Schultes, syst. 4. p. 240. —Plum. cat. 1. mss. vol. 2. p. 52.—Tourn. p. 83. Leaves large, glabrous, cordate, acuminated. Corolla snow-white, with a long, cylindrical, greenish tube; limb 5 inches in diameter, expanding at night, and fading at day-light. According to Rœm. et Schultes, l. c. the 2 outer sepals are longer, and acute, and the 3 inner obtuse.

Great-flowered Calonyction. Fl. Aug. Oct. Clt.? Pl. tw.

8 C. PTE'RIPES; glabrous; peduncles winged, 2-flowered; pedicels clavate, divaricate; sepals large, elliptic-oblong, obtuse. ♂. ? ⌒. S. Native of Huayaquil. Leaves cordate, acuminated: auricles rounded. Peduncles longer than the leaves. Corolla downy, (v. s. in herb. Ruiz. et Pav.)

Winged-peduncled Calonyction. Pl. tw.

9 C. CLAVA'TUM; sepals wide, mucronate, nearly equal, membranous; stem and petioles pilose; leaves glabrous. ♂. ? ⌒. S. Native of Huayaquil. Convólvulus clavàtus, Ruiz. et Pav. mss. in herb. Lamb. Leaves cordate, glaucous beneath, acuminated: auricles rounded. Corolla blue, like those of a species of *Datùra*, with narrow segments.

Clavate Calonyction. Pl. tw.

10 C. JACQUI'NII; sepals unequal, obtuse; leaves cordate, acute. ♄. ⌒. S. Native of Martinico, on the banks of rivers. Convólvulus grandiflòrus, Jacq. vind. 3. p. 39. t. 69. Plant glabrous. Leaves large, cordate. Peduncles axillary, 1-flowered. Corolla pure white; tube widening to the top. Seeds brown, rather woolly.

Jacquin's Calonyction. Shrub tw.

Cult. The species of *Calonyction* are among the largest flowering convolvulaceous plants. A light rich soil is the best for them, or a mixture of loam, peat, and sand. They should be reared on a hot-bed, and when of sufficient size they should be planted in separate pots, and shifted from size to size as they grow. They succeed best when trained up trellis-work, or rafters in stoves.

XII. EXOGO'NIUM (from εξω, *exo*, outwardly; and γωνια, *gonia*, an angle; in reference to the exserted stamens.) Choisy in mem. soc. phys. gen. 6. p. 443. but not of Mocino and Sesse.—Convólvulus and Ipomœ'a species of authors.

LIN. SYST. *Pentándria*, *Monogýnia*. Calyx of 5 sepals. Corolla middle-sized, tubular. Stamens exserted. Style one; stigma capitate, 2-lobed. Ovarium 2-celled; cells 2-ovulate. —Climbing plants, natives of America.

1 E. BRACTEA'TUM (Choisy, l. c.) glabrous; leaves cordate; racemes elongated, many-flowered; flowers bracteate; bracteas large, cordately reniform, coloured. ♄. ⌒. S. Native of New Spain, near La Venta de Acaguisotla, at the altitude of 504 hexapods. Ipomœ'a bracteàta, Cav. icon. 5. p. 51. t. 477. Ipomœ'a spicàta, H. B. et Kunth, nov. gen. 3. p. 112. Conv. obovallàtus, Spreng. syst. 1. p. 595. Ipomœ'a cíncta, Willd. Branches angular, white, glabrous. Flowers pedicellate, distinct, reflexed. Corollas tubularly funnel-shaped, glabrous, yellowish outside and purplish-red inside; the limb in the plant described by Cav. is entire and reflexed, but in the plant described by Kunth, the limb is plicately 5-cleft, and the segments mucronate. Seeds oblong, black, downy.

Bracteate-flowered Exogonium. Shrub. tw.

2 E. FILIFÓRME (Choisy, l. c.) leaves oblong-cordate, obtuse, mucronate; peduncles racemose, filiform. ♄. ⌒. S. Native of Martinico and the Antilles, in woods. Ipomœ'a filifórmis, Jacq. amer. p. 27. t. 19. pict. p. 20. t. 26. Willd. spec. 1. p. 883. Convólvulus filifórmis, Desr. in Lam. dict. 3. p. 555. Plant quite glabrous. Racemes loose-flowered. Flowers purple, copious. Calyx small, acute. Corolla with a very long tube, and obtuse segments. Filaments 5, exceeding the corolla, alternating with 5 sterile ones, which are much shorter.

Filiform Exogonium. Fl. Sept. Oct. Clt. 1823. Sh. tw.

3 E. REPA'NDUM (Choisy, l. c.) leaves cordate, oblong, repand, acuminated; peduncles branched, cymose. ♄. ⌒. S. Native of South America and Martinico. Ipomœ'a repánda, Jacq. amer. 28. t. 20. pict. t. 27. Sal. par. t. 81. Convólvulus repándus, Desr. in Lam. dict. 3. p. 555. Plant quite glabrous. Stem terete. Lower leaves sometimes 3-lobed, all glaucous beneath. Peduncles length of leaves; partial ones often trichotomous. Flowers scarlet, 2 inches long. Calyx the same colour as the corolla, small, obtuse. Limb of corolla reflexed; segment narrow, obtuse.

Repand-leaved Exogonium. Fl. Feb. Nov. Clt. 1793. Shrub. tw.

Cult. All the species of this genus are elegant and singular. Light rich soil, or a mixture of loam and peat, or decayed leaves and loam suits them best. They are well adapted for

training up trellis-work, or pillars in stoves. Young cuttings strike root readily under a hand-glass, in heat.

XIII. LEPISTE'MON (from λεπις, *lepis*, a scale; and στημων, *stemon*, a stamen; in reference to the stamens being furnished with 5 scales; that is, one to each, which are arched over the ovarium.) Blum. bijdr. p. 722. Choisy, in mem. soc. phys. gen. 6. p. 443.—Convólvulus species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 equal sepals. Corolla tubular, inflated at the base. Stamens 5, furnished each with a scale at the base, which is arched over the ovarium. Style one. Stigma capitate, 2-lobed. Ovarium 2-celled; cells 1-seeded. Fruit capsular.—Climbing perennial herbaceous plants.

1 L. Wallíchii (Choisy, l. c.) stem hairy; leaves cordate, acuminated: upper ones somewhat 3-lobed; peduncles very short, umbellately many-flowered; sepals oblong-lanceolate, acute. ↄ. ⌒. S. Native of Silhet. Convólvulus ampullàceus, Vahl. mss. in herb. Juss. Conv. híspidus? Vahl. symb. 3. p. 29. Conv. binectaríferus, Wall. in. Roxb. fl. ind. 2. p. 47. Conv. cephalánthus, Wall. cat. no. 1402. Leaves beset with adpressed hairs, pale beneath, 3-5 inches long, and nearly as much broad. Stem and petioles beset with spreading hairs. Sepals hairy outside. Corolla glabrous. Flowers rather small, pure white, 18 lines long, and the scales of the stamens acute and villous.

Wallich's Lepistemon. Pl. tw.

2 L. flave'scens (Blum. bijdr. p. 722.) plant pilose; leaves cordate-ovate, quite entire, or 3-lobed; cymes pedunculate, axillary, dense-flowered, shorter than the petioles. ↄ. ⌒. S. Native of Java, among bushes on the mountains. Perhaps the same as the preceding species.

Yellowish Lepistemon. Pl. tw.

Cult. For culture and propagation see *Exogònium* above.

XIV. IPOMŒ'A (from ιψ ιπος, *ips ipos*, bind-weed; and ομοιος, *omoios*, similar; the genus is nearly allied to *Convólvulus*, or bind-weed.) Choisy in mem. soc. phys. gen. 6. p. 444.—Convólvulus and Ipomœ'a species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 sepals. Corolla campanulate. Stamens inclosed. Style one; stigma 2-lobed: lobes capitate. Ovarium 2-celled; cells 2-seeded. Capsule 2-celled; cells 2-seeded.—Twining or creeping plants, usually natives within the tropics in both hemispheres.

Sect. I. Erpipomœ'a (from ερπω, *erpo*, to creep, and *Ipomœ'a*; the plants contained in this section creep along the ground.) Choisy, l. c. Stems creeping.

1 I. re'ptans (Poir. dict. suppl. 3. p. 460.) stems smooth, striately furrowed, rooting below; leaves sagittately-lanceolate: auricles acutish, sometimes entire and sometimes toothed; petioles glabrous; peduncles 1-5-flowered; sepals ovate, acutish, or obtuse. ↄ. S. Native of China; East Indies; Arabia, and Senegal. Convólvulus réptans, Lin. syst. veg. 171. spec. 225. Osb. itin. p. 196. Ipomœ'a réptans, β. aquática, Poir. dict. 6. p. 18. Ipomœ'a rèpens, Roth. nov. spec. p. 110. Convólvulus rèpens, Vahl. symb. 1. p. 17. Willd. spec. 1. p. 874. but not of Lin. Wall. fl. ind. 2. p. 68.—Rumph. amb. 5. p. 419. t. 155. f. 1.—Rheed. mal. 11. p. 107. t. 53. Ipomœ'a sepiària, Russ. herb. Conv. rèpens, Ham. herb. Conv. palústris, Ham. herb. Ipomœ'a aquática, Forsk. descr. p. 44. There are varieties having from 1 to many-flowered peduncles; the sepals acute or obtuse; it is, therefore, not separated from Ipomœ'a aquática, Forsk. (Conv. Adansònii, Desr.) but not of Blume.

Creeping Ipomœa. Fl. May, June. Clt. 1806. Pl. creeping.

2 I. acetosæfòlia (Vahl. eclog. 1. p. 18.) glabrous; stems angular, creeping; leaves oblong-lanceolate and hastate; peduncles elongated, 1-flowered; sepals oblong, glabrous; bracteas alternate, subulate. ↄ. S. Native of tropical America, by the sea-side. Willd. spec. 1. p. 874. Conv. rèpens, Swartz. obs. p. 64. but not of Roth.—Plum. amer. 91. t. 105. Leaves 2 inches long, and a nail broad, obtuse, sometimes emarginate. Flowers white.

Sorrel-leaved Ipomœa. Pl. creeping.

3 I. pe's-ca'præ (Sweet, hort. brit. 289.) leaves roundish, emarginate, or 2-lobed, veiny, thickish; peduncles 1, or many-flowered; sepals ovate-lanceolate, obtuse. ↄ. S. Native of India; China; New Holland; Arabia; Island of Bourbon; Sandwich Islands; and South America, in the sand, by the sea-side. Convólvulus pés-càpræ, Lin. spec. 226. Wall. fl. ind. 2. p. 74. Conv. Brasiliénsis, Lin. spec. 226. Willd. spec. 1. p. 877. Conv. marítimus, Desr. in Lam. dict. 3. p. 550. Conv. bilobàtus, Wall. fl. ind. 2. p. 73. Conv. bauhiniæfòlius, Sal. prod. 125. Ipomœ'a marítima, R. Br. prod. 486. Ker, bot. reg. 319. Ipomœ'a orbiculàris, Ell. sketch. 257. Ipomœ'a Brasiliénsis, Meyer. ess. 97. Ipomœ'a bíloba, Forsk, ægypt. p. 44. Vittm. summ. 1. p. 440.—Rheed. mal. 11. p. 117. t. 57.—Herm. lugdb. 174. t. 175.—Rumph. amb. 5. p. 433. t. 159. f. 1. Leaves biglandular at the base, more or less 2-lobed. Peduncles 1-6-flowered. Flowers large, reddish-purple. Seeds downy.

Goatsfoot-leaved Ipomœa. Fl. June, July. Clt. 1770. Pl. creeping.

4 I. rotundifòlia; glabrous; leaves roundish, retuse, mucronate; petioles shorter than the leaves; peduncles twice longer than the petioles, bifid, many-flowered. ↄ. S. Native of Guinea, in the sea-sand. Conv. rotundifòlius, Schum. pl. guin. p. 102. Root woody, creeping. Stems trailing, rooting, purplish. Petioles purplish, biglandular at top. Sepals ovate, obtuse, mucronate: outer ones rather wrinkled: inner ones twice the size, and somewhat diaphanous. Corolla campanulately funnel-shaped, purple; limb flat, obsoletely 5-lobed. Filaments downy at the base. Seeds hairy. Allied to *I. pés-càpræ.*

Round-leaved Ipomœa. Pl. creeping.

5 I. littora'lis (Blum. bijdr. p. 713.) stems creeping; leaves roundish-cordate, emarginate, with a mucrone, a little angled, ciliated on the edges; peduncles 1-flowered; sepals cuspidate: outer ones shorter, erectly spreading. ↄ. S. Native of Java and Nusakambanga, in the sand by the sea-shore. Corollas lilac, with a purplish bottom.

Sea-shore Ipomœa. Pl. creeping.

6 I. ripa'ria; downy; stems prostrate, radicant; leaves cordate, acute, on long petioles; umbels pedunculate, 4-5-flowered; calyx pilose. ↄ. S. Native of Guinea, on the banks of rivers. Corollas red.

River-side Ipomœa. Pl. creeping.

7 I. crassifòlia (Cav. descrip. p. 100. Pers. ench. 1. p. 184.) stem decumbent, branched; leaves reniform, emarginate, somewhat plicate; peduncles axillary, usually 3-flowered, shorter than the petioles; 2 outer sepals fleshy, and shorter than the 3 inner. ↄ. S. Native of Guayaquil. Nearly allied to *I. pés-càpræ.* Nerves of leaves white. Petioles biglandular at the base. Corollas white.

Thick-leaved Ipomœa. Pl. creeping.

8 I. carnòsa (R. Br. prod. p. 485.) plant prostrate, glabrous;

leaves cordate, emarginate, fleshy, glandless, hardly an inch long; peduncles 1-2-flowered; sepals equal. ↄ. S. Native of New Holland, within the tropic. Convólvulus carnòsus, Spreng. syst. 1. p. 609. Flowers red. ?

Fleshy-leaved Ipomœa. Pl. prostrate.

9 I. incìsa (R. Br. prod. p. 486.) plant prostrate, rather villous; leaves subcordate, dentately cut: upper ones hastate; peduncles 1-flowered, glabrous, longer than the leaves; sepals equal, lanceolate, acuminated. ↄ. S. Native of New Holland, within the tropic, by the sea-side. Conv. incìsus, Spreng. syst. 1. p. 609.

Cut-leaved Ipomœa. Pl. prostrate.

10 I. cinera'scens (R. Br. prod. p. 486.) plant creeping, tomentose; leaves nearly cordate, ovate-oblong, cut, rather silky; peduncles 1-2-flowered, villous, longer than the leaves; sepals glabrous, equal, oblong-lanceolate, acute. ↄ. S. Native of New Holland, within the tropic. Conv. cineráscens, Spreng. syst. 1. p. 609.

Greyish Ipomœa. Pl. creeping.

11 I. rugòsa (Choisy in mem. soc. phys. gen. 6. p. 446.) stems creeping; leaves cordately reniform, glabrous, obtuse, mucronulate; peduncles usually not equalling the leaves in length; sepals ovate: outer ones shortest, and rugosely plicate. ↄ. S. Native of Mysore and Malabar. Convólvulus rugòsus, Rottl. in Willd. am. act. berol. 4. p. 196. Rœm. et Schultes, 4. p. 273. 303. and 790. Convol. flagellifórmis, Wall. fl. ind. 2. p. 68. Conv. Beladámbu, Spreng. syst. 1. p. 608. Ipomœ'a rèpens, Lam. ill. no. 2134. Poir. dict. 6. p. 18. Ipomœ'a Beladámboe, Rœm. et Schultes, syst. 4. p. 233. Conv. muricàtus, Russ. herb. Beladámboe, Rheed mal. 11. p. 119. t. 58. Stems compressedly angular. Peduncles 3-8-flowered. Seeds black, glabrous. Flowers large, pure white.

Wrinkled Ipomœa. Pl. creeping.

12 I. renifórmis (Choisy, l. c.) creeping, glabrous; leaves reniform, with sinuately-toothed edges, emarginate; pedicels very short, 1-flowered, rarely 2-3-flowered; sepals small, ovate-roundish, ciliately jagged. ↄ. S. Native of the East Indies; as of Bengal, Nopalry, Coromandel, and Island of Timor. Convólvulus renifórmis, Wall. fl. ind. 2. p. 67. Conv. Gangéticus, Lin. amœn. acad. 4. p. 306. no. 121. Evólvulus emarginàtus, Burm. fl. ind. 77. t. 30. f. 1. Evólvulus Gangéticus, Lin. spec. p. 391. Stem angular at top. Leaves 3-6 lines long. Corolla small, 5-cleft, yellow; lobes acute. Seeds glabrous, reddish.—In some soils this species is found of a dark purple or rusty colour.

Kidney-shaped leaved Ipomœa. Fl. Oct. Clt. 1823. Pl. creeping.

13 I. rumicifòlia (Choisy, l. c. p. 447.) stems diffuse, hairy; leaves cordately reniform, obtuse at top, also emarginate, glabrous, with entire edges; peduncles axillary, solitary, twin or tern, 1-2-flowered; sepals linear-lanceolate, hairy. ⊙. S. Native of Travancore. Convólvulus hírtus, Wall. cat. no. 2254. and probably of Lin. Stem diffusely creeping, beset with retrograde hairs, which rise from black glands. Leaves an inch long. Corolla tubular, exceeding the calyx, glabrous.

Dock-leaved Ipomœa. Pl. creeping.

14 I. incu'rva; creeping; stems erect, sarmentose; leaves broad, linear, emarginate, mucronate, subhastate: lobes linear, acute, curved in front; peduncles 1-flowered; sepals nearly equal, lanceolate. ↄ. S. Native of Guinea. Conv. incúrvus, Schum. pl. guin. p. 99. Stem nearly a span high, with filiform creepers. Corolla white, larger than those of *C. arvénsis*; with a dark purple bottom, and a usually mucronate 5-cleft limb; lobes roundish. Capsule ovate-roundish, 4-valved, usually 1-seeded. Said to be related to *I. emarginàta*, and *I. acetocæfòlia*.

Incurved-leaved Ipomœ'a. Pl. creeping.

Sect. II. Orthipomœ'a (from *ορθος*, *orthos*, straight; and *Ipomœ'a*; in reference to the species contained in this section being erect or diffuse, but never twining.)

* *Plants herbaceous.*

15 I. tridenta'ta (Roth. cat. 2. p. 19. Rœm. arch. 3. p. 38.) stems diffuse, filiform; leaves sessile, oblong-linear, truncate at apex, and often tridentate, but auriculately toothed at the base; peduncles 1-flowered, exceeding the leaves; sepals ovate, awned. ⊙. S. Native of the East Indies; at Pagamew, Irrawaddi, Ceylon, &c. Convólvulus tridentàtus, Lin. spec. ed. 1. p. 157. Wall. fl. ind. 2. p. 56. Conv. víscidus, Roxb. hort. beng. p. 14. Evólvulus tridentàtus, Lin. spec. ed. 2. p. 392. Burm. ind. 77. t. 16. f. 3. Conv. I'ndicus, &c. Plukn. alm. 117. t. 276. f. 5. Conv. mìnor, &c. Plukn. mant. 117. t. 167. f. 5. Sendera-Claudi, Rheed. mal. 11. p. 133. t. 65. Stem herbaceous, angular. Leaves hardly 3-4 lines broad, and an inch long, quite glabrous. Peduncles downy. Calyx whitish-yellow. Corollas small, yellow.

Tridentate-leaved Ipomœa. Fl. June, July. Clt. 1778. Pl. diffuse.

16 I. filicau'lis (Blum. bijdr. p. 721.) stems diffuse, filiform; leaves linear, or linear-lanceolate, obtuse, mucronate, on short petioles, somewhat hastately denticulated at the base; peduncles 1-2-flowered, length of the leaves; sepals equal, ovate, or oblong, acuminated, acute. ⊙. S. Native of the East Indies; as of Travancore, Ceylon, Penang, Rangoon, banks of the Irawaddi, &c.; also of China, Japan, New Holland, Java, Timor; Africa, at the Cape of Good Hope, and in Guinea; and of America, in various parts. Convólvulus filicaúlis, Vahl. symb. 3. p. 24. Schum. pl. guin. p. 92. Conv. hastàtus, Desr. in Lam. dict 3. p. 542. Conv. símplex, Pers. ench. 1. p. 178. Conv. mèdium, Lour. coch. p. 106. edit. Willd. 1. p. 130. Ait. hort. kew. 1. p. 328. Wall. fl. ind. 2. p. 56. but not of Lin. Conv. filifórmis, Thunb. fl. cap. 2. p. 16. Conv. denticulàtus, Desr. in Lam. dict. 3. p. 540. Spreng. syst. 1. p. 603. Conv. angustifòlius, Desr. in Lam. dict. 3. p. 547. Vahl. symb. 3. p. 25. Conv. Japónicus, Thunb. jap. p. 85. ? Vahl. symb. 3. p. 25. Ipomœ'a denticulàta, R. Br. prod. 1. p. 485. Ker. bot. reg. 317. I. angustifòlia, Jacq. coll. 2. p. 367. icon. rar. t. 317. I. Japónica, Rœm. et Schultes, syst. 4. p. 245.? Pers. ench. 1. p. 184. Tàla-Neli, Rheed. mal. 11. p. 113. t. 55. Conv. linifòlius, Wall. cat. no. 1389. Stem branched, angular. Leaves sometimes 2-3 lines broad, sometimes very narrow; hind lobes generally toothed. Pedicels clavate. Corolla pale yellow, or yellow. Seeds glabrous.

Var. β, (Schum. pl. guin. p. 92.) leaves narrow-linear; teeth of auricles subsetaceous. ⊙. S. Native of Guinea.

Thread-stemmed Ipomœa. Fl. July, Aug. Clt. 1778. Pl. 1 foot, diffuse.

17 I. Clappertòni (R. Br. in Denh. append. p. 35.) glabrous, creeping; leaves sagittate, having the hind lobes entire, and acute; peduncles 1-flowered. ↄ. F. Native of Bornou.

Clapperton's Ipomœa. Pl. creeping.

18 I. bidenta'ta; glabrous, erectish; leaves linear- hastate, sessile, having the hind lobes bidentate; peduncles 1-flowered; stem furrowed. ↄ. S. Native of Guinea, in fields; common among grass. Stem furrowed. Flowers small, yellow. Nearly allied to I. filicaúlis, and probably only a variety of it.

Bidentate-leaved Ipomœa. Pl. ½ foot, nearly erect.

19 I. Ature'nsis; branched, glabrous, twiggy; leaves scale-formed; peduncles 2-flowered, spicate; sepals lanceolate, ob-

long, acuminated: the 2 outer ones rather the smallest. ♃. S. Native on the sandy banks of the Orinoco, near the cataract of Ature. Convólvulus Aturénsis, H. B. et Kunth, nov. gen. amer. 3. p. 96. Stem dichotomously branched; branches terete. Corolla white, glabrous, 3 times longer than the calyx. Capsule globose, covered by the calyx, size of a pea.

Ature Ipomœa. Fl. March. Pl. $1\frac{1}{2}$ foot.

20 I. capilla'cea; stems nearly simple, erect; leaves sessile, many-parted; segments capillary, glabrous; flowers axillary, solitary, pedunculate, longer than the leaves; calyx smoothish; sepals ovate, acute, concave, rugose on the back, unequal. ♃. S. Native of New Granada, in the temperate regions, betwixt Villa San Miguel and the river Putes, at the altitude of 800 hexapods. Convólvulus capillàceus, H. B. et Kunth, nov. gen. 3. p. 97. Root tuberous, milky, turnip-formed. Plant smoothish. Corollas funnel-shaped, purple, glabrous. Perhaps a species of *Leptocállis*.

Capillary-leaved Ipomœa. Pl. 1 foot.

21 I. biflòra (R. Br. prod. p. 487.) tomentose; stem flexuous at the apex; leaves lanceolate, acute, quite entire, obtuse at the base; peduncles usually 2-flowered; sepals ovate, acuminated. ♃. ? S. Native of New Holland, within the tropic, on the sea shore. I. diántha, Rœm. et Schultes, syst. 4. p. 254. Conv. flexuòsus, Spreng. syst. 1. p. 612.

Two-flowered Ipomœa. Pl. erect.

22 I. ere'cta (R. Br. l. c.) tomentose, erect; leaves oblong-linear, obtuse, quite entire; peduncles usually 1-flowered; sepals acute; capsule 6-valved. ♃. S. Native of New Holland, within the tropic, on the sea shore. Conv. eréctus, Spreng. syst. 1. p. 612.

Erect Ipomœa. Pl. erect.

23 I. heterophy'lla (R. Br. l. c.) plant annual, ascending, smoothish; leaves oblong, semihastate, entire, obtuse, sometimes pinnatifid at the base, and toothed at top; peduncles 1-flowered, very short; sepals equal, lanceolate, acuminated. ⊙. S. Native of New Holland, within the tropic, on the sea shore. Ipomœ'a polymórpha, Rœm. et Schultes, syst. 4. p. 254. Convólvulus Bròwnii, Spreng. syst. 1. p. 612.

Variable-leaved Ipomœa. Pl. ascending.

24 I. confe'rta; stems prostrate, diffuse; leaves cordate-sagittate, lanceolate, entire, acute; petioles scabrous; flowers nearly sessile, axillary, crowded; calyx hairy. ⊙. S. Native of Guinea, common in fields. Corollas white.

Crowded-flowered Ipomœa. Pl. prostrate.

25 I. hu'milis; roots creeping; stem 3 inches high; leaves linear-lanceolate, or lanceolate, obtuse, thick, entire, glabrous, petiolate; peduncles terminal and axillary, elongated, 1-flowered. ♃. S. Native of Sierra Leone, and along the coast of Guinea, on the sea shore. Corollas large, pale red. Habit of *Calystègia soldanélla*.

Humble Ipomœa. Pl. $\frac{1}{4}$ foot.

26 I. ovalifòlia (Choisy, l. c. p. 449.) stem erect or prostrate, suffruticose; leaves oval-oblong, acute at the base, obtuse at the apex, and emarginate, on short petioles; peduncles 3-7-flowered; sepals unequal. ♄. S. Native of the East Indies and Sandwich Islands. Convólvulus ovalifòlius, Vahl, eclog. 2. p. 16. Hook. et Arn. in Beech. voy. pt. bot. p. 90. Ip. microphýlla, Roth. nov. spec. p. 112. Conv. parvifòlius, Spreng. syst. 1. p. 611.? Stems terete. Leaves an inch long, and 5 lines broad. Peduncles twice as long as the petioles. The 3 exterior sepals ovate, bluntish: the 2 interior smaller, linear, acute. Corolla glabrous.

Var. α; *glàbra* (Choisy, l. c.) stem, leaves, calyxes, and peduncles, quite glabrous.

Var. β, *pubéscens* (Choisy, l. c.) all parts of the plant are ciliated with long hairs. ♄. S. Native of the Sandwich Islands, Guinea, and Angola.

Var. γ, *tomentòsa* (Choisy, l. c.) every part of the plant is of a yellow colour, from intricate, simple, adpressed hairs. ♄. S. Native of the Sandwich Islands, Guinea, and Angola.

Oval-leaved Ipomœa. Shrub erect.

* * *Shrubby or arboreous plants.*

27 I. arbore'scens; arboreous; leaves ovate-cordate, acute, clothed with hoary tomentum on both surfaces; peduncles many-flowered; calyx clothed with white wool outside; sepals oblong, obtuse, concave, unequal: outer ones the broadest; seeds woolly on the angles. ♄. S. Native of Mexico, on the western declivities of the mountains betwixt Acaguisotla and Chilpancingo, at the altitude of 600 hexapods, where it is called *Guausaguate*. Convólvulus arboréscens, Willd. enum. 1. p. 204. Lactescent. Pedicels tomentose. Corolla glabrous, white, purple inside at the throat.

Arborescent Ipomœa. Tree large.

28 I. macra'ntha; arboreous; leaves oblong-lanceolate, acuminated, rounded at the base, glabrous; flowers axillary, solitary, pedunculate; calyx clothed with white wool; sepals unequal, oblong, rounded at apex, concave: outer ones broadest. ♄. S. Native of Mexico, near Guanaxuato and Santa Rosa, at the altitude of 1100 feet. Convólvulus macránthus, H. B. et Kunth, nov. gen. 3. p. 95. Branches angular, clothed with white tomentum while young, as well as the peduncles. Corolla white, woolly outside.

Large-flowered Ipomœa. Tree.

29 I. serpyllifòlia; shrubby; leaves ovate-elliptic, rounded at the apex, rather downy; axillary peduncles 1-flowered: terminal ones 2-flowered, exceeding the leaves; calyx smoothish; sepals ovate, acuminately-mucronate, rather concave, nearly equal, with incumbent edges. ♄. S. Native of New Spain, in temperate places, near Moran and Regla, at an altitude of 1250 hexapods. Convólvulus serpyllifòlius, H. B. et Kunth, nov. gen. amer. 3. p. 95. Bark corky. Stems tufted, procumbent, slender, nearly terete, glabrous; branchlets downy. Leaves 3 lines long. Flowers white, about the size of those of *Convallària majàlis*, glabrous. Habit of *Evólvulus nummulàrius*.

Wild Thyme-leaved Ipomœa. Shrub procumbent.

30 I. rudera'ria; shrubby; leaves lanceolate-oblong, retuse at the apex, and mucronate, downy; peduncles axillary, usually 3-flowered, twice shorter than the leaves; calyx glabrous; sepals roundish, acute: the 2 outer ones rather the shortest. ♄. S. Native of Cuba, among rubbish, near Havannah. Convólvulus ruderàrius, H. B. et Kunth, nov. gen. 3. p. 96. Shrub prostrate; branches terete, downy when young. Leaves 8-9 lines long. Flowers a little larger than those of *I. serpyllifòlia*. Corolla 3 times longer than the calyx.

Rubbish Ipomœa. Shrub prostrate.

31 I. floribu'nda; shrubby, clothed with hoary tomentum; leaves ovate-oblong, acuminately-mucronate, cordate; corymbs axillary, pedunculate, shorter than the leaves; calyx clothed with woolly tomentum; sepals oblong, bluntish, concave: the 3 outer ones the largest. ♄. S. Native on the banks of the river Amazon, on hills near Tomependa. Convólvulus floribúndus, H. B. et Kunth, nov. gen. 3. p. 96. t. 210. Shrub much branched; branches terete. Leaves on long petioles, 2 inches long. Corolla 4 times longer than the calyx, obsoletely 5-lobed, glabrous, blue, size of those of *Fálkia rèpens*.

Bundle-flowered Ipomœa. Shrub 3-4 feet.

32 I. sta'ns (Cav. icon. 3. p. 26. t. 250.) suffruticose; leaves

ovate, or oblong-lanceolate, sinuately-toothed, smoothish; flowers axillary, solitary, pedunculate, longer than the leaves; calyx glabrous, sepals unequal, linear, obtuse. ♄. S. Native of Mexico, near Guanaxuato. Convólvulus stáns, H. B. et Kunth, nov. gen. amer. 3. p. 96. Conv. fírmus, Spreng. syst. 1. p. 613. Corolla campanulate, pale violet, with a whitish tube and rounded segments.

Standing Ipomœa. Shrub erect.

33 I. pannòsa (R. Br. l. c.) tomentose, suffruticose, erectish; leaves quite entire, oblong, bluntish, pannosely tomentose; peduncles 1-flowered; sepals acuminated: the 2 inner ones one half smaller than the outer ones. ♄. S. Native of New Holland, within the tropic, on the sea shore. Convólvulus pannòsus, Spreng. syst. 1. p. 612.

Cloth-leaved Ipomœa. Shrub erect.

34 I. filifòlius (Hook. et Arn. in Beech. voy. pt. bot. p. 35. under *Convólvulus*) shrubby, much branched, diffuse; leaves very narrow-linear, terete; flowers axillary, solitary, on short peduncles; corolla campanulate. ♄. G. Native of Chili, at Coquimbo. Calyx 5-cleft; with linear teeth on the segments. Corolla blue, an inch broad.

Thread-leaved Ipomœa. Shrub diffuse.

Sect. III. Strophipomœ'a (from *στροφαω, strophao*, to turn or twist; and *Ipomœ'a;* in reference to the twining stems of the species). Choisy, in mem. soc. phys. gen. 6. p. 450. Stems twining.

§ 1. *Leaves entire, undivided, usually cordate. Capsules generally large. Anthers usually twisted.*

* *Stems angular or winged.*

35 I. Turpe'thum (R. Br. prod. p. 485.) stems angular, glabrous, or a little downy; leaves cordate-ovate, acuminated, sometimes entire, sometimes angularly sinuated, or crenated; peduncles thick, 1-4-flowered, bracteate at apex; outer sepals the largest, ovate-roundish. ♃. ◠. S. Native of the East Indies, on the banks of the Hoogly and Ganges; New Holland; Timor; Otaheite; Friendly and Marianne Islands, &c. Ker. bot. reg. 279. Roth. nov. spec. p. 111. Convólvulus Turpèthum, Lin. spec. p. 221. Blackw. t. 397. Sims, bot. mag. t. 2093. Wall. fl. ind. 2. p. 57. Hook. bot. misc. 3. p. 297. Wight, ill. suppl. t. 88. Conv. Gaudichaúdii and Riédlei, Choisy, mss.—Herm. lugdb. 177. t. 178. and 179. Conv. velutìnus, Wall. cat. no. 1371.—Plenck. off. t. 105. Root thick, purgative. Leaves nearly glabrous or downy. Corolla campanulate, twice longer than the calyx, white, size of those of *Calystègia sèpium*. Capsule showy, size of a nut. The bark of the roots is employed by the natives of the East Indies as a purgative, which they use fresh rubbed up with milk. About 6 inches in length of the root they reckon a dose. Cattle do not eat the plant. The root being free from nauseous taste and smell, gives it a decided superiority over jalap, for which it might be substituted. *Turpèthum* is derived from its Arabic name *Turbib.*

Turpethum Ipomœa. Fl. March, June. Clt. 1752. Plant twining.

36 I. a'nceps (Rœm. et Schultes, syst. 4. p. 231.) stem 4-winged; leaves cordate-oblong, somewhat sagittate or ovate, mucronulate at apex; peduncles 2-5-flowered, bracteate at apex; sepals unequal: 2 outer ovate, villous outside: the 3 inner smaller, oblong. ♃. ◠. S. Native of Bengal, Ceylon, Java, &c. Convólvulus ánceps, Lin. mant. p. 43. Vahl, symb. 3. p. 31. Peduncles and pedicels villous. Capsule large.

Two-edged-stemmed Ipomœa. Pl. tw.

37 I. trí'quetra (Rœm. et Schultes, syst. 4. p. 231.) stem downy, triquetrous; leaves cordate, acute, rather villous; peduncles 2-5-flowered, bracteate; outer sepals bractea-formed, ovate, acute, mucronate: inner ones shorter, and rounded at the apex. ♃. ◠. S. Native of the Islands of Santa Cruz, St. Thomas, &c. Conv. tríquetra, Vahl. symb. 3. p. 30. Willd. spec. 1. p. 858. Lateral pedicels 2-flowered, middle one 1-flowered. Bracteas ovate, coloured, downy.

Triquetrous-stemmed Ipomœa. Pl. tw.

38 Hamiltònii; stems a little winged; leaves scattered, recurved, petiolate, cordate-ovate, acuminated, veiny, concave; peduncles usually 1-flowered, at first terete, afterwards 4-winged, and at length 5-angled; bracteas sessile, lanceolate, acuminated, a little coloured, nearly opposite; flowers large, yellow. ♃. ◠. S. Native of Tobago, near the town of Scarborough. Conv. alàtus, Hamilt. prod. p. 24. This species is said to come nearest *I. ánceps*, and *Conv. flàvus*.

Hamilton's Ipomœa. Pl. tw.

* * *Stems terete.*

39 I. campanula'ta (Lin. spec. 228. Lour. coch. p. 112.) leaves cordate, acute; peduncles many-flowered, spicately branched; sepals equal, ovate-orbicular, glabrous. ♃. ◠. S. Native of the East Indies, Timor, Cochin-china, &c. Convólvulus campanulàtus, Spreng. syst. 1. p. 608. Adámboe, Rheed. mal. 11. p. 115. t. 56. Stem reddish, glabrous, terete, densely branched, fistular. Leaves glabrous, reticulated with red-feathered nerves, 4-6 inches long, and 1-3 broad. Corolla large, yellow, ex Lour. Capsule large, globose, glabrous. Seeds clothed with silky villi.

Campanulate-flowered Ipomœa. Fl. Aug. Sept. Clt. 1800. Pl. tw.

40 I. sulphu'rea; glabrous?; leaves cordately-sagittate, entire; peduncles 3-flowered, much longer than the petioles; sepals glabrous, obtuse, adpressed; filaments villous at the base; anthers twisted into a spire. ♃. ◠. S. Native of Mexico, on walls at St. Jose de Corral. Convólvulus sulphùreus, La Lave, et Lexarza, nov. veg. mex. fasc. 1. p. 17. Calyx yellowish. Corolla sulphur-coloured, campanulate, with a 5-plicate limb: each plica composed of 2 roundish crenatures. Capsule round, velvety, black.

Sulphur-coloured-flowered Ipomœa. Fl. Feb. Pl. tw.

41 I. petaloídea (Choisy, in mem. soc. phys. gen. 6. p. 451.) leaves sometimes saggittately-lanceolate, acute, with sinuated edges; sometimes linear, and sometimes ovate; sometimes ovate-lanceolate; often hardly cordate; sometimes obtuse at the apex, and mucronulate; peduncles 1-4-flowered, bracteate, sometimes numerous, approximate, appearing like a 9-flowered peduncle; sepals ovate-orbicular; corolla 5-cleft. ♃. ◠. S. Native of the East Indies; at Prome; and Gorukpur; as well as of Timor. Convólvulus crispátulus, Wall. cat. no. 1403. Conv. reticulàtus, Ham. herb. Stems terete, glabrous, branched. Leaves reticulately veined, 2-3 inches long, glabrous. Corolla 3 times longer than the calyx, deeply divided, silky outside, red.—This is a very variable plant in the leaves. Capsule large, size of a nut.

Petaloid Ipomœa. Pl. tw.

42 I. bufalìna (Choisy, in mem. soc. phys. gen. 6. p. 452.) leaves cordately sagittate, glabrous; peduncles many-flowered; corolla yellow, campanulate. ♃. ◠. S. Native of Cochinchina, in woods. Convólvulus bufalìnus, Lour. coch. p. 109. ed. Willd. 1 p. 134. Stem woody, scandent, glabrous. Corolla large, campanulate. Capsule large, 2-celled, 2-seeded. Anthers filiform, spirally twisted.

Buffalo's Ipomœa. Shrub tw.

43 I. PELTA'TA (Choisy, l. c. 6. p. 452.) leaves peltate; peduncles long, many-flowered; sepals ovate-elliptic, obtuse; corolla yellow, campanulate. ♄. ⌒. S. Native of Java, Amboyna, Society Islands, and Bourbon. Convólvulus peltàtus, Lin. spec. p. 221. Forst. prod. p. 78. Ipomœ'a nymphiæfòlia, Blum. bijdr. p. 719.—Rumph. amb. 5. p. 428. t. 157. Stem terete, black, glabrous. Leaves glabrous, 3-4 inches long, entire, furnished with rufous hairs in the axils of the petioles. Peduncles branched at the apex; flowers spicate, on short pedicels. Corolla large, inflated. Anthers woolly. Stigma large. Capsule large.

Peltate-leaved Ipomœa. Shrub tw.

§ 2. *Leaves cordate, entire. Capsules and sepals middle-sized. Flowers capitately aggregate.*

44 I. PILEA'TA (Wall. fl. ind. 2. p. 94.) leaves cordate, acuminated; peduncles hardly equal in length to the petioles; flowers 3-6, sessile, in a boat-shaped, perfoliate, involucrum; bracteas obovate, hairy; sepals rather unequal. ⊙. ⌒. S. Native of the East Indies, China, &c. Convólvulus pileàtus, Roxb. ex Wall. cat. no. 1376. Spreng. syst. 4. p. 61. Ipomœ'a peltàta, Heyne, herb. Stems villous, slender. Leaves $1\frac{1}{2}$ inch long, often glabrous, but sometimes downy. Petioles and peduncles villous. Corolla rose-coloured, funnel-shaped. Seeds glabrous. Nearly allied to *I. involucràta*.

Cap Ipomœa. Pl. tw.

45 I. INVOLUCRA'TA (Beauv. fl. d. ow. 2. p. 52. t. 89.) plant downy; leaves cordate, quite entire, acutish: hind lobes rounded; peduncles many-flowered: flowers surrounded by 2 large involucrum-formed perfoliate bracteas. ⊙. ⌒. S. Native of Guinea, among bushes. Conv. involucràtus, Spreng. syst. 1. p. 600. Pedicels short, unequal. Corolla large, red.

Involucrate-flowered Ipomœa. Fl. Aug. Oct. Clt. 1822. Pl. tw.

46 I. PERFOLIA'TA; leaves cordate, villously tomentose, having the hind lobes roundish and subacuminated; flowers capitate, involucrated by one perfoliate leaf; sepals downy: the 3 outer ones lanceolate, and the 2 inner ones setaceous at the apices. ♃.? ⊙.? ⌒. S. Native of Africa, at Aquapim. Conv. perfoliàtus, Schum. pl. guin. p. 89. Stem filiform, pilose. Peduncles covered with retrograde villi. Corolla campanulate, plicate, red, with villous angles; lobes of the limb emarginate. Stigmas villous.

Perfoliate Ipomœa. Pl. tw.

47 I. BREVIFLÒRA (Meyer, prim. esseq. p. 100.) glabrous; leaves sagittately-cordate; peduncles shorter than the petioles; flowers subumbellate, involucrated; outer sepals plicately wrinkled, mucronate. ⊙. ⌒. S. Native about Essequibo, in humid plantations. Stems angular, scabrous from scattered rigid hairs. Corolla large, purple.

Short-flowered Ipomœa. Pl. tw.

48 I. CAPITELLA'TA (Choisy, l. c. p. 457.) stem pilose; leaves cordate, acuminated, pilose; peduncles equal in length to the petioles; bracteas unequal, obtuse, ovate-linear; flowers aggregate, umbellate; sepals linear-lanceolate, very acute. ⊙. ⌒. S. Native of the East Indies, at Mungger, &c. Ipomœ'a tamnifòlia, Burm. ind. p. 50. but not of Lin. Conv. capitellàtus, Ham. herb. ex Wall. cat. no. 2250. Hairs on the stem glandular at the base. Peduncles hairy. Corolla violaceous, tubularly campanulate, villous outside. Seeds glabrous.

Headed-flowered Ipomœa. Pl. tw.

49 I. TRICHOCE'PHALA; stem and peduncles pilose; leaves cordate, acuminated, sometimes a little angular; heads of flowers involucrated by bracteas, 2 of which are larger than the others; flowers crowded, sessile; calycine segments linear, acute, ciliated with long fuscous hairs. ♃. ⌒. S. Native of Guayaquil, (*v. s.* in herb. Ruiz. et Pav.)

Hairy-headed Ipomœa. Pl. tw.

50 I. GUINEE'NSIS; leaves cordate, acuminated, with a few scattered hairs above, but clothed with rusty hairs beneath on the veins; petioles, peduncles, and calyx, hairy. ♃.? ⊙.? ⌒. S. Native of Guinea. Conv. Guineénsis, Schum. pl. guin. p. 90. Stems herbaceous, pilose. Flowers crowded into heads, which are involucrated by leaves. Peduncles length of leaves. Corollas blue, size of those of *Lysimàchia, nummulària*. Lobes of stigma thick, recurved. Capsule size of a pea. Seeds naked. Said to be allied to *I. ciliàtus*. Perhaps a species of *Jacquemóntea*.

Guinea Ipomœa. Pl. tw.

51 I. TAMNIFÒLIA (Lin. spec. ed. 1. p. 885.) plant pilose; leaves cordate, acuminated; peduncles axillary; flowers aggregate, on the tops of the peduncles; bracteas linear, hairy, involucrating; sepals linear, subulate. ⊙. ⌒. S. Native of Carolina, in hedges; and on the banks of the Mississippi. Pursh. fl. amer. 1. p. 146. Conv. tamnifòlius, Spreng. syst. 1. p. 602.—Dill. elth. p. 428. t. 318. f. 410. Corollas small, tubular, blue; segments of the limb roundish, spreading; capsule glabrous.

Tamnus-leaved Ipomœ'a. Fl. July. Clt. 1732. Pl. tw.

52 I. ATROPURPU'REA (Choisy, l. c. p. 457.) stem hispid; leaves cordate, acuminated, hispid, very acute, petiolate; peduncles thick, hardly half an inch long; bracteas 9-12, unequal, lanceolate, acute; flowers capitate; sepals lanceolate, very acute, hairy. ⊙. ⌒. S. Native of Nipaul. Convólvulus atropurpùreus, Wall. fl. ind. 2. p. 54. asiat. rar. 1. p. 38. t. 43. Ipomœ'a sphærocéphala, D. Don. prod. fl. nep. p. 98. Hairs on the stem retrograde. Corolla oval, hispid before expansion, at length tubularly campanulate, 18 lines long, dark purple.

Dark-purple-flowered Ipomœa. Pl. tw.

53 I. SESSILIFLO'RA (Roth. nov. spec. p. 117. Rœm. et Schultes, syst. 4. p. 243) stem beset with retrograde bristles; leaves cordate, ovate-lanceolate, or sagittate; flowers axillary, sometimes only 1-3 together, but sometimes 4-12 together, almost sessile, or on very short pedicels; sepals acuminately subulate; corollas small; capsule usually villous. ⊙. ⌒. S. Native of the East Indies, in several parts; as of Nipaul, Madras, Bengal, &c.; Coromandel, Tranquebar; and of the Cape Verd Islands. Convólvulus sessiliflòrus, Spreng. syst. 1. p. 599. Conv. híspidus, Vahl. symb. 3. p. 29. Conv. sphærocéphalus, Wall. fl. ind. 2. p. 53. Conv. tamnifòlius, Klein. in Rœm. et Schultes, syst. 4. p. 301. Ipomœ'a sphærocéphala, Sweet, hort. brit. p. 288. but not of D. Don. Conv. curtàna, Ham. herb. Conv. cynanchifòlius, Wall. cat. no. 1399. Conv. hírtus, Wight, herb. Conv. pàtulus, Ham. herb. Leaves 1-3 inches long, entire, or sinuated on the edges. Flowers small, rose-coloured. There is also a variety of this with white flowers, in round sessile heads.

Sessile-flowered Ipomœa. Fl. Aug. Oct. Clt. 1816. Plant twining.

54 I. BARBA'TA (Choisy, l. c. p. 458.) stem very pilose; leaves ovate-oblong, acute, entire, woolly beneath, rounded at the base; flowers axillary, 7-9 together in a capitate fascicle, which is involucrated by very long, linear, incurved bracteas. ♄. ⌒. S. Native of the East Indies; at Rangoon, in Pegu, Donabew; and on the banks of the Irawaddi. Convólvulus barbàtus, Wall. pl. rar. asiat. 2. p. 45. t. 155. cat. no. 1391. Stem beset with rusty silky hairs. Leaves 5-12 inches long, furnished with long hairs above, which are glandular at the

base. Corolla an inch long, contracted at the base, pale yellow, tinged with red inside.

Bearded Ipomœa. Shrub tw.

55 I. POLYCA'RPA; stems downy; leaves ovate-oblong, mucronate, cordate, downy above, canescent and tomentose beneath; umbels axillary, nearly sessile, shorter than the leaves; sepals ovate, acuminated, downy, nearly equal. ♃. ⌒. S. Native of Mexico, near Regla and Omitla, at the altitude of 1100 hexapods. Convólvulus polycárpus, H. B. et Kunth, nov. gen. 3. p. 98. Stem terete, downy. Leaves obtuse, mucronate, 10 lines long, and 4 broad. Umbels 6-8-flowered. Corolla funnel-shaped, of a violaceous rose-colour, glabrous; limb plicately 5-toothed. Capsule glabrous.

Many-fruited Ipomœa. Pl. tw.

56 I. POLYA'NTHES (Rœm. et Schultes, syst. 4. p. 234.) leaves cordate, acute, glabrous, on longish petioles; umbels peduncular. ♃. ⌒. S. Native of Martinico, St. Domingo, Jamaica, and Cuba, about the Havannah. Conv. umbellàtus, Lin. spec. p. 221. Desr. in Lam. dict. 3. p. 555.—Plum. icon. 88. t. 102. Petioles furnished with 2 stipulas at the base, which run down the stem. Peduncles rather angular, thickened at the apex. Corollas small, yellow, with a tinge of green, very like those of a species of *Prímula*. Capsule clothed with silky yellow tomentum.

Many-flowered Ipomœa. Fl. June, July. Clt. 1739. Plant twining.

57 I. PRIMULÆFLÒRA; suffruticose, downy; leaves cordate, acute, with the hind lobes obtuse; petioles pilose; peduncles long, many-flowered; flowers umbellate. ♄. ⌒. S. Native of Sierra Leone, on the banks of rivers and rivulets. Flowers small, yellow.

Primrose-flowered Ipomœa. Shrub twining.

58 I. VERRUCÒSA (Blum. bijdr. p. 718.) leaves cordate-ovate, acute, ciliated, smooth; peduncles elongated, thick, bearing umbels; sepals oval, nearly equal: outer ones warted; stems downy. ♃. ⌒. S. Native of Java, in marshes near Batavia. Flowers dark purple, with a lilac limb.

Var. β; leaves spotted.

Warted Ipomœa. Fl. Year. Pl. tw.

§ 3. *Leaves cordate, hastately cordate, or hastate, with entire edges. Flowers not crowded into heads. Capsules and sepals middle-sized.*

* *Peduncles* 1*-flowered.*

† *Leaves cordate.*

59 I. SINE'NSIS (Choisy, in mem. soc. phys. gen. 6. p. 469.) plant very hairy; leaves cordate, acute, mucronulate, hairy on both surfaces; peduncles 1-flowered, shorter than the petioles; outer sepals cordately cuneated at the base, acuminated at the apex. ☉. ⌒. H. Native of China. Convólvulus Sinénsis, Desr. in Lam. dict. 3. p. 557. Conv. Ser, Spreng. syst. 1. p. 598. Stem terete, beset with retrograde white hairs. Leaves 3-4 inches long, and 2-3 broad; hind lobes approximate. Inner sepals lanceolate, acute. Corolla campanulate.

China Ipomœa. Pl. tw.

60 I. ALBIVE'NIA; stems tomentose; leaves roundish-cordate, somewhat repand, having the veins elevated and woolly beneath; peduncles 1-flowered, shorter than the petioles, but the flowers are much longer than the leaves; calyx glabrous: the 2 outer sepals larger, and the 3 inner obtuse. ♄. ⌒. S. Native of Algoa Bay. Conv. albivènius, Lindl. bot. reg. 1116. Adult stems nearly glabrous, tubercular. Flowers terminating the branchlets, solitary. Corolla large, having the tube dirty-white outside, and purple inside; limb white, with obcordate lobes, and yellow plicæ.

White-veined-leaved Ipomœa. Clt. 1824. Fl. Sept.

61 I. OCHRA'CEA; stems terete, pilose; leaves cordate, acuminated, entire, and are, as well as the petioles, pilose; peduncles pilose, 1-flowered, shorter than the petioles; calyx downy, with nearly equal, ovate-acute sepals. ☉. ⌒. S. Native of Guinea, on the gold coast. Conv. ochràceus, Lindl. bot. reg. t. 1060. Limb of corolla flat, with apiculated, crenulated lobes. Stigma small, capitate. Corolla of orange-yellow colour, having the tube deep purple inside. Nearly allied to *I. obscùra*, Ker. bot. reg. 239. but that plant is glabrous.

Ochraceous-flowered Ipomœa. Fl. Aug. Clt. 1826. Pl. tw.

62 I. DÍSCOLOR; stems striated, downy; leaves ovate, deeply cordate, obtuse, mucronate, very soft, pubescent above, but clothed with white tomentum beneath; peduncles 1-flowered, longer than the leaves; sepals oblong, obtuse, downy. ♃. ⌒. S. Native on the banks of the river Orinoco, near Carichana, where it is called by the natives *Corazoncillo*. Conv. díscolor, H. B. et Kunth, nov. gen. 3. p. 105. t. 212. Conv. leucophy'llus, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 301. Leaves an inch long; hind lobes rather diverging. Peduncles downy. Corolla violaceous, downy outside, funnel-shaped. A decoction of the leaves of this species is used in gonorrhœa by the natives.

Discoloured-leaved Ipomœa. Pl. tw.

63 I. CILIOLA'TA (Pers. ench. 1. p. 183.) glabrous; leaves finely cordate, with the edges a little ciliated; peduncles rather long, 1-flowered; calyx bractless; sepals broad-oval, obtuse; corollas tubularly-campanulate. ♃. ⌒. H. Native of Tennessee, at Knoxville. Ip. ciliòsa, Pursh, fl. amer. 1. p. 146. Conv. ciliolàtus, Michx. fl. amer. bor. 1. p. 137.

Ciliated-leaved Ipomœa. Pl. tw.

64 I. SOLANIFÒLIA (Lin. spec. 226.) leaves cordate, acute; peduncles 1-flowered, solitary, equal in length to the leaves. ♂. ⌒. S. Native of America. Willd. spec. 1. p. 881. Convólvulus solanifòlius, Spreng. syst. 1. p. 596. Quámoclit solanifòlia, flore roseo. Plum. spec. 3. Burm. amer. icon. 94. f. 1. Tourn. inst. p. 116. Corolla tubular, rose-coloured. Genitals exserted. Leaves acuminated. Perhaps a species of *Quámoclit*.

Solanum-leaved Ipomœa. Fl. July, Aug. Clt. 1759. Plant twining.

65 I. PU'LCHRA (Blum. bijdr. p. 716.) leaves cordate-ovate, mucronulate, entire, smooth above, and rather downy beneath; peduncles 1-flowered, about equal in length to the petioles; sepals roundish, rather silky. ♃. ? ⌒. S. Native of Java, and the Moluccas. Corolla large, funnel-shaped, purplish.

Var. β; leaves acuminated, with a mucrone; peduncles longer than the petioles. ♃. ? ⌒. S. Native of the Island of Timor.

Fair Ipomœa. Fl. Year. Pl. tw.

66 I. LEUCA'NTHA (Jacq. coll. 2. p. 280. icon. rar. 2. t. 318.) glabrous; leaves cordate, acuminated; peduncles 1-flowered; solitary, shorter than the leaves; sepals broad, short, acutish. ☉. ⌒. S. Native of tropical America. Scop. del insub. fasc. 2. t. 4. Willd. spec. 1. p. 881. Conv. leucánthus, Desr. in Lam. dict. 3. p. 541. Ip. Philadélphica, Hort. Leaves sometimes repand. Corolla white, hardly twice as long as the calyx, which is acuminated. Seeds blackish-brown.

White-flowered Ipomœa. Fl. Aug. Oct. Clt. 1823. Plant twining.

67 I. ACULEA'TA (Blum. bijdr. p. 715.) glabrous; leaves roundish-cordate, acuminated, entire; peduncles axillary, shorter than the petioles, thickened, 1-flowered; sepals roundish; tube of corolla elongated; stem triquetrous, and prickly at bottom.

88 I. oblor[illegible] S. Native of Java, in the province of Tjangor, on the Parang mountains, among bushes. Said to be allied to *I. tubulòsa*. Corolla with a white limb and green rays.

Prickly Ipomœa. Fl. July. Pl. tw.

68 I. melanostícta; downy; leaves roundish-ovate, deeply cordate, with an acutish recess, and very blunt lobes, which are acutish or mucronate at the apex, downy, and dotted with black beneath; peduncles 1-flowered, shorter than the petioles; sepals nearly equal, suborbicular, obtuse, mutic. ♃. ? ◠. S. Native of the Island of St. Thomas. Conv. melanostíctus, Schlecht, in Linnæa. 6. p. 737. Corolla large, with a funnel-shaped limb and ciliated margins.

Black-dotted-leaved Ipomœa. Pl. tw.

69 I. tu'ba; leaves petiolate, broad-ovate, acuminated, deeply cordate: hind lobes obtuse; peduncles bractless, 1-flowered; sepals nearly equal, obtuse, mucronulate; corolla large, with a long cylindrical tube, and a funnel-shaped limb. ♄. ? ◠. S. Native of the Island of St. Thomas. Conv. tùba, Schlecht, in Linnæa. 6. p. 735. Stigmas orbicular. Seeds villous.

Tube-flowered Ipomœa. Pl. tw.

70 I. lute'ola (R. Br. l. c.) glabrous; leaves cordate, acuminated, quite entire, hardly an inch long; peduncles usually 1-flowered; sepals acute; corolla yellow. ♃. ? ◠. S. Native of New Holland, within the tropic, on the sea shore. I. Bròwnii, Rœm. et Schultes, syst. 4. p. 252.

Yellowish-flowered Ipomœa. Pl. tw.

71 I. abru'pta (R. Br. l. c. p. 485.) glabrous; leaves cordate, acutish, having the recess at the base closed; peduncles 1-flowered, hardly equalling the petioles in length; sepals equal, oval, obtuse. ♃. ? ◠. S. Native of New Holland, within the tropic. Conv. abrúptus, Spreng. syst. 1. p. 596.

Abrupt-leaved Ipomœa. Pl. tw.

72 I. Sibírica (Jacq. coll. 3. p. 304.) smooth; stem triangular; leaves cordate, acuminated; peduncles 1-2-flowered, shorter than the leaves; calyx bractless, ovate. ☉. ◠. H. Native of Siberia. Pers. ench. 1. p. 183. Conv. Sibíricus, Lin. mant. p. 203. Conv. rupéstris, Pall. itin. 3. p. 723. t. k.? Leaves hardly repand. Stipulas small, running down the stem. Corolla white, or very pale red, with a yellow bottom, campanulate, one-half smaller than those of *Conv. arvénsis*.

Siberian Ipomœa. Fl. July, Aug. Clt. 1779. Pl. tw.

73 I. Curassa'vica (Rœm. et Schultes, syst. 4. p. 237.) glabrous; stems angular; leaves roundish-cordate, thickish, nerved and pale beneath, rather repand; peduncles 1-flowered, thickened, bractless, shorter than the lower leaves, and longer than the superior ones; calyx subtubercled; sepals ovate, adpressed. ♃. ◠. S. Native of Curassoa. Corolla white, verging to a cream-colour, smaller than those of *Conv. arvénsis*. Capsule glabrous.

Curassoa Ipomœa. Pl. tw.

74 I. ala'ta (R. Br. prod. p. 484.) glabrous; leaves cordate, acuminated, entire; petioles margined; peduncles tetragonal, 1-flowered, winged on the angles; bracteas caducous. ♃. ? ◠. S. Native of New Holland, within the tropic, on the sea shore. Conv. alàtus, Spreng. syst. 1. p. 596.

Winged-peduncled Ipomœa. Pl. tw.

†† *Leaves hastately and sagittately cordate or hastate, or sagittate.*

75 I. gra'cilis (R. Br. l. c.) glabrous; leaves hastate, biglandular beneath at the base, acute at both ends; peduncles 1-flowered; sepals wrinkled, acute, 3 times shorter than the corolla; seeds bearded at the umbilicus. ♃. ? ◠. S. Native of New Holland, within the tropic, on the sea shore. Conv. grácilis, Spreng. syst. 1. p. 604.—There are varieties of this plant with pilose stems, and having the hind lobes of leaves bluntish.

Slender Ipomœa. Pl. tw.

76 I. plebe'ia (R. Br. l. c.) downy; leaves hastately cordate, acuminated, entire: hind lobes rounded; peduncles 1-flowered, shorter than the petioles, bibracteate near the base; sepals equal, acuminated, pilose; capsule glabrous; seeds woolly. ♃. ? ◠. S. Native of New Holland, within the tropic. Conv. plebèius, Spreng. syst. 1. p. 604.

Plebeian Ipomœa. Pl. tw.

77 I. sagittæfòlia (Ker. bot. reg. 437.) glabrous; leaves oblong-sagittate, the hind recess very deep, and the hind lobes somewhat acuminated; peduncles 1-flowered; sepals roundish-oval; corolla campanulately funnel-shaped. ♃. ◠. H. Native from Virginia to Carolina, in wet situations, among bushes. Convólvulus sagittæfòlius, Michx. fl. bor. amer. 1. p. 138. Pursh. fl. 1. p. 144. Conv. speciòsus, Walt. fl. car. p. 93. Conv. formòsus, Gmel. syst. 1. p. 343.—Catesb. car. 1. t. 35. Flowers large, of a beautiful rose-colour.

Arrow-leaved Ipomœa. Fl. June, Sept. Clt. 1819. Plant twining.

78 I. setòsa (Blum. bijdr. p. 714.) leaves cordate, or subhastately cordate, acuminated, entire, downy above, and rather villous beneath; peduncles 1-2-flowered, equal in length to the petioles; sepals linear-lanceolate, acuminated, setigerous; stem covered with retrograde hairs. ♃. ◠. S. Native of Java, among bushes on the mountains. Flowers purplish. Perhaps a species of *Pharbìtis*.

Bristly Ipomœa. Fl. Year. Pl. tw.

79 I. Ja'lapa (Schiede et Deppe, mss.) glabrous; stems angular; leaves membranous, perfectly glabrous, and even on both surfaces, cordate-sagittate, acuminated: hind lobes rounded, obtuse, quite entire; peduncles 2-flowered, longer than the petioles; sepals lanceolate, obtuse, rather unequal; tube of corolla long, narrow, twice as long as the limb, which is nearly entire and spreading. ♃. ◠. S. Native of Mexico, in the woods of Chiconquiaco, from whence it is brought to Vera Cruz by the inhabitants of Jalapa. The plant is called *Purga* and *Laschachne* in Mexico. Convólvulus Jálapa, Houst. mss. in Miller, dict. ed. 8. no. 31. Lin. mant. 1. p. 43, but not of others. Ipomœ'a Púrga, Wenderoth. Ipomœ'a Schièdeana, Zucc. Stems purplish. Leaves often purplish beneath. Corolla long, tubular; tube ventricose above, constricted a little at the throat; with a flat limb, and exserted genitals. Anthers oblong, emarginate at both ends. The leaves are said to be variable in shape by Miller, who reared some plants from seeds sent by Houston, in 1733, in the Apothecaries' Garden at Chelsea. The peduncles generally bear 2 flowers, one of the flowers always much earlier than the other. Houston and Miller seem to be the only authors who knew the plant which produces the true Jalap of the shops; as the plant generally described, cultivated, and known as such, is a very distinct species, and appears to be only a purple-flowered variety of *Ipomœ'a macrorhìza* of Michx. This plant is found principally in the neighbourhood of Jalapa or Xalapa, hence the name. It abounds also on the eastern slope of the Cordillera of Anahuac; and in the same latitude is procured the *Vanilla* and *Sarsaparilla*. From 200,000 to 300,000 lbs. are annually exported from Vera Cruz. Although the root forms a well-known and valuable cathartic, which is perhaps more generally employed than any other of vegetable origin, it was not until lately that the genus to which it belongs was accurately ascertained. In its wild state, the plant delights in a dry sandy soil. The dried root of jalap is imported in thin, transverse slices, and in round masses; it is solid, hard, and heavy, of a dark grey colour. It has a sickly smell, and a sweetish, subacid, nauseous taste. Powdered it is

of a pale yellow brown colour. Jalap, when dear, is often adulterated with scammony, gamboge, briony root, &c. Jalap is an active purgative, which can always be relied upon, and would be administered much more often were it not for the disagreeable effects produced by it, as nausea and griping. It is, notwithstanding, a safe medicine, and, combined with other purgatives, has been proved by Dr. Hamilton to be of eminent use in typhus, scarlatina, cynanche maligna, marasmus, chorea, and tetanus. Added to the supertartrate of potass, it is called compound powder of jalap; and much good has been effected by a judicious and persevering use of this preparation in dropsical cases. The alcoholic extract, when good, is a more active preparation than the former, exerting its effects in doses of 10 or 12 grains. Jalap is best given in substance, in doses from 10 grains to half a drachm, combined with a drop or two of any essential oil. Mr. Hume, of Long-Acre, is said to have discovered a vegeto-alkaline principle in jalap, and proposes to call it jalapine.

Jalap Ipomœa. Fl.? Clt. 1733. Shrub tw.

* * *Peduncles many-flowered, umbellately-racemose, umbellate, corymbose, &c.*

80 I. sidæfòlia (Choisy, l. c. p. 459.) glabrous; leaves cordate-ovate, or roundish-acuminated, smooth; peduncles many-flowered, leafy, umbellately racemose, equalling the petioles in length, or exceeding them; outer sepals shorter, all with white scarious edges; corolla whitish-yellow. ♄. ⌒. S. Native of the Caribbee Islands, Mexico, and Ceylon. Also gathered in the gardens of Teneriffe, Cumana, and Calcutta; but is probably only indigenous to Ceylon. Conv. Domingénsis, Desr. in Lam. dict. 3. p. 554. Conv. sidæfòlius, H. B. et Kunth, nov. gen. 3. p. 99. Conv. multiflòrus, H. B. et Kunth, l. c. p. 100. Conv. (Ipomœ'a) Zeylánica, Moon, ex Wall. cat. no. 1379. Conv. lævicaúlis, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 303. Conv. políferus, Willd. l. c. p. 302.—Sloane, jam. 1. p. 153. t. 97. f. 2.—Young branches rather downy. Leaves rarely rather downy, 2-3 inches long, and 1-2 broad. Bracteas small, linear, ciliated, or glabrous. Corolla campanulate, glabrous, white, with a yellow bottom, and marked with 5 black spots. Capsule surrounded by a membrane at the base. Seeds downy, rufous. There are varieties of this having the flowers more or less numerous, the leaves glabrous or downy, and the sepals more or less unequal.

Sida-leaved Ipomœa. Shrub tw.

81 I. Staphylìna (Rœm. et Schultes, syst. 4. p. 249.) plant suffruticose, glabrous; leaves ovate-oblong, rather cordate, acute, glabrous; flowers racemosely panicled; sepals equal, very blunt, ovate-roundish; corolla tubularly cylindrical. ♃. ⌒. S. Native of the East Indies, as of Coromandel, Penang, Pondicherry. Ipomœ'a racemòsa, Roth. nov. spec. p. 115. but not of Poir. Conv. Malabáricus, Wall. fl. ind. 2. p. 49. but not of Lin. Conv. racemòsus, Rottler and other authors; but not of Spreng. Willd. in Rœm. et Schultes, syst. 4. p. 302. Conv. Kleínii, Spreng. syst. 1. p. 606. 4. p. 61. Conv. máximus, Ham. herb. Conv. polyánthus, Wall. cat. no. 1378. Branchlets rough, blackish. Leaves 3 inches long and 2½ broad. Racemes 2-3 inches long, many-flowered. Corolla 6-12 lines long, rose-coloured. Seeds woolly.

Staphylina Ipomœa. Shrub tw.

82 I. caliginòsa (Choisy, l. c. p. 461.) glabrous; leaves ovate-lanceolate, mucronulate, deeply cordate at the base; peduncles axillary, shorter than the leaves, cymosely corymbose; sepals coriaceous, ovate, obtuse, surrounding the fruit. ♃.? ⌒. S. Native of the East Indies. Conv. caliginòsus, Kœn. mss. in R. Br. herb. Stem blackish. Leaves 3 inches long and 1½ broad. Corolla glabrous, longer than the calyx. Seeds ± silky.

Obscure Ipomœa. Pl. tw.

83 I. cymòsa (Rœm. et Schultes, syst. 4. p. 462. but not of Meyer. Choisy, l. c. p. 461.) stem terete; leaves ovate-cordate, acute at the apex, also acuminated, elongated, blackish above; peduncles axillary, bifidly many-flowered, short; sepals coriaceous, obtuse, rarely acutish, darkish yellow: the exterior ones usually the shortest. ♃. ⌒. S. Native of the East Indies, almost everywhere. Conv. cymòsus, Desr. in Lam. dict. 3. p. 556. Conv. bífidus, β. Vahl. symb. 3. p. 31. Conv. læ'vis mìnor, Rumph. amb. 5. p. 431. t. 158. Conv. blándus, Wall. fl. ind. 2. p. 50. t. 70. Ipomœ'a bífida, Roth. nov. spec. p. 118. Ip. corymbòsa, Roth. l. c. p. 109. Ip. Hèynei, Rœm. et Schultes, syst. 4. p. 237. Ip. blánda, Sweet, hort. brit. p. 288. Conv. Lotuòha, Ham. herb. Conv. multiflòrus, Wall. mss. Stem blackish. Leaves 1-3 inches long, and 6-18 lines broad, glabrous. Corolla campanulately funnel-shaped, pure white, an inch long, glabrous: lobes bearded at top. Seeds rufous, hairy.

Var. β, *pilòsa* (Choisy, l. c. p. 462.) plant hairy, or downy. ♃. ⌒. S. Native of the East Indies. Conv. cymòsus, β. Desr. in Lam. dict. 3. p. 556. Conv. bífidus, Vahl, symb. 3. p. 30. Conv. Ròthii, Spreng. syst. 1. p. 600. Conv. læ'vis mas. Rumph. amb. 5. p. 431. Conv. pentagònus, Roxb. fl. ind. 2. p. 72. Ipomœ'a bífida, Rœm. et Schultes, syst. 4. p. 241. Ip. Ròthii, Rœm. et Schultes, syst. 4. p. 237. Ip. cymòsa, Roth. nov. spec. p. 116. Blum. cat. hort. buit. p. 50. Conv. blándus, β. pubéscens, Roxb. Conv. blándus, β. màjor, Wall. mss. Seeds hairy.

Var. γ, *sagittàto-angulàta* (Choisy, l. c. p. 463.) leaves sagittate, angular. ♃. ⌒. S. Native of Java. Ip. radìcans, Blum. bijdr. p. 712.? Leaves form of those of var. β.

Var. δ, *cúlta* (Choisy, l. c.) stem rather downy; leaves cordate-ovate; peduncles 3-12-flowered; corolla glabrous; all parts of the plant more elongated. ♃. ⌒. S. This is a cultivated variety.

Cymose-flowered Ipomœa. Fl. July, Aug. Clt. 1820. Pl. tw.

84 I. velutìna (R. Br. l. c.) tomentose; leaves cordate, obtuse, entire, soft, having the recess at the base, rather truncate; peduncles many-flowered; sepals glabrous, obtuse. ♃.? ⌒. S. Native of New Holland, within the tropic, on the sea shore. Conv. velutìna, Spreng. syst. 1. p. 601.

Velvety Ipomœa. Pl. tw.

85 I. conge'sta (R. Br. l. c.) tomentose; leaves cordate, acuminated, entire, soft; peduncles many-flowered: pedicels crowded; sepals ending in subulate awns: inner ones smaller. ♃.? ⌒. S. Native of New Holland, within the tropic, on the sea shore. Conv. congéstus, Spreng. syst. 1. p. 601.

Crowded-flowered Ipomœa. Pl. tw.

86 I. urceola'ta (R. Br. l. c.) tomentose; leaves cordate, rather reniform, entire; cymes many-flowered, nearly sessile; sepals equal, pilose, orbicular, obtuse; tube of corolla urceolate, subovate. ♃. ⌒. S. Native of New Holland, within the tropic. Conv. urceolàtus, Spreng. syst. 1. p. 601.

Urceolate-flowered Ipomœa. Pl. tw.

87 I. dumetòrum (Willd. rel. ex Rœm. et Schultes, syst. 4. p. 789.) glabrous; leaves ovate, much acuminated, cordate, having the hind lobes angularly toothed, and diverging; peduncles axillary, dichotomous, 5-flowered, shorter than the leaves; sepals ovate, acutish, glabrous, wrinkled, nearly equal. ⊙. ⌒. S. Native of New Granada, on the Andes of Quito. Conv. dumetòrum, H. B. et Kunth, nov. gen. 3. p. 101. Stem angularly striated. Pedicels rather rough. Capsule globose, glabrous.

Bush Ipomœa. Pl. tw.

88 I. altíssima (Bertero, mss.) arboreous; leaves cordate-oblong, mucronate, clothed with silky villi beneath; peduncles terminal, twin; bracteas remote, and are, as well as the calyxes, coloured, obtuse, and mucronate. ♄. S. Native of Hispaniola. Convólvulus altíssimus, Spreng. syst. 1. p. 613. This and the following species ought probably to have followed *I. stàns*, no. 32, p. 267, from their upright habit.

Tallest Ipomœa. Tree.

89 I. pareiræfòlia; shrubby; leaves ovate, truncate at the base, acuminated, quite entire, hoary beneath, and reticulated with veins; peduncles cymose, 4-flowered; sepals obtuse; tube of corolla elongated. ♄. S. Native of New Granada. Convólvulus pareiræfòlius, Spreng. syst. 1. p. 613.

Pareira-leaved Ipomœa. Shrub.

90 I. ca'ndicans; glabrous; leaves cordate, acuminated, rather downy beneath; peduncles many flowered, bractless; outer sepals nerved, obtuse. ♃. ? ◠. H. Native of North America? Conv. cándicans, Sol. mss. ex Sims, bot. mag. t. 1603. Corolla large, white, with a purple throat; lobes rounded, plicæ mucronate.

Whitish Ipomœa. Fl. June, Aug. Clt. 1776. Pl. tw.

91 I. ru'bens (Choisy, l. c. p. 463.) stem downy; leaves cordate, acuminated, usually glabrous above, but clothed with grey down beneath; peduncles stiff, much exceeding the petioles, umbellately many-flowered; sepals ovate, acuminated, or lanceolate, mucronate, equal; corolla showy, purple. ♃. ◠. S. Native of the East Indies, as of Silhet, Gualpara, Pirgum, &c. Conv. rùbens, Wall. cat. no. 1421. Conv. bífidus, Ham. herb. Conv. Gualpàra, Ham. herb. Leaves 2-3 inches long, and nearly as broad at the base. Umbels 5-8-flowered. Corolla campanulately tubular, 15 lines long, red, glabrous.

Var. β, lanàta (Choisy, l. c.) leaves roundish-cordate, short-acuminated, clothed with woolly tomentum on both surfaces, but especially beneath; stem villous. ♃. ◠. S. Conv. glandulòsus, Ham. ex Wall. cat. no. 2252.

Reddish-flowered Ipomœa. Pl. tw.

92 I. sepia'ria (Konig. mss. ex Wall. fl. ind. 2. p. 90.) stem alternately glabrous and villous from loose hairs; leaves cordate-oblong; peduncles many-flowered; sepals oblong-ovate, acute, or obtuse; corolla showy, tubularly funnel-shaped. ♃. ? ◠. S. Native of the East Indies, everywhere; Timor, China, and Java. Ip. striàta, Pers. ench. 1. p. 183. Roth. nov. spec. p. 111. Conv. máximus, Vahl, symb. 3. p. 26. Lin. suppl. p. 137. Wall. fl. ind. 2. p. 49.? Conv. marginàtus, Desr. in Lam. dict. 3. p. 558. Conv. striàtus, Vahl. symb. 3. p. 28. Conv. hastàtus, Heyne, herb. Conv. incrassàtus, Wall. cat. no. 1386. 1. and 2. Tiru-tali, Rheed. mal. 11. p. 109. t. 53.—This species differs from the preceding in the peduncles being always many-flowered, and in the corolla being longer. Corollas large, of a beautiful rose-colour; white, with a brown bottom, ex Vahl.

Var. β, sagittàta (Choisy, l. c. p. 465.) leaves sagittate, also somewhat 3-lobed. ♃. ◠. S. Native of the East Indies. Ipomœ'a sphérica, Roxb.

Hedge Ipomœa. Fl. May, June. Clt. 1817. Pl. tw.

93 I. Cumane'nsis; plant clothed with rusty tomentum; leaves ovate, cordate, acuminated; peduncles few-flowered, about equal in length to the leaves: the 3 outer sepals large, ovate, acute: the 2 inner lanceolate-oblong, acuminated. ♃. ◠. S. Native of America, in the province of Cumana, in shady places of Laguna, Chica, and Golfo de Cariaco. Conv. Cumanénsis, H. B. et Kunth, nov. gen. amer. 3. p. 99. Stems terete. Leaves 1½ inch long and 1 broad. Peduncles 3-4-flowered. Corolla campanulately funnel-shaped, blue, glabrous. Nearly allied to *Conv. nodiflòrus*, Lam.

Cumana Ipomœa. Shrub tw.

94 I. cane'scens; plant clothed with canescent tomentum; leaves ovate, cordate, acuminated; peduncles many-flowered, about equal in length to the leaves; sepals downy: 3 outer ones large, ovate, acuminated: the 2 inner ones lanceolate, acuminately subulate. ♄. ◠. S. Native of America, between Carthagena and Mount La Papa, in hot sandy places. Conv. canéscens, H. B. et Kunth, nov. gen. 3. p. 99. Leaves 1 inch long and 8-9 lines broad, clothed with hoary tomentum beneath. Flowers nearly sessile, in capitate heads. Corolla campanulate, 5-plicate, longer than the calyx, pale blue.—This and *I. Cumanénsis* might form a distinct genus, from the form of the calyx, according to Kunth, l. c. This and the following species ought probably to have been placed under § 2. p. 269. from their capitate or umbellate inflorescence.

Canescent Ipomœa. Shrub tw.

95 I. sagíttifer; plant smoothish; leaves oblong-lanceolate, acuminated, deeply cordate-sagittate at the base, glabrous, except on the veins beneath, which are downy: hind lobes roundish, diverging; umbels pedunculate, one half shorter than the leaves; sepals glabrous, roundish, nearly equal. ♃. ◠. S. Native of Cuba, near Havannah, in moist places. Conv. sagíttifer, H. B. et Kunth, nov. gen. amer. 3. p. 100. Conv. Caracasànus, Schlecht, in Rœm. et Schultes, syst. 4. p. 301. Conv. Havanénsis, Willd. herb. Leaves 3 inches long. Umbels 6-7-flowered. Corolla yellow, ex Bonpl. glabrous. Capsule glabrous.

Arrow-bearing Ipomœa. Pl. tw.

96 I. Bogote'nsis; stem branched, angular, clothed with canescent villi and retrograde hairs; leaves ovate, deeply cordate, acuminated, beset with silky strigæ above, and hoary tomentum beneath; peduncles many-flowered, shorter than the leaves; sepals silky, hispid, oblong-lanceolate, subulately-acuminated, nearly equal. ♄. ? ◠. S. Native of New Granada, on high plains, near Santa Fe de Bogota, at the altitude of 1370 hexapods. Conv. Bogoténsis, H. B. et Kunth, nov. gen. 3. p. 104. Leaves 2 inches long; hind lobes approximate. Peduncles and pedicels villous. Corolla purple, downy outside, towards the apex, twice longer than the calyx.—Perhaps a species of *Pharbìtis*. Capsule glabrous.

Bogota Ipomœa. Shrub tw.

97 I. abutiloìdes; branches terete, hoary from down; leaves roundish-ovate, cordate, acuminated, glabrous above, but clothed with hoary tomentum beneath; corymbs axillary, trichotomous, longer than the leaves; sepals oblong, obtuse, smoothish. ♄. ◠. S. Native of Quito, near Guayaquil, on the shores of the Pacific. Conv. abutiloìdes, H. B. et Kunth, nov. gen. amer. 3. p. 106. Leaves 3 inches long; hind lobes diverging. Petioles biglandular at apex. Peduncles and pedicels downy. Corolla funnel-shaped, violaceous, size of those of *Calystègia sèpium*, downy outside; lobes of limb emarginate. Capsule 1-celled, 1-seeded, crowned by the base of the style, and girded by the calyx.

Abutilon-like Ipomœa. Shrub tw.

98 I. ca'rnea (Jacq. amer. p. 26. t. 18. pict. t. 25.) leaves roundish-cordate, glabrous; peduncles many-flowered; corollas emarginate; sepals small, roundish. ♃. ◠. S. Native of America, near Carthagena, where it is called *Campanilla*. Willd. spec. 1. p. 883. Conv. cárneus, Spreng. syst. 1. p. 602. All parts of plant glabrous. Leaves obtuse, mucronate, or acuminated. Peduncles subracemose. Corolla pale red, 3 inches long. Capsule tetragonal, 4-celled. Seeds black.

Flesh-coloured-flowered Ipomœa. Pl. tw.

99 I. viola'cea (Lin. spec. 1. p. 229.) leaves cordate; flowers crowded: corolla undivided. ⊙. ◠. S. Native of South America. Conv. violàceus, Spreng. syst. 1. p. 599. Quamoclit foliis amplissimis cordiformibus, Plum. spec. 3. icon. 93. f. 1.—Sloan. jam. p. 55. hist. 1. p. 155. t. 98. f. 1. Flowers large, purple. Conv. I'ndicus, Mill. dict. no. 5.?

Violaceous-flowered Ipomœa. Fl. Aug. Sept. Clt. 1792. Pl. tw.

100 I. corymbòsa (Roth. nov. spec. p. 220.) leaves cordate; peduncles umbellate; stem creeping. ♃. ⌒. S. Native of tropical America, Lin.; St. Domingo, and the East Indies, Heyne. Conv. corymbòsus, Lin. spec. p. 225. Desr. in Lam. dict. 2. p. 555.—Plum. ed. Burm. t. 89. f. 2. mss. vol. 2. t. 50. Leaves like those of *Calystègia sèpium*, 2-3 inches long, thin. Corolla white, spreading; star of limb of 5 white rays. Capsule turbinate, 1-celled, 2-3-seeded. Seeds roundish, brown.

Var. β; petioles stipulate at the base. ♃. ⌒. S. Native of Cayenne, Bonpl.

Corymbose-flowered Ipomœa. Fl. Aug. Sept. Clt. 1823. Pl. creeping.

101 I. amœ'na (Blum. bijdr. p. 718.) leaves roundish-cordate, acuminated, quite entire, very soft on both surfaces; peduncles elongated, cymosely many-flowered; sepals lanceolate, acuminated, spreading: outer ones the largest. ♃.? ⌒. S. Native of the Moluccas. Corolla purple.

Pleasant Ipomœa. Fl. Nov. Pl. tw.

102 I. multiflo'ra (Rœm. et Schultes, syst. 4. p. 234.) leaves cordate, glabrous; peduncles many-flowered; seeds rusty, villous. ⊙. ♃. ⌒. S. Native of Jamaica. Conv. multiflòrus, Mill. dict. no. 15.—Plukn. phyt. t. 167. f. 1. Stems slender. Flowers racemose, on long peduncles. Corolla purple. Capsule trigonal, 3-celled; cells 1-seeded.—Perhaps a species of *Batàtas*.

Many-flowered Ipomœa. Fl. June, July. Clt.? Pl. tw.

103 I. tri'color (Cav. icon. 3. p. 5. t. 208) glabrous; leaves cordate, acuminated; flowers axillary, subumbellate; peduncles thicker than the stem; calyx fleshy, pentagonal; sepals keeled. ⊙. ⌒. S. Native country unknown. Conv. venústus, Spreng. syst. 1. p. 600. Calyx of a dark violet colour. Corolla with a 5-lobed, crenulated blue limb and a whitish tube, having the inside angles spotted with red.

Three-coloured-flowered Ipomœa. Pl. tw.

104 I. Osyre'nsis (Roth. nov. spec. p. 220. Rœm. et Schultes, syst. 4. p. 239.) shrubby; leaves cordate-ovate, obtuse, undivided, glabrous above, but clothed with dense, silky tomentum beneath; flowers subcapitate, almost sessile, mixed with oblong-lanceolate bracteas; corolla oblong-campanulate, strigose outside; stem tomentose. ♃.? ⌒.? S. Native of the East Indies, in Osyre, where it is called *Mala-Erikaliga*. Conv. Osyrénsis, Heyne. Stigma capitate, didymous, tubercled.

Osyre Ipomœa. Shrub twining.

105 I. racemòsa (Poir. suppl. 4. p. 634.) stem terete, grey, downy; leaves ovate-cordate, obtuse, coriaceous, downy beneath; flowers racemosely panicled; peduncles hispid; bracteas downy, concave, lanceolate, involving the calyx and exceeding it; sepals lanceolate, acuminated, glabrous. ♄. ⌒. S. Native of St. Domingo. Conv. racemòsus, Spreng. syst. 1. p. 600. Leaves 2 inches long, clothed with white silky down beneath. Peduncles beset with numerous short hairs. Corolla white, with a thick cylindrical tube, twice as long as the bracteas; limb short of 5 acute lobes.

Racemose-flowered Ipomœa. Shrub tw.

106 I. ferrugínea (Rœm. et Schultes, syst. 4. p. 240.) plant clothed with rusty tomentum; stem terete; leaves ovate-cordate, acute; peduncles axillary, 4-flowered; sepals unequal: the 3 outer cordate, acuminated, and the 2 inner shorter and lanceolate. ♄. ⌒. S. Native of South America. Conv. ferrugíneus, Vahl, eclog. 1. p. 17. Willd. spec. 1. p. 858. Petioles length of leaves. Leaves linear above. Peduncles length of petioles. Corolla unquicular, blue. Stigma thickened, ex Vahl.

Rusty Ipomœa. Shrub tw.

107 I. heterophy'lla; twining, rather downy; leaves hastately 3-lobed: lobes acute, entire; peduncles many-flowered; sepals equal, oblong, acute. ♃. ⌒. S. Native of Guinea. Conv. diversifòlius, Schum. pl. guin. p. 94. but not of Choisy. Stems filiform, hairy. Leaves glaucous, as well as downy beneath. Peduncles naked, usually 7-flowered. Corolla campanulately funnel-shaped, size of *C. sepium*, white, with a violaceous throat; limb obsoletely 5-lobed. Seeds tomentose.

Various-leaved Ipomœa. Pl. tw.

108 I. ventricòsa (Bert. in Coll. hort. rip. p. 37. under *Convólvulus*) glabrous; leaves broad-cordate, acuminated, quite entire, glabrous; peduncles generally 4-flowered, bracteate; calyxes acute, coriaceous, ventricose. ⊙. ⌒. S. Native of Guadaloupe, in gardens; but originally introduced from the Island of St. Bartholomew. Corolla large, white, funnel-shaped, glabrous.

Ventricose-calyxed Ipomœa. Pl. twining.

109 I. Hooke'ri; glabrous; leaves on long petioles, deeply cordate, acuminated; peduncles 3-4-flowered, thickened, and somewhat racemose; sepals small, erect, adpressed, linear-subulate, margined with white; corolla large, funnel-shaped, with a very short tube, and a 5-angled limb; having the angles mucronate. ♄. ⌒. S. Native of Mexico, in the province of Guanaxuato. Ipomœ'a rùbro-cœrùlea, Hook. bot. mag. t. 3297. Corolla white in the bud, with the limb of a rich lake-red, which when the flower is fully expanded, becomes of a fine purplish blue. Filaments hairy. Stigma capitate, 2-lobed. This is probably a species of *Rìvea*.

Hooker's Ipomœa. Fl. July, Aug. Clt. 1830. Shrub tw.

* * * *Peduncles generally 3-flowered.*

110 I. obscu'ra (Ker. bot. reg. t. 239. Rœm. et Schultes, syst. 4. p. 236.) stem herbaceous, interruptedly glabrous, and villous from hairs; leaves cordate, acuminated, glabrous; peduncles exceeding the petioles, 1-3-flowered; pedicels thickened, bracteate; sepals oblong-ovate, sometimes obtuse, sometimes acuminated. ⊙. ⌒. S. Native of the East Indies, everywhere. Ip. solanifòlia, Burm. ind. p. 49. Ip. insuàvis, Blum. bijdr. p. 716. Conv. obscùrus, Lin. spec. p. 220. Burm. ind. 44. Wall. fl. ind. 2. p. 52. Conv. geméllus, Vahl, symb. 3. p. 27.—Dill. elth. 98. t. 83. f. 95. Conv. trigònus, Ham. herb. Ip. gemella, Roth. nov. spec. 240. Bracteas lanceolate, acute, glabrous; calyx glabrous. Corolla campanulate, glabrous, 3-4 times longer than the calyx, yellow, with a purple throat; lobes emarginate. Seeds downy.

Var. β, *glàbra* (Choisy, l. c. p. 464.) stem glabrous; pedicels equal; seeds sometimes clothed with grey down, and sometimes glabrous. ⊙. ⌒. S.

Obscure Ipomœa. Fl. June, Aug. Clt. 1732. Pl. tw.

111 I. tria'ntha (Rœm. et Schultes, syst. 4. p. 243.) glabrous; leaves cordate-lanceolate, attenuated, glabrous, obtuse; peduncles 3-flowered, shorter than the leaves; sepals obtuse. ⊙.? ⌒. S. Native of the East Indies. Conv. triflòrus, Vahl, symb. 3. p. 30. Leaves 2 inches long, rounded and mucronate at apex; hind lobes obtuse, very rarely angular. Pedicels bractless, angular. Corolla 3 times longer than the calyx; lobes pilose at apex.

Three-flowered Ipomœa. Pl. tw.

112 I. triflòra (Forsk. egypt. p. 44.) glabrous; leaves cordate, acuminated, glabrous; peduncles axillary, 3-flowered. ⊙. ⌒. S. Native of Arabia, in Hadje. Gmel. syst. p. 343. Vittm. summ. 1. p. 440. Corolla pale yellow; limb undivided, an inch in diameter.

Three-flowered Ipomœa. Pl. tw.

113 I. Weinma'nni (Rœm. et Schultes, syst. 4. p. 245.)

pilose; leaves cordate, acute; peduncles axillary, usually 3-flowered, shorter than the leaves. ⊙. ⌒. S. Native of Bengal. I. Schultèsii, Weinm. in litt. Leaves ciliated. Sepals equal, 3 outer ones sagittately cordate, the 2 inner ones linear. Corolla small, white; segments ovate, acute. Capsule 3, rarely 4-seeded. Seeds clothed with brown hairs.

Weinmann's Ipomœa. Pl. tw.

114 I. glaucéscens; glabrous; leaves ovate, cordately hastate, glabrous, glaucescent beneath, having the hind lobes diverging; peduncles axillary, 2-3-flowered, shorter than the leaves; sepals oblong, obtuse, mucronulate under the apex, wrinkled, glabrous, nearly equal. ⊙. ⌒. S. Native of Quito, near Chilo, at the altitude of 1350 hexapods. Conv. glaucéscens, H. B. et Kunth, nov. gen. 3. p. 101. Stem angular. Leaves 2 inches long. Corolla funnel-shaped, glabrous, of a violaceous purple colour, size of those of *Conv. arvénsis*.

Glaucescent Ipomœa. Pl. tw.

115 I. Meyèri; leaves cordate, acuminated, smoothish; peduncles very short, 2-flowered; sepals linear-lanceolate, cuspidate, parted to the base, hairy. ↄ.? ⌒. S. Native country unknown. Convólvulus Meyèri, Spreng. syst. 1. p. 597. Conv. cuspidàtus, Willd. herb.

Meyer's Ipomœa. Pl. tw.

116 I. trichocàlyx; leaves cordate, acutely acuminated, mucronate, smoothish, somewhat ciliated; stem, petioles, and peduncles hairy; peduncles short, 3-flowered; calyx hairy; sepals ovate-acute, or ovate-lanceolate, acuminated.—Native of Guinea. Conv. trichocàlyx, Schum. pl. guin. p. 91. Stems herbaceous, hairy or glabrous. Lateral pedicels bracteate: middle one naked. Corolla like that of *C. arvénsis*, cream-coloured, with a purple bottom. Capsule globose. Seeds clothed with black tomentum. Limb of corolla flat, with 5 small incisures.—Nearly allied to *I. gemélla*.

Hairy-calyxed Ipomœa. Pl. tw.

117 I. eriocárpa (R. Br. l. c.) downy; leaves cordate, lanceolate, acuminated, entire; peduncles 2-3-flowered, very short; sepals acuminated, and are, as well as the capsules, pilose. ↄ.? ⌒. S. Native of New Holland, within the tropic, on the sea shore. Conv. eriocárpus, Spreng. syst. 1. p. 598.

Woolly-fruited Ipomœa. Pl. tw.

118 I. parasítica; stem muricated with prickles; leaves roundish, deeply cordate, acuminated, downy on the veins on both surfaces, ciliated; peduncles 3-flowered, shorter than the leaves; sepals ovate-oblong, mucronate, smoothish, nearly equal. ↄ. ⌒. S. Native near Caraccas. Conv. parasíticus, H. B. et Kunth, nov. gen. amer. 3. p. 103. Conv. circinnàtus, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 302. Stems angular, beset with retrograde hairs and deciduous prickles. Leaves 2 inches long: hind lobes approximate. Peduncles and pedicels downy. Corolla funnel-shaped, much longer than the calyx, blue, covered with adpressed down towards the base. Seeds angular. Capsule glabrous. Perhaps a species of *Pharbìtis*.

Parasitical Ipomœa. Pl. tw.

119 I. supérba; stem angular, beset with retrograde strigæ; leaves roundish-ovate, deeply cordate, acuminated, beset with strigose hairs beneath, ciliated; peduncles usually 3-flowered, twice as long as the leaves; sepals oblong, acutish, hispid, nearly equal. ↄ. ⌒. S. Native of New Spain, betwixt Aguasarca and the burning mount Jorullo, at the altitude of 550 hexapods. Conv. supérbus, H. B. et Kunth, nov. gen. amer. 3. p. 103. Conv. sanguíneus, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 302. Leaves 2 inches long, beset with adpressed scattered hairs above; hind lobes approximate. Peduncles and pedicels beset with retrograde bristles. Corollas funnel-shaped, purple, downy outside, 3 lines longer than those of *I. purpùrea*. Perhaps a species of *Pharbìtis*.

Superb Ipomœa. Pl. tw.

120 I. móllis; stems compressed, roughish; leaves roundish-ovate, cordate, acuminated, strigose above, and clothed with soft down beneath; peduncles 3-flowered, shorter than the leaves; sepals rather downy, oblong-lanceolate, subulately acuminated, nearly equal. ↄ. ⌒. S. Native of New Andalusia, near Cumanacoa. Conv. móllis, H. B. et Kunth, nov. gen. amer. 3. p. 104. Conv. cynanchifòlius, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 301. Leaves hardly 3 inches long; hind lobes diverging. Peduncles and pedicels rather downy. Corolla violaceous, downy outside. Perhaps a species of *Pharbìtis*.

Soft Ipomœa. Shrub tw.

121 I. petiolàris; stem angularly furrowed, muricated with prickles; leaves roundish-ovate, deeply cordate, acuminated, glabrous, on long petioles; peduncles 3-flowered, shorter than the leaves; sepals oblong, subulately-acuminated, glabrous, nearly equal. ↄ. ⌒. S. Native of Mexico, on the burning mount Jorullo, near the volcano, at the altitude of 600 hexapods. Conv. petiolàris, H. B. et Kunth, nov. gen. amer. 3. p. 105. Plant glabrous. Leaves 4 inches long; hind lobes approximate. Petioles 5 inches long. Corolla funnel-shaped, violaceous, glabrous.

Long-petioled Ipomœa. Pl. tw.

122 I. lilácina (Blum. bijdr. p. 716.) leaves cordate, acuminated, with a mucrone, downy above, soft beneath; peduncles 2-3-flowered, about equal in length to the petioles; sepals acute, downy. ↄ. ⌒. S. Native of Java, about Batavia, in grassy bogs. Flowers lilac. Said to be allied to *I. gemélla*, Roth.

Lilac-flowered Ipomœa. Fl. Year. Pl. tw.

123 I. Batatílla: branches terete, clothed with hoary tomentum; leaves ovate, obsoletely cordate, acuminated, downy above, but clothed with hoary tomentum beneath; peduncles terminal? and axillary, usually 3-flowered, shorter than the leaves; sepals roundish obtuse, downy: the 3 outer ones rather the smallest; seeds comose. ♄. ⌒. S. Native near Cumana, Caraccas, and in the valleys of Aragua, where it is called by the natives *Batatílla*.— Conv. Batatílla, H. B. et Kunth, nov. gen. amer. 3. p. 106. Leaves 2 inches long. Petioles biglandular at apex. Corollas funnel-shaped, downy outside, of a violaceous rose-colour; lobes of limb emarginate. Capsule glabrous, 4-celled? 4-valved? Cells 1-seeded. Seeds size of the nuts of *Córnus máscula*, black, trigonal.

Batatilla Ipomœa. Shrub tw. 6 feet high.

124 I. verticillàta (Forsk. descr. p. 44.) decumbent, hairy; leaves cordate, bluntish, with a short mucrone, the veins beset with a few hairs above in the young state; peduncles axillary, tern, from all the axils, reflexed, 1-flowered, angular; sepals ovate, acute, hispid, glabrous in the old state, but ciliated. ↄ. ⌒. S. Native of Arabia Felix. Vahl, symb. 3. p. 33. Willd. spec. 1. p. 883. Convólvulus Forskœ'lii, Spreng. syst. 1. p. 596. Peduncles bracteate. Capsule size of a pea, glabrous. Seeds clothed with silky tomentum.

Whorled-flowered Ipomœa. Pl. decumbent.

§ 4. *Leaves cordate at the base, often 3-lobed, with toothed or repand edges; sometimes varying in the same plant, with entire, angular, or toothed edges. Flowers not crowded into heads. Capsules and sepals middle-sized.*

125 I. acutángula (Ruiz. et Pav. fl. per. 2. p. 11. t. 119. f. b.) leaves sagittately triangular, having the angles toothed behind; peduncles 3-5-flowered, length of leaves; stems terete. ⊙. ⌒. S. Native of Peru, in the woods of Chincao and Pozuzo. Leaves on long petioles. Bracteas subulate at the divisions of the peduncle. Corolla funnel-shaped, scarlet; limb middle-sized, with a lobed margin. Perhaps a species of *Quámoclit*.

Acute angled-leaved Ipomœa. Pl. tw.

126 I. Herma'nniæ; leaves oblong, acute, sagittately cordate, sinuately repand towards the base, clothed with silky tomentum on both surfaces, hoary; peduncles axillary, 2-flowered, longer than the leaves; sepals ovate, acuminated, downy, nearly equal. ♃. ⌒. S. Native near Truxillo, on the shores of the Pacific. Conv. Hermánniæ, Lher. stirp. nov. fasc. 4. p. 67. t. 33. Ruiz. et Pav. fl. per. 2. p. 10. H. B. et Kunth, nov. gen. 3. p. 98. Willd. spec. 1. p. 862.

Hermann's Ipomœa. Pl. tw.

127 I. stipula'cea (Sweet, hort. brit. p. 289. Choisy, in mem. soc. phys. gen. 6. p. 466.) smooth; leaves cordate-sagittate; auricles usually repand, glabrous; petioles bistipulate at the base; peduncles 3-6-flowered, equal in length to the petioles; sepals ovate, equal, concave. ♃. ⌒. S. Native of Chittagong. Conv. stipulàceus, Wall. fl. ind. 2. p. 71. Stems terete, creeping at base, and twining at apex. Leaves 2-3 inches long. Stipulas recurved, acute. Peduncles and pedicels clavate. Corollas showy, white, with obcordate lobes. Capsule globose. Seeds clothed with olive-coloured wool.

Stipulaceous Ipomœa. Fl. Aug. Sept. Clt. 1805. Pl. tw.

128 I. pulche'lla; glabrous; leaves ovate-oblong, much acuminated, hastately cordate, angularly toothed at the base; peduncles axillary, 1-flowered, longer than the leaves; sepals oblong, obtuse, glabrous, nearly equal. ⊙. ⌒. S. Native of Peru. Conv. pulchéllus, H. B. et Kunth, nov. gen 3. p. 101. Conv. pauciflòrus, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 302. Stems rather angular. Hind lobes of leaves diverging. Corolla funnel-shaped, glabrous, purple, size of those of *Conv. arvénsis.* Capsule globose, glabrous.

Neat Ipomœa. Pl. tw.

129 I. suffu'lta; hairy; leaves roundish-ovate, acuminated, deeply cordate, angularly toothed; peduncles 1-flowered, propped each by a cordate bractea or leaf; sepals oblong, acutely acuminated, glabrous: outer ones rather the smallest. ♃. ⌒. G. Native of Mexico, on the burning mount Jorullo, at the altitude of 580 hexapods. Conv. suffúltus, H. B. et Kunth, nov. gen. 3. p. 103. Peduncles distant, solitary, on the axils of the upper leaves or bracteas. Corolla funnel-shaped, size of those of *Calystègia sèpium*, glabrous, purple. Stigmas granular.

Propped Ipomœa. Pl. tw.

130 I. fastigia'ta (Sweet, hort. brit. p. 288.) glabrous; leaves cordate, acuminated and mucronulate, entire, sinuated, fiddle-shaped, or 3-lobed; peduncles exceeding the petioles, 3-12-flowered, cymose; sepals lanceolate, mucronately awned; outer ones the shortest. ♃. ⌒. S. Native of the West India Islands, Guiana, and Bengal. I. platanifòlia, Rœm. et Schultes, syst. 4. p. 220, exclusive of the syn. of Plukn. Ip. cymòsa, Meyer, ess. p. 99, but not of Roth. Conv. fastigiàtus, Wall. fl. ind. 2. p. 48. Conv. platanifòlius, Vahl, symb. 3. p. 26. Conv. Essequibénsis, Spreng. syst. 1. p. 600.—Feuill. per. 3. p. 16. t. 1. Stems terete. Stolons long, creeping along the earth. Leaves 2-3 inches long. Corolla showy, purple, glabrous. Capsule smooth. Seeds glabrous. Leaves, like the young branches, often tinged with purple, particularly the margins, veins, and nerves.

Var. β; stem angular; peduncles elongated, few or many-flowered; sepals short, or long-awned; also the leaves and veins are downy.

Fastigiate Ipomœa. Fl. Ju. Aug. Clt. 1816. Pl. tw.

131 I. denticula'ta (Choisy, in. mem. soc. phys. 6. p. 467.) glabrous; leaves cordately hastate, quite glabrous: auricles obtuse, and laterally unidentate; peduncles 1-flowered, shorter than the petioles; sepals ovate, obtuse, sometimes mucronulate. ♃. ⌒. S. Native of the island of Rawak, and the Society Islands, &c. Conv. denticulàtus, Desr. in Lam. dict. 3. p. 540. Conv. lævigàtus, R. Br. herb. Stems terete. Leaves obtuse, mucronulate, 1-2 inches long. Corolla 1¼ inch long, glabrous, with a hardly spreading limb. This species varies with many-flowered peduncles, and in the auricles being rounded.

Denticulated-leaved Ipomœa. Pl. tw.

132 I. pudibu'nda; glabrous; leaves cordate, entire, and 3-lobed, acuminated; peduncles many-flowered, shorter than the petioles; sepals ovate, acute, somewhat foliaceous; limb of corolla 5-lobed. ⊙. ⌒. S. Native of St. Vincent. Convólvulus pudibúndus, Lindl. in bot. reg. t. 999. Corolla of a fine rose-colour; tube subcylindrical, inflated.

Blush Ipomœa. Fl. Aug. Sept. Clt. 1822. Pl. tw.

133 I. Montevide'nsis; leaves hastate, lanceolate, smoothish; auricles divaricate, emarginately angular; peduncles 2-flowered, exceeding the petioles; sepals scarious. ♃. ? ⌒. S. Native of Monte Video. Convólvulus Montevidénsis, Spreng. syst. 1. p. 604.

Monte-Video Ipomœa. Pl. tw.

134 I. Deppea'na; downy; leaves sagittate at the base, sinuately toothed on the margins, mucronate; peduncles 1-flowered, twice as long as the leaves, bibracteate near the apex; bracteas linear, obtuse; sepals unequal, obtuse. ♃. ? ⌒. S. Native of Mexico. Conv. sinuàtus, N. E. in herb. Lamb. Flowers large, purple.

Deppe's leaved Ipomœa. Pl. twining.

135 I. Marianne'nsis (Choisy, l. c. p. 468.) glabrous; leaves cordate, acuminated, sometimes entire, sometimes 3-lobed and trifid: intermediate lobe dilated at the base; peduncles 3-4-flowered, exceeding the petioles; sepals lanceolate, very acute, ciliately hairy. ♃. ⌒. S. Native of the Marianne Islands. Auricles of leaves entire or lobed. Corolla tubular, hardly 3 times longer than the calyx, glabrous. Capsule pilose. Root tuberous. Nearly allied to *I. tríloba.*

Marianne Island Ipomœa. Pl. tw.

136 I. pilòsa (Sweet, hort. brit. p. 289. Choisy, l. c.) hairy; leaves broadly cordate, entire, or a little 3-lobed, clothed with white wool beneath; peduncles exceeding the petioles, cymosely many-flowered; sepals linear, hairy. ⊙. ⌒. S. Native of Mysore, Bengal, at Patturghata. Conv. pilòsus, Wall. fl. ind. 2. p. 55. Rottl. in act. n. c. berol. 4. p. 196. Conv. álbicans, Wall. no. 1401. Stems terete. Bracteas oblong-lanceolate. Corolla tubular, hardly twice as long as the calyx, glabrous, rose-coloured, or pink, expanding an inch. Capsule globose glabrous. Seeds villous on the angles.

Pilose Ipomœa. Fl. July, Oct. Clt. 1815. Pl. tw.

137 I. Aitònii (Hort. ex Lindl. bot. reg 1794.) villous; leaves cordate-roundish, 3-lobed: lobes acute; peduncles many-flowered, longer than the petioles, having the bracteas and sepals diverging and acuminated; corolla campanulate, with a thickened tube; stamens glandular at the base. ♃. ⌒. S. Native country unknown. Flowers densely aggregate. Bracteas length of sepals; sepals longer than the tube of the corolla Corolla middle-sized, violaceous: lobes acute.

Aiton's Ipomœa. Fl. April. Oct. Clt.? Pl. tw.

138 I. geme'lla (Roth, nov. spec. p. 110. Choisy, l. c. p. 469.) plant clothed with grey down; leaves cordate, acuminated, entire, or somewhat 3-lobed, clothed with grey villi beneath; peduncles much exceeding the petioles, loose, generally 2-flowered sometimes dichotomously many-flowered; sepals coriaceous obtuse, with sub-lacerated edges; corolla striated. ⊙. ⌒. S. Native of Tranquebar, Java, Manilla, banks of the Irawaddi, &c. Conv. geméllus, Burm. ind. 46. t. 21. f. 1. Conv. affìnis, Wall. cat. no. 1385. Conv. subangulàris, Ham. herb. Stem terete, villous, or smoothish. Leaves 1⅓ inch long, and 1¼ broad, glabrous, green on the upper surface, except the middle nerve. Corolla twice longer than the calyx, marked with converging black stripes; lobes acute, spreading.

Twin-flowered Ipomœa. Pl. tw.

139 I. chrysèides (Ker. bot. reg. t. 270.) stem twisted; leaves oblong-cordate, subhastate, entire, or often angular, also 3-lobed, acuminated, glabrous; peduncles stiff, exceeding the petioles, 2-7-flowered; sepals coriaceous, rayed with green, ovate retuse, mucronulate; corolla small, yellow. ↿. ⌒. S. Native of the East Indies, as of Silhet, banks of the Irawaddi, Soaddi, Goalpara, Segaen, Coromandel, Bengal; China, and Timor. Ip. dentàta, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 789. ex Klein. Conv. chryseìdes, Spreng. syst. 1. p. 598. Conv. dentàtus, Vahl, symb. 3. p. 25. Wall. fl. ind. 2. p. 62. cat. no. 1349. Conv. lutèolus, Wight. herb. Conv. flàvus, Ham. herb. Stem terete and striated, glabrous, downy at the insertion of the leaves. Leaves 12-24 lines long; lateral lobes dentately serrated. Petioles warted. Capsule 4-angled, glabrous. Seeds red, downy, under a lens.

Var. β; stem villous; hairs straight, much crowded at the base of the petioles, as well as on the middle nerves of the leaves.

Golden-flowered Ipomœa. Fl. Ju. Oct. Clt. 1817. Pl. tw.

140 I. Wíghtii (Choisy, in mem. soc. phys. gen. 6. p. 470.) villous; leaves cordate, acuminated: lower ones oblong, with sinuately toothed edges; younger ones 3-lobed; all woolly and rusty above, and clothed with white tomentum beneath; peduncles exceeding the petioles, 2-5-flowered; sepals oblong-linear, awned, very acute, hairy. ↿. ⌒. S. Native of the Nellighery mountains. Conv. Wíghtii, Wall. pl. rar. asiat. 2. p. 55. t. 171. Conv. gossypìnus, Wall. cat. no. 1407. Conv. lanuginòsus, Heyne, herb. Stem terete, beset with retrograde hairs, as well as the petioles. Leaves 1-3 inches long, and 1-2 broad. Bracteas like the sepals, but larger. Corolla campanulate, rose-coloured, glabrous. Capsule downy. Seeds glabrous. Nearly allied to *Ip. tricolor,* Desr.

Wight's Ipomœa. Pl. tw.

141 I. sagitta'ta (Poir. dict. 4. p. 17.) glabrous; leaves cordately sagittate; peduncles 1-flowered, shorter than the leaves, rarely 2-flowered; sepals linear-elliptic, obtuse. ↿. ⌒. S. Native on the banks of lakes, about the Calle, and the bastions of France, in Barbary, ex Poiret; abundant about Castellon, in Valentia, in humid places, ex Cav. Poir, voy. in barb. 2. p. 122. edit. germ. 2. p. 160. t. 3. Lam. ill. t. 104. f. 2. Cav. icon. 2. p. 4. t. 107. descr. p. 98. Desf. fl. atl. 1. p. 177. Conv. Whelèri, Vahl, symb. 2. p. 36. Willd. spec. 1. p. 845, exclusive of the syn. of Plukn. alm. p. 113. t. 85. f. 3. Conv. Valentìnus, Hort.—Tourn. inst. p. 82. Lower leaves cordate, 3 inches long, and 1 inch broad. Corolla large, of a reddish purple colour. Capsule globose. Seeds brown, angular.

Sagittate-leaved Ipomœa. Pl. tw.

142 I. lacunòsa (Lin. spec. ed. 3d. 228.) glabrous; leaves cordate, acuminated, angular at the base: lower ones obscurely repand; peduncles short, generally 1-flowered; calyx pilose; sepals lanceolate, acute, ciliated; corolla tubular, short. ↿. ⌒. H. Native of Virginia, Carolina, and Florida; rather abundant on the banks of the Arkansas, ex Nutt. in amer. phil. trans. n. s. 5. p. 195. Michx. fl. bor. amer. 1. p. 140. Pursh, fl. amer. 1. p. 145. Conv. lacunòsus, Spreng. syst. 1. p. 597.—Dill. elth. p. 103. t. 87. f. 102. Nearly allied to *Ip. coccínea;* but the peduncles are 1 or 2-flowered; the corollas with a thicker white tube; and purplish rim, not scarlet, ex Lin., and in the Arkansas plant white, ex Nutt., short, and somewhat campanulate. Nearly allied to *I. tríloba,* ex Michx. Lobes of corolla, which is tubular, nearly straight, ending in small setaceous mucrones. Capsule globose, rather hairy.

Lacunose-leaved Ipomœa. Fl. July, Aug. Clt. 1640. Pl. twining.

143 I. aristolochiæfòlia; glabrous; leaves ovate, much acuminated, having the hind lobes dentately angular and diverging; peduncles 3-flowered, shorter than the leaves; sepals ovate-oblong, acute, glabrous, wrinkled at the base, nearly equal; capsules ovate-conical. ↿. ⌒. G. Native of Caraccas, and La Venta de la Cumbre, in rather cold places. Conv. aristolochiæfòlius, H. B. et Kunth, nov. gen. amer. 3. p. 102. Stem angularly striated, rather scabrous; branchlets downy. Leaves glabrous, but when young downy above, 2 inches long. Corolla funnel-shaped, glabrous, with a white tube, and a violaceous limb. Capsule glabrous.

Aristolochia-leaved Ipomœa. Pl. tw.

144 I. pandura'ta (Ker. bot. reg. 588.) downy; leaves broad-cordate, entire or lobed, panduriform; peduncles long; flowers in fascicles; sepals glabrous, mutic; corolla tubularly-campanulate. ↿. ⌒. H. Native from Canada to Carolina, in sandy fields, and among bushes. Convólvulus panduràtus, Michx. fl. bor. amer. 1. p. 138. Pursh, fl. 1. p. 144.—Dill. elth. t. 85. f. 99. Root thick, turnip-formed. Corollas white. There is a variety of this, with double flowers, cultivated in the gardens of America, which is a singular circumstance among Convolvulaceous plants. The roots grow to an enormous size, sometimes as thick as a man's thigh, and more than 2 feet long. Taken in place of jalap, it has the same effect, only in a less degree. A variety, with entire leaves, is very common on the banks of the Arkansas, ex Nutt.

Fiddle-shaped-leaved Ipomœa. Fl. Ju. Sept. Clt. 1732. Pl. tw.

145 I. setífera (Poir. ency. 6. p. 17.) branches villous; leaves cordately auriculate, glabrous; peduncles usually 2-flowered; sepals large, ovate-oblong, glabrous, ending each in a bristle. ⊙. ? ⌒. S. Native of Guiana. Conv. sétifer, Spreng. syst. 1. p. 597. Plant glabrous. Auricles of leaves rounded. Corolla large, campanulate, purplish or reddish.

Bristle-bearing Ipomœa. Pl. tw.

146 I. macrorhìza; downy; leaves cordate, entire or lobed, plicately wrinkled, rather tomentose beneath; peduncles 1-3-flowered; sepals oval, mutic; corolla campanulate, 5-lobed; seeds woolly; root very thick. ↿. ⌒. G. Native of Georgia and Florida, near the sea-shore. Ip. Jálapa, Pursh, fl. amer. sept. 1. p. 146. Ker. bot. reg. t. 342. Conv. macrorhìza, Michx. fl. amer. bor. 1. p. 141. Pers. ench. 1. p. 184. Poir. dict. 6. p. 17. I. Michaúxii, Sweet, hort. brit. p. 288. Flowers very large, white. This is the Jalap of North America.

Var. β, rùbra; stem tubercular; peduncles many-flowered; sepals ovate, obtuse, downy; filaments tomentose at the base; ♄. ⌒. S. Native of Mexico, about Vera Cruz, &c. Conv. Jálapa, Lam. ill. t. 104. f. 2. Pers. ench. 1. p. 179. Woodv. med. bot. p. 59, with a figure. Plenk, off. t. 94. Desf. ann. mus. 2. p. 126. t. 40-41. Sims, bot. mag. 1572. I. Jálapa, Sweet, hort. brit. p. 288. Conv. Jálapa, *β,* ròsea, Ker. bot. reg. t. 621. Root very large, white inside, milky, fleshy, form of a turnip. Stems villous at top. Corolla having the tube violaceous inside, and lilac or pale red outside: limb purple. Stigma depressed, 2-lobed.

Large-rooted Ipomœa. Fl. Aug. Oct. Clt. 1815. Pl. tw.

147 I. Owarie'nsis (Beauv. fl. d'ow. 2. p. 41. t. 82.) stems, peduncles, petioles, and calyxes, beset with stiff hairs; flowers axillary, umbellate; leaves cordate, toothed, sublobate, beset with stiff hairs; sepals ovate, acuminated. ↿. ⌒. S. Native of Guinea, about the town of Waree. Poir. suppl. 4. p. 634. Conv. Owariénsis, Spreng. syst. 1. p. 594. Leaves on long petioles: lobes roundish. Pedicels simple, 1-flowered, unequal, crowded together. Corolla small, campanulate, red; lobes short, obtuse.

Waree Ipomœa. Pl. twining.

148 I. catha'rtica (Poir. suppl. 3. p. 633.) glabrous; leaves cordate, 3-lobed, acuminated; peduncles generally 1-flowered;

tube of corolla sub-cylindrical, inflated.—Native of St. Domingo, in humid places. Conv. Africànus, Nicols, hist. nat. st. dom. p. 260. Stems twining, but sometimes rooting along the ground. Leaves large, on long petioles; lobes unequal. Corolla an inch long, pale green; limb large, 5-lobed, with 5 lanceolate rays beneath. Stamens unequal, shorter than the corolla.

Cathartic Ipomœa. Pl. tw.

149 I. fu'nis (Cham. et Schlecht. in Linnæa. 5. p. 118.) shrubby; smoothish; leaves variable, cordate, hastately cordate, ovate, and 3-lobed, with the sides angular, toothed and entire, finely acuminated, hairy beneath on the nerves and veins, and at the insertion of the petioles, with a few hairs above in the young state; cymes on very long peduncles, 2-3 times dichotomous, with elongated branches; sepals ovate-orbicular, obtuse, with a long weak dorsal mucrone. ♄. ◠. S. Native of Mexico, in woods, near Jalapa; also among bushes, near San Andres. Corolla somewhat salver-shaped, scarlet; tube an inch long; limb expanded, an inch and a half. Leaves 4 inches long. Cymes a foot or more long. Perhaps a species of *Quámoclit*.

Rope Ipomœa. Shrub tw.

150 I. puncta'ta (Macfadyen, in Hook. bot. misc. 2. p. 116.) stems roundish, hairy; leaves cordate, 3-lobed, acuminated, hairy; petioles hairy: hairs proceeding from purplish glands, as in the stems; peduncles twice as long as the leaves, 6-flowered, hairy; bracteas as long as the pedicels, linear-subulate, hairy; calyx hairy: the hairs proceeding from roundish glands; sepals linear-lanceolate; stigma papillose, somewhat 3-lobed. ⊙. ? ◠. S. Native of Jamaica.

Dotted Ipomœa. Pl. twining.

151 I. Portorice'nsis; leaves deeply cordate, somewhat 3-lobed, glabrous: lateral ones very short; peduncles usually 3-flowered, shorter than the leaves; sepals lanceolate; tube of corolla inflated. ↄ. ? ◠. S. Native of Porto Rico. Convólvulus Portoricénsis, Spreng. syst. 1. p. 595.

Porto Rico Ipomœa. Pl. twining.

152 I. Jamaice'nsis; leaves deeply cordate, 3-lobed, sinuated, villous beneath, canescent; peduncles 1-flowered, shorter than the leaves, and are, as well as the sepals, which are lanceolate, glabrous. ↄ. ? ◠. S. Native of Jamaica. Convólvulus Jamaicénsis, Spreng. syst. 1. p. 595.

Jamaica Ipomœa. Pl. twining.

153 I. Rudólphi (Rœm. et Schultes, syst. 4. p. 222.) leaves cordate and 3-lobed; peduncles 2-flowered; bracteas and bracteoles lanceolate; the 3 outer sepals the largest. ⊙. ? ◠. S. Native of St. Domingo. Ip. bracteàta, Ledeb. dec. pl. doming. no. 4, but not of Cav. nor Rœm. et Schultes.

Rudolphe's Ipomœa. Pl. tw.

154 I. muta'bilis (Ker, bot. reg. t. 39.) downy; leaves cordate, entire or 3-lobed, acuminated, beset with adpressed hairs above, roughish tomentose beneath; flowers numerous, cymosely aggregate on the tops of the peduncles; cymes generally aggregate; calyx close, villous, nearly equal, loose above. ♄. ◠. S. Native of South America. Conv. mutábilis, Spreng. syst. 1. p. 593. Root and stems purple. Corolla large blue; limb campanulate; lobes roundish, cleft at apex. Stamens bearded at the base. Stigma granulately globose. Perhaps a species of *Pharbìtis*. Nearly allied to *I. congésta*, R. Br. prod. 1. p. 485. which is probably *Conv. multiflòrus*, Banks, herb.

Changeable-flowered Ipomœa. Fl. May, Sept. Clt. 1812. Shrub tw.

155 I. bractea'ta (Rœm. et Schultes, syst. 4. p. 227.) stem a little hairy at top; leaves glabrous, cordate, nearly entire, and 3-lobed, hastate, attenuated; peduncles 1-flowered, length of petioles; outer sepals form of bracteas. ⊙. ◠. S. Native of the East Indies. Conv. bracteàtus, Vahl, symb. 3. p. 25. Willd. spec. 1. p. 850. Nearly allied to *I. platanifòlia*. Leaves 2 inches long, intermediate lobe lanceolate, attenuated, entire; lateral ones broader, rounded upwards, entire, or retusely somewhat lobed outside. Bracteas 2, opposite under the calyx, lanceolate, acute. Calyx downy. Corolla villous outside, silky; limb 5-lobed.

Bracteate-flowered Ipomœa. Pl. tw.

156 I. acumina'ta (Rœm. et Schultes, syst. 4. p. 228.) stem beset with a few adpressed hairs; leaves glabrous, cordate, entire and 3-lobed, acuminated; peduncles elongated, many-flowered, glabrous; sepals lanceolate, attenuated, glabrous: inner ones shorter. ⊙. ? ◠. S. Native of the Island of Santa Cruz. Conv. acuminàtus, Vahl, symb. 3. p. 26. Willd. spec. 1. p. 851. Leaves 4 inches long; lateral lobes lanceolate; intermediate one ovate, attenuated. Corollas large, campanulate, purple, with a pale bottom, and 5 lanceolate, excurrent, paler rays at the margins; stigma capitate.

Acuminated-leaved Ipomœa. Pl. tw.

157 I. trichoca'rpa (Ell. fl. car. 2. p. 260.) plant smoothish; leaves deeply 3-lobed or entire; peduncles usually 2-flowered; sepals oval-lanceolate, pilose; corollas short; capsule globose, hairy. ⊙. ◠. H. Native of Carolina, in hedges. Conv. Carolìnus, Michx. fl. amer. bor. 1. p. 139. Desr. in Lam. dict. 3. p. 563. Ip. commutàta, Rœm. et Schultes, syst. 4. p. 228. Conv. trichocárpus, Spreng. syst. 1. p. 593. Ipomœa Carolìna, Pursh, fl. amer. sept. 1. p. 145.—Dill. elth. p. 100. t. 84. f. 98. Bracteas subulate. Corolla large, pale purple.

Hairy-fruited Ipomœa. Fl. July, Aug. Clt. 1732. Pl. tw.

158 I. longiflòra (R. Br. l. c.) leaves cordate, undivided or 3-lobed, acute; petioles biglandular beneath at the apex; peduncles 1-3-flowered, thickened in the fruit-bearing state; sepals somewhat unequal, obtuse, mutic; corollas very long. ↄ. ◠. S. Native of New Holland, within the tropic. Ip. macrántha, Rœm. et Schultes, syst. 4. p. 251. Conv. longiflòrus, Spreng. syst. 1. p. 595.

Long-flowered Ipomœa. Pl. tw.

§ 5. *Leaves palmately, digitately, or pedately lobed; rarely trifid, or 3-lobed. Flowers not in heads. Capsules and sepals middle-sized.*

* *Peduncles 1-3-flowered.*

159 I. Cóptica (Roth, nov. spec. p. 110. Choisy, in mem. soc. phys. gen. 6. p. 471.) plant herbaceous, smooth; leaves palmate or pedate; leaflets serrated, glabrous; petioles compressed, stipulaceous at the base; peduncles 1-2-flowered, exceeding the petioles; sepals rugosely muricate, glabrous. ⊙. ◠. S. Native of Senegal, East Indies, and Cuba. Ip. Brunètii, Pers. cat. mss. no. 150. Ip. verrucòsa, Ort. dec. p. 10.? Ip. dissécta, Heyne, herb. Conv. Cópticus, Lin. mant. p. 559. Wall. fl. ind. 2. p. 62. Conv. stipulàtus, Desr. in Lam. dict. 3. p. 546. Conv. disséctus, Wall. cat. no. 1351. Stem angular, prostrate, rather long. Leaves palmate or pedate; outer lobes the shortest, and usually bifid: middle ones ovate-lanceolate, acute. Sepals ovate-oblong. Corolla white, tubular, 4-5 lines long, glabrous; lobes acute. Seeds glabrous.

Coptic Ipomœa. Pl. prostrate.

160 I. pentada'ctylis (Choisy, in mem. soc. phys. gen. 6. p. 471.) herbaceous; leaves quinate; leaflets linear-lanceolate or linear, petiolulate, entire, glabrous, obtuse; peduncles exceeding the petioles, 1-2-flowered; sepals glabrous, ovate, obtuse, unequal; outer ones the shortest. ⊙. ◠. S. Native of the East Indies, as on Mount Taong-Dong, near Ava. Conv. pentadáctylis, Wall. cat. no. 1367. Conv. tenuifòlius, Vahl, symb. 3. p. 33. Stem terete. Leaves decreasing in size to the tops of the stems. Corolla tubularly campanulate, glabrous, with the limb hardly spreading. Capsule and seeds glabrous.

Var. β; stem and petioles clothed with long, straight, rufous hairs; leaves a little larger.

Five-fingered-leaved Ipomœa. Pl. tw.

161 I. Horsfa'lliæ (Hook. bot. mag. 3315.) glabrous; leaves quinately digitate: leaflets lanceolate, quite entire, with undulated margins; peduncles about as long as the petioles, bearing dichotomous cymes of flowers; sepals imbricate, obtuse, equal; corolla funnel-shaped. ♃. ⌒. S. Native of Africa, or the East Indies. Corolla of a deep, rich, and glossy rose colour. Stigma capitate, 2-lobed, hairy. Filaments glabrous, upon a hairy scale or gland, which is vaulted beneath. Leaflets generally 5, rarely 6-7. Perhaps a species of *Batàtas*, or a new genus from the vaulted scale at the base of each filament.

Horsfall's Ipomœa. Fl. Dec. Jan. Clt. 1833. Pl. tw.

162 I. ennea'loba (Beauv. fl. d'ow. 2. p. 69. t. 101.) stem angular; leaves palmately 9-lobed: lobes unequal; peduncles 3-flowered; corollas purple. ♃. ⌒. S. Native of Guinea, at Chama. Nearly allied to *I. almàta*, Forsk, but is without any digitate stipulas. Corolla with the tube narrow at the base, and swollen at top.

Nine-lobed-leaved Ipomœa. Pl. twining.

163 I. pulche'lla (Roth, nov. spec. p. 115.) herbaceous, glabrous; leaves quinate; leaflets sometimes entire, sometimes bifid: all elliptic-ovate, petiolate, mucronulate at apex; peduncles about equal in length to the petioles, 1-2-flowered; sepals glabrous: inner ones obtuse: outer ones shorter, acutish; seeds villous. ♃. ⌒. S. Native of the East Indies, at Pagamew and Segaen, &c. Conv. béllus, Spreng. syst. 1. p. 590. Conv. heptaphýllus, Rottl. ex Willd. act. nat. cur. 4. p. 196. Wall. fl. ind. 2. p. 66. Conv. digitàtus, Roxb. ex Wall. cat. no. 1353. Conv. dasyspérmus, Spreng. Wight. herb. Conv. venòsus, Madr. herb. Stem terete. Petioles tubercled. Corolla an inch long, funnel-shaped, small, pale pink, with the bottom of the bell deeper coloured. Capsule glabrous. This is a beautiful delicate, though extensive plant, and uncommonly interesting on account of its slender, pendulous, spiral peduncles, with their pretty small pink flowers, standing erect on their thickened curved apexes.

Pretty Ipomœa. Pl. tw.

164 I. tubercula'ta (Rœm. et Schultes, syst. 4. p. 208. Choisy, l. c. p. 474.) stem glabrous, verrucosely muricated; leaves quinate; lobes lanceolate, mucronate, entire: outer ones often bifid; petioles stipulaceous; peduncles usually 1-3-flowered, longer than the leaves; sepals obtuse, unequal, ovate-oblong, with membranous edges; corolla campanulate, rose-coloured, 2 inches; seeds glabrous, ex Choisy; woolly on the convex side, ex Wall. ♃. ⌒. S. Native of the East Indies, China; Sandwich Islands; South America; Para, Monte Video, and Rio Janeiro, in Brazil; and of the province of Caraccas, on the bank of Lake Tacarigua, where it is called *Vejaquilo* by the natives. Ip. stipulàta, Jacq. schœnb. 2. p. 39. t. 199. Ip. frutéscens, Desf. cat. par. p. 74. Ip. tuberculòsa, Desf. cat. par. p. 74. Ip. tuberòsa, Lour. coch. 112. ed. Willd. 1. p. 138. Conv. tuberculàtus, Desr. in Lam. dict. 3. p. 545. H. B. et Kunth, nov. gen. 3. p. 108. Conv. digitàtus, Wall. fl. ind. 2. p. 65. Rœm. et Schultes, syst. 4. p. 303. Flowers purple, size of those of *Batàtas paniculàta*. Very nearly allied to *Ipomœ'a Caírica*.

Tubercled-stemmed Ipomœa. Fl. Ju. Sept. Clt. 1818. Pl. twining.

165 I. ampelopsifòlia; glabrous, except the petioles, which are glandularly downy; leaves quinate; leaflets lanceolate, serrated, cuspidate; peduncles 1-3-flowered, shorter than the leaves; sepals ovate, obtuse, mutic, each furnished with a dorsal mucrone; outer ones rather the shortest. ♃. ⌒. S. Native of Mexico, near Vera Cruz, among bushes. Conv. ampelopsifòlius, Cham. et Schlecht. in Linnæa, 5. p. 118.

Ampelopsis-leaved Ipomœa. Pl. twining.

166 I. operculà'ta (Mart. reise. bras. ex Linnæa, 5. p. 40.) glabrous; stems winged; leaves pedately 5-parted; segments broad-lanceolate, acuminated, quite entire, or repandly toothed: pedicels solitary or twin, winged; capsule compressed, globose, circumcised. ♃. ⌒. S. Native of Brazil. Conv. operculàtus, Gomez, mem. corresp. acad. lisb. 1812. p. 27. icone.

Operculate-capsuled Ipomœa. Pl. tw.

167 I. dasyspe'rma (Jacq. eclog. 1. p. 132. t. 89.) herbaceous, smooth; leaves tripartite; segments trifid: the larger ones pinnately 5-lobed, with the lower lobes bifid, all glabrous; peduncles 1-3-flowered, shorter than the petioles; sepals ovate, obtuse, unequal, and as if they were cordately spurred at the base before flowering: outer ones the shortest. ☉. ⌒. S. Native of the East Indies, China, New Holland. Ip. tuberculàta, Ker. bot. reg. t. 86, but not of Rœm. et Schultes. Conv. dasyspérma, Spreng. syst. 1. p. 591. Conv. pedàtus, Roxb. fl. ind. 2. p. 63. Stipulas small, filiform, pedate. Flowers in profusion, pretty large, of a bright sulphur colour. Pedicels clavate. Seeds pilose on the ribs. "Leaves pedately tripinnate. Calyx warted," ex Roxb, &c.

Thick-seeded Ipomœa. Fl. Aug. Sept. Clt. 1815. Pl. tw.

168 I. disse'cta (R. Br. prod. p. 487.) glabrous; leaves palmate, 7-parted; segments linear, dentately pinnatifid: middle segment elongated; peduncles 1-2-flowered; calyx half the length of the corolla; sepals ovate, with crested nerves. ☉. ⌒. G. Native on the shores of New Holland, within the tropic. Corolla white, 1 inch long, a little longer than the calyx.

Dissected-leaved Ipomœa. Fl. Ju. Sept. Clt. 1813. Pl. twining.

169 I. sinua'ta (Orteg. dec. 7. p. 84.) stem, petioles, and peduncles very pilose; leaves glabrous, deeply 7-parted; segments sinuated or pinnatifid; peduncles 1-flowered, longer than the leaves; sepals oval, glabrous, acute, nearly equal; corollas campanulate. ♃. ⌒. H. Native of Georgia and Florida, on calcareous hills; and of Cuba, near Havannah, and Regla, in cultivated places. Ip. dissécta, Pursh, fl. amer. sept. 1. p. 145. Conv. disséctus, Lin. mant. p. 204. Michx. fl. bor. amer. 1. p. 139. Jacq. obs. 2. p. 4. t. 28. hort. vind. t. 159. Corollas white, with a reddish throat.

Sinuated-leaved Ipomœa. Fl. June, Sept. Clt. 1813. Pl. twining.

170 I. quinque'loba (Rœm. et Schultes, syst. 4. p. 268.) glabrous; leaves palmately 5-lobed: lobes finely serrulated, obtuse; axils of leaves hairy; peduncles length of petioles, bractless; sepals obtuse, glabrous. ♃. ? ⌒. S. Native of the Island of Santa Cruz. Conv. quinquélobus, Vahl, symb. 3. p. 32. Willd. spec. 1. p. 863. Nearly allied to *I. Caírica* and *Ip. stipulàta*, but differs, in the leaves being smaller, and the peduncles 1-flowered, &c. Lateral lobes of leaves narrower, mucronate. Stipulas 2, small. Corolla subcampanulate, glabrous, purple.

Five-lobed-leaved Ipomœa. Pl. tw.

171 I. pe'ndula (R. Br. prod. p. 486.) glabrous; stems trailing or creeping; leaves quinately digitate; leaflets lanceolate, mucronulate, with entire edges: outer leaflets undivided or bifid; peduncles 1-3-flowered; sepals nearly equal, obtuse, 3 times shorter than the corolla. ♄. G. Native of New Holland, within the tropic; and in New South Wales, about Port Jackson; as well as of New Caledonia, and the Island of Tanna. Conv. mucronàtus, Forst. prod. no. 79. Conv. péndulus, Spreng. syst. 1. p. 590. "Lobes of leaves ciliated, mucronate; peduncles 1-flowered." Forst.

Pendulous-flowered Ipomœa. Fl. May, Oct. Clt. 1805. Pl. trailing.

172 I. PINNATÍFIDA ; glabrous ; leaves pinnately 7-cleft ; segments lanceolate, acuminated, almost quite entire ; peduncles 1-2-flowered, longer than the leaves ; sepals roundish-concave, nearly equal, glabrous. ♃. ◠. S. Native of Cuba, betwixt Havannah and Regla. Conv. pinnatífidus, H. B. et Kunth, nov. gen. 3. p. 108. Stem angularly striated. Leaves ovate in circumference, 2 inches long. Leaflets sometimes furnished with one or two teeth, or quite entire ; intermediate one large, and the lateral ones becoming gradually smaller. Corolla downy outside.

Pinnatifid-leaved Ipomœa. Pl. tw.

173 I. TRÍFIDA ; downy ; leaves cordate, trifid ; segments quite entire ; peduncles 2-3-flowered, longer than the leaves ; sepals glabrous, ovate-oblong, mucronate : outer ones rather the smallest. ♃. ◠. S. Native on the banks of the Orinoco, between Carichana and San Borja, in woods. Conv. trífidus, H. B. et Kunth, nov. gen. amer. 3. p. 107. Conv. hepaticifòlius, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 303. Leaves 1½ inch long ; middle segment oblong, acuminated, mucronate : lateral ones a little shorter, diverging somewhat triangular, having the superior angle acuminated, and the lower one rounded. Corolla funnel-shaped, purple, glabrous, size of those of *Ip. purpùrea*. Perhaps a species of *Pharbìtis*.

Trifid Ipomœa. Pl. tw.

174 I. QUINA'TA (R. Br. prod. p. 486.) glabrous ; leaves quinately digitate ; leaflets lanceolate, quite entire, mucronulate ; peduncles 1-flowered ; sepals obtuse, the inner 2 twice the length of the outer 3, about equal to the middle of the corolla in length. ♃. ◠. S. Native of New Holland, within the tropic, on the sea shore. Very nearly allied to *I. hirsùta*. Convólvulus quinàtus, Spreng. syst. 1. p. 590.

Quinate-leaved Ipomœa. Pl. tw.

175 I. THONNÍNGII ; twining or prostrate, glabrous ; leaves digitately 5-parted ; segments narrow, pinnatifid, serrated ; stipulas palmate ; peduncles 1-flowered, bibracteate in the middle, simple, twin ; sepals oblong, acute, scabrous ; stigma capitate, 3-lobed. ♃. ◠. S. Native of Guinea. I. dissécta, Willd. spec. 1. p. 880. phyt. 1. p. 5. no. 19. t. 2. f. 3. Conv. Thonníngii, Schum. pl. guin. p. 98. Stems angular. Corolla campanulately funnel-shaped, white. Capsule hidden by a calyx, divided by a thin membrane into 3 cells ; cells 1-seeded. Seeds tomentose. Said to be allied to *I. Cópticus* and *I. laciniàtus*. Perhaps a species of *Batàtas*.

Thonning's Ipomœa. Pl. twining.

176 I. Hispaniòlæ ; leaves quinately digitate, glabrous ; leaflets lanceolate, serrated, cuspidate ; peduncles 1-flowered, exceeding the leaves ; sepals obtuse, glabrous. ♃. ◠. S. Native of Hispaniola. Convólvulus Hispaniòlæ, Spreng. syst. 1. p. 590. Stems hairy.

Hispaniola Ipomœa. Pl. twining.

177 I. HIRSU'TA (R. Br. l. c.) plant beset with spreading hairs ; leaves quinately digitate ; leaflets oblong-lanceolate ; peduncles generally 1-flowered ; calyx glabrous ; sepals obtuse, the 2 inner a little longer than the outer 3. ♃. ? ◠. S. Native of New Holland, on the sea-shore, within the tropic. Conv. Brównii, Spreng. syst. 1. p. 590.

Hairy Ipomœa. Pl. tw.

178 I. DIVERSIFÒLIA (R. Br. l. c. p. 487.) glabrous ; leaves palmately 7-parted ; segments linear, dentately pinnatifid : intermediate one elongated, and nearly entire ; peduncles 1-2-flowered ; calyx about equal in height to ¼ of the corolla, which is one inch and more long ; sepals oblong, wrinkled on the nerves. ♃. ◠. S. Native of New Holland, within the tropic. Conv. diversifòlius, Spreng. syst. 1. p. 592.

Diverse-leaved Ipomœa. Pl. tw.

179 I. CAROLÌNA (Lin. spec. 227, but not of Pursh nor Michx.) glabrous ? ; leaves digitate ; leaflets 5-7, lanceolate, attenuated at the base, petiolate ; peduncles 1-flowered ; calyx short. ♃. ◠. S. Native of the Bahama Islands. Willd. spec. 1. p. 880. Pers. ench. 1. p. 183. I. Caroliniàna, Poir. dict. 6. p. 11.—Cat. carol. 2. p. 91. t. 91. Corolla funnel-shaped ; tube green outside, and violet inside : limb purple ; segments reflexed.

Carolina Ipomœa. Fl. July, Aug. Clt. 1732. Pl. tw.

* * *Peduncles many-flowered.*

180 I. PLATE'NSIS (Ker, bot. reg. t. 333.) branches, petioles, and peduncles beset with prickly tubercles ; leaves palmate : lobes 7, cuneate-oblong, bluntish, with a short mucrone : outer ones the smallest ; peduncles few-flowered, cymose at apex, a little longer than the petioles ; sepals nearly orbicular. ♃. ◠. S. Native on the banks of the Plata. Conv. Platénsis, Spreng. syst. 1. p. 591. Root tuberous. Corollas pale purple, size of those of *Batàtas paniculàtus*. Stigma capitate, hardly lobed.

Plata Ipomœa. Fl. Ju. Sept. Clt. 1817. Pl. tw.

181 I. SETÒSA (Ker. bot. reg. t. 335.) branches, petioles, and peduncles hispid from bristles ; leaves naked, cordate, 3-lobed : lobes dentately sinuated ; peduncles robust, longer than the petioles, many-flowered, trichotomously cymose ; sepals oblong. ♃. ◠. S. Native of Brazil. Conv. setòsus, Spreng. syst. 1. p. 594. Root tuberous ?. Corolla salver-shaped, purplish red, size of those of *Batàtas paniculàtus*. Stigma globose. Said to be nearly allied to *Ip. platanifòlius*, and *Batàtas edùlis*.

Bristly Ipomœa. Fl. Aug. Oct. Clt. ? Pl. tw.

182 I. VESICULÒSA (Beauv. fl. d'ow. 2. p. 73. t. 106.) plant beset with numerous vesicles ; leaves palmately 5-7-lobed : lobes unequal ; peduncles 4-6-flowered ; corollas purple. ♃. ◠. S. Native of Guinea, in the kingdom of Waree, in woods. Axils of the leaves woolly.

Vesiculose Ipomœa. Pl. tw.

183 I. PALMA'TA (Forsk, descript. p. 43. Rœm. et Schultes, syst. 4. p. 207.) glabrous ; leaves palmate ; leaflets 5, serrulated, outer ones bifid : stipulas foliaceous, palmate : axils woolly ; peduncles longer than the leaves, dichotomously corymbose ; sepals glabrous, ovate, obtuse. ♃. ◠. G. Native of Egypt, Guinea, also of the Sandwich Islands. Conv. Caíricus, Lin. spec. 222. Vahl, symb. 1. p. 15. Willd. spec. 1. p. 863. Sims, bot. mag. 699. Conv. Ægy'ptius, Berl. ægypt. p. 73. t. 74. Ip. Caírica, Sweet, hort. brit. p. 287.—Barrel, icon. t. 30. Corolla campanulate, purple. Seeds woolly.

Palmate-leaved Ipomœa. Fl. Ju. Sept. Clt. 1680. Pl. tw.

184 I. PES-TÍGRIDIS (Lin. fl. zeyl. 79. spec. 230. Wall. fl. ind. 2. p. 93.) leaves palmate, 5, rarely 7-lobed : lobes ovate, entire, clothed with silky hairs ; peduncles many-flowered, equal in length to the leaves ; flowers aggregate ; bracteas 6-8, surrounding the head of flowers, and longer than it. ⊙. ◠. S. Native of the East Indies, as of Travancore, Sukanagur, banks of the Irawaddi, Ceylon, Java, &c. Conv. pes-tígridis, Spreng. syst. 1. p. 455. Conv. bryoniæfòlius, Sal. prod. p. 125. Convolvuloìdes palmàta, Mœnch. meth. 452.—Dill. elth. 420. t. 318. f. 411.—Rheed, mal. 11. p. 121. t. 59.—Knip. cent. 9. t. 53.—Herm. lugdb. 184. t. 187.—Act. bonn. 2. p. 362. t. 23. f. 2. Hairs on the stem furnished with glands at the base. Lobes of leaves acute, 1-2 inches long. Bracteas bluntish, hairy, ovate, linear. Sepals ovate, acuminated, hairy outside. Corolla hairy outside, funnel-shaped, purplish. Capsule glabrous. Seeds rather villous.

Tiger's-foot-leaved Ipomœa. Fl. Aug. Oct. Clt. 1732. Pl. tw.

184 I. AGGREGA'TA (Poir. suppl. 4. p. 633. Choisy, in mem. soc. phys. gen. 6. p. 455.) leaves palmate, 7-lobed, pilose; peduncles long; flowers sessile, aggregate, surrounded by 10-12 ovate-oblong, unequal, pilose, involucra-formed bracteas. ♄. ⌒. G. Native of Cochinchina. Convólvulus aggregàtus, Lour. coch. p. 109. Poir. suppl. 3. p. 471. Stem very hairy, terete. Lobes of leaves acutish, ovate, entire. Sepals lanceolate, pilose. Corolla tubular, 5-cleft, large, white; segments acute, hairy, closed.

Aggregate-flowered Ipomœa. Shrub tw.

185 I. VITIFÒLIA (Sweet, hort. brit. p. 289. Blum. bijdr. 709.) leaves cordate, palmately 5-cleft: lobes finely toothed; peduncles many-flowered; corolla orange yellow. ♄. ⌒. S. Native of the East Indies, as of Silhet, Travancore, Malabar, &c. Conv. vitifòlius, Lin. mant. p. 203. Burm. ind. 45. t. 18. f. 1. Wall. fl. ind. 2. p. 61. Conv. angulàris, Roxb. herb. Stems terete, downy, or with a few villi. Leaves lobed to the middle, variously pilose; lobes unequal, irregularly crenate-toothed. Sepals ovate-lanceolate, blackish. Capsules large, and are, as well as the black seeds, glabrous.

Vine-leaved Ipomœa. Fl. June, Sept. Clt. 1820. Shrub twining.

186 I. ANGULA'RIS (Choisy, in mem. soc. phys. gen. 6. p. 454.) leaves cordate, 5-lobed: lobes short, entire, acute; peduncles 3, many-flowered; corolla orange-yellow. ♄. ⌒. S. Native of Java. Conv. angulàris, Lin. mant. 203. Burm. ind. 46. t. 19. f. 2. Hardly more than a variety of *I. vitifòlia*. Capsule large.

Angular-leaved Ipomœa. Shrub twining.

187 I. TUBERÒSA (Lin. hort. ups. p. 39. spec. 227.) glabrous; leaves palmately 7-parted: lobes elliptic-lanceolate, entire; peduncles dichotomous; sepals equal, an inch long. ♃. ⌒. S. Native of tropical America, Madras, Islands of Bourbon, France, Ceylon, &c. Jacq. amer. p. 37. Ker, bot. reg. 768, but not of Lour. Conv. tuberòsus, Spreng. syst. 1. p. 591.—Sloane, jam. 56. hist. 1. p. 152. t. 96. f. 2. Stems terete. Lobes of leaves acute, 1-3 inches long. Petioles 3 inches long. Flowers solitary, and pedicellate in the forks, and spicate along the branches of the peduncle. Sepals ovate, obtuse. Corolla 2 inches long, tubularly campanulate, yellow. Capsule large. Seeds large, black.

Var. β. uniflòra (Choisy, in mem. soc. phys. gen. 6. p. 453.) peduncles 1-flowered; sepals acutish. ♃, ⌒. S. Native of South America. Convólvulus gossypifòlius, H. B. et Kunth, nov. gen. amer. 3. p. 107. Conv. macrocárpus, Spreng. syst. 1. p. 592.

Tuberous-rooted Ipomœa. Fl. Aug. Oct. Clt. 1731. Shrub twining.

188 I. HEPATICIFÒLIA (Lin. spec. 230. Burm. ind. 50. t. 20. f. 2.) very hairy; leaves 3-lobed: lobes very blunt; peduncles equal in length to the petioles; flowers capitate, involucrated; bracteas ovate-linear. ⊙. ⌒. S. Native of Ceylon and China. Convólvulus hepaticifòlius, Spreng. syst. 1. p. 594. Stems simple. Leaves deeply lobed; lobes sometimes entire, subemarginate, ovate; middle one coarctate at the base, more than an inch long. Corolla purplish.

Hepatica-leaved Ipomœa. Fl. Aug. Sept. Clt. 1759. Pl. twining.

189 I. PEDA'TA; glabrous; leaves pedately 3-5-cleft: lobes lanceolate, obtuse, mucronate; peduncles cymose; sepals rounded: inner ones the largest. ♄. ⌒. S. Native of Guayaquil. Flowers purple, funnel-shaped. (v. s. in herb. Ruiz, et Pav.)

Pedate-leaved Ipomœa. Shrub twining.

190 I. PARVIFLÒRA (Vahl, symb. 3. p. 34.) glabrous; leaves cordate, palmately 5-lobed; umbels axillary, pedunculate; calyx and capsules hairy; sepals ovate, mucronate, length of capsule. ⊙. ⌒. S. Native of the Island of Santa Cruz. Willd. spec. 1. p. 885. Pers. ench. 1. p. 185. Conv. Sloànei, Spreng. syst. 1. p. 593.—Sloane, jam. p. 55. hist. 1. p. 153. t. 97. f. 1. Ip. tríloba and I. sanguínea of some gardens. Nearly allied to *I. tríloba*, but differs in being glabrous, not hairy; stem triangular, from decurrent lines. Leaves 1½ inch long; lobes lanceolate, obtuse, mucronate: outer ones gibbous at the base, outside. Pedicels muricated. Flowers small, purplish.

Small-flowered Ipomœa. Fl. July, Oct. Clt. 1822. Pl. tw.

191 I. UMBELLA'TA (Lin. spec. 227.) glabrous; leaves digitate; leaflets 7, nearly equal, lanceolate, entire, acuminated; peduncles very short, sub-umbellate. ♃. ⌒. S. Native of tropical America. Poir. dict. 6. p. 10. Conv. septenàta, Spreng. 1. p. 591.—Plum. spec. 3.—Burm. amer. p. 81. t. 92. f. 2. Tourn. inst. p. 116. Flowers scarlet. Stamens exserted. Capsule glabrous, oblong, acuminated, 3-celled. Perhaps a species of *Quámoclit*.

Umbellate-flowered Ipomœa. Fl. June, July. Clt. 1739. Pl. tw.

192 I.? CLAU'SA (Rudolph. ex Led. dec. pl. dom. no. 5.) leaves ternate or quinate; peduncles dichotomous, many-flowered; corollas tubular, closed. ♃.? ⌒. S. Native of St. Domingo.

Closed-flowered Ipomœa. Pl. tw.

§ 6. *Leaves entire at both ends, never cordate. Flowers not crowded into heads. Capsules and sepals middle-sized.*

193 I. BUCHANA'NI (Choisy, in mem. soc. phys. 6. p. 474.) glabrous; leaves linear-lanceolate, acuminated, on short petioles, entire: peduncles ½ an inch long, 1-3-flowered; sepals ovate, glabrous. ⊙.? ⌒. S. Native of Bengal. Ip. salicifòlia, Roxb. in Wall. fl. ind. 2. p. 88. Stem terete. Leaves 3-8 inches long. Corolla white, with a cylindrical tube, 1½ inch long, and an obscurely divided limb. Cells of capsule 3-seeded, ex Wall.

Buchanan's Ipomœa. Fl. May, July. Clt. 1816. Pl. tw.

194 I. LINIFÒLIA (Blum. bijdr. p. 721.) plant rather pilose; leaves linear, quite entire, blunt at both ends, mucronulate, sometimes somewhat hastate at the base; peduncles axillary, about equal in length to the leaves, few-flowered; sepals obtuse, glabrous. ⊙.? ⌒. S. Native of the Moluccas.

Flax-leaved Ipomœa. Pl. tw.

195 I. PHILIPPE'NSIS (Choisy, in mem. soc. phys. gen. 6. p. 475.) glabrous; leaves linear, mucronulate, glabrous, on short petioles, entire; peduncles terete, 1-flowered, about ½ an inch long; sepals ovate, rather mucronulate: outer ones a little smaller. ♃.? ⌒. S. Native of the Philippines, and China, near Wangoo. Stem terete, filiform. Leaves 1-2 inches long, and 1-2 lines broad; petioles ciliated. Peduncles glabrous, bibracteate. Corolla unopen, a little larger than the calyx. Capsule pea-formed, glabrous.

Philippine Ipomœa. Pl. tw.

196 I. GRAMÍNEA (R. Br. prod. p. 414.) glabrous; leaves long-linear, mucronate, quite entire; peduncles 1-flowered; sepals obtuse; corollas very long. ♃.? ⌒. S. Native of New Holland, within the tropic, on the shore. Conv. gramíneus, Spreng. syst. 1. p. 607.

Grassy-leaved Ipomœa. Pl. tw.

197 I. REINWARDTIA'NA (Blum. bijdr. p. 720.) leaves elliptic-oblong, acuminated, rounded at the base, entire, smooth above, and downy beneath; peduncles few-flowered, shorter than the petioles; sepals bluntish, clothed with silky villi: outer ones

the largest. ♃.?⌒. S. Native of Timor. Convólvulus ovàtus, Reinwardt, mss. to Blume.

Reinwardt's Ipomœa. Pl. twining.

198 I. LANCEOLA'TA; downy: leaves lanceolate, entire, obtuse; peduncles 1-flowered; bracteas large, forming an involucrum to the flower.—Native of Sierra Leone, in humid places.

Lanceolate-leaved Ipomœa. Pl. twining.

199 I. QUINQUEPARTÌTA (Rœm. et Schultes, syst. 4. p. 247.) glabrous; leaves ovate-oblong, very blunt, emarginate, mucronate, glabrous; peduncles many-flowered, bifid, usually shorter than the leaves; sepals ovate, rusty, equal. ♃.?⌒. S. Native of the Island of Santa Cruz. Conv. quinquepartìtus, Vahl, eclog. 2. p. 14. Conv. ovalifòlius, West, besk. st. cruz. p. 271. Very nearly allied to *Conv. parviflòrus*, Lam., the *Conv. micrántha*, Rœm. et Schultes. Stem and branches rather canescent. Corolla campanulate, glabrous, deeply 5-cleft.

Five-parted-flowered Ipomœa. Pl. tw.

200 I. NEVISIE'NSIS; stems herbaceous; leaves scattered on longish petioles, attenuated, acute, rounded at the base; peduncles axillary, solitary, 3-5-flowered, twice longer than the leaves; flowers middle-sized, pale blue. ♃.⌒. S. Native of the Island of Nevis, among bushes, where it is called the *Jumbee vine*. Conv. Nevisiénsis, Ham. prod. p. 24. Allied to *Conv. verticillàtus*, and *C. nodiflòrus*. Perhaps a species of *Jacquemóntea*.

Nevis Ipomœa. Pl. twining.

201 I. SECU'NDA; leaves ovate-lanceolate, silky beneath, on short petioles; racemes secund, crowded, lateral and terminal, panicled. ♃.⌒. S. Native of Sierra Leone, on the mountains, very common. Flowers small, white.

Secund-flowered Ipomœa. Pl. twining.

202 I. ARENA'RIA (Rœm. et Schultes, syst. 4. p. 247.) stem decumbent; leaves oblong, emarginate, lobed or entire at the base; peduncles 1-flowered, twin or solitary, length of petioles; sepals oblong, equal; corolla tubular. ♃.⌒. S. Native of the Azores, and Island of Santa Cruz. Conv. arenàrius, Vahl, symb. 1. p. 18. and 3. p. 32. Willd. spec. 1. p. 862. Habit of *Conv. Imperàti*, but smoother, the leaves more crowded, and the tube of the corolla gradually widened upwards, 1½ inch long.

Sand Ipomœa. Pl. tw.

203 I. MATAXOCA'RPA; leaves oblong, glabrous, rather coriaceous, mucronate; peduncles 2-flowered, shorter than the leaves; sepals ovate; capsule cylindrical, silky. ♃.?⌒. S. Native of New Granada, Bertero. Convólvulus mataxocárpus, Spreng. syst. 1. p. 606.

Heavy-fruited Ipomœa. Pl. twining.

204 I. LACHNÆ'A; leaves oblong-lanceolate, mucronate, densely woolly on both surfaces; racemes axillary, imbricate, leafy. ♃.?⌒. S. Native of Hispaniola. Convólvulus lachnæ'us, Spreng. syst. 1. p. 606.

Woolly Ipomœa. Pl. twining.

205 I. PTEROCA'RPA; leaves petiolate, oblong-lanceolate, acuminated, mucronate, attenuated at the base; peduncles 2-flowered; calycine segments cordate-ovate, acuminated, running into the pedicels. ⊙.⌒. S. Native of Guadaloupe. Conv. pterocárpus, Bert. ex Coll. hort. rip. 37. Corolla middle-sized, white. Stamens bearded at the base.

Wing-fruited Ipomœa. Pl. twining.

† *Doubtful, or hardly known species.*

206 I. MAMMÒSA (Choisy, in mem. soc. phys. gen. 6. p. 475.) leaves cordate, repand, acuminated; peduncles 2-3 flowered; tubers of roots aggregate. ♃.⌒. G. Native of Cochinchina, in fields, and Australasian Islands. Conv. mammòsus, Lour. coch. p. 108. Conv. chrysorhìzus, Forst. pl. esc. ins. p. 55.? Batátta mammòsa, Rumph. amb. 9. t. 131. Stems slender. Leaves glabrous. Flowers lateral, white, campanulate. Tuber pale brown, hairy, ovate-oblong, white inside, edible, and more esteemed than the sweet potatoe.

Nippled Ipomœa. Pl. tw.

207 I. KADSU'RA (Choisy, l. c.) stem decumbent, radicant, striated, glabrous; leaves cordate-ovate, acute, entire, 7-nerved, glabrous, pale beneath, a hand long; petioles length of leaves. ♃. G. Native of Japan, where it is called *Karami Kadsura* by the natives. Convolvulus in plantis obscuris, Thunb, jap. p. 350.

Kadsura Ipomœa. Pl. creeping.

208 I. PANDURÆFÓRMIS (Choisy, l. c. p. 476.) leaves cordate, entire, fiddle-shaped, acuminated; flowers shining, yellow; peduncles long, generally 2-flowered; calyx and fruit smooth. ♃.⌒. G. Native of Cochinchina, in hedges. Conv. panduràtus, Lour. coch. p. 107. but not of Lin.

Fiddle-shaped-leaved Ipomœa. Pl. tw.

209 I. COMPRE'SSA (Guss, in ind. sem. hort. Bocc. 1825. p. 7.) stem compressed; leaves cordate-ovate, entire; peduncles 1-flowered, shorter than the leaves. ⊙.?⌒. S. Native of the East Indies. Plant villous.

Compressed-stemmed Ipomœa. Pl. tw.

210 I. CUSPIDA'TA (D. Don, prod. fl. nep. p. 98.) leaves cordate, quite entire, cuspidate, downy: hind lobes rounded; peduncles many-flowered, exceeding the leaves; sepals linear, acute, pilose; corolla rose-coloured; style very short. ⊙.⌒. G. Native of Nipaul.

Cuspidate-leaved Ipomœa. Pl. tw.

211 I. MURUCOÌDES (Rœm. et Schultes, syst. 4. p. 248.) arboreous; leaves lanceolate, acuminated, glabrous, villous on the nerves beneath; peduncles generally 3-flowered; calyx clothed with silky tomentum. ♄. S. Native country unknown. Stem angularly furrowed, downy. Leaves ½ foot long, and hardly 2 inches broad. Corolla white. Perhaps the same as *I. arboréscens*, Kunth. Peduncles terminal.

Murucoa-like Ipomœa. Tree.

212 I. AURÌTA (Rœm. et Schultes, syst. 4. p. 301, under *Convólvulus*.) twining; glabrous; leaves auriculately-hastate; hind-lobes rounded, obtuse, emarginate; peduncles 1-flowered.—Native of Porto Rico.

Eared-leaved Ipomœa. Pl. twining.

213 I. NEMORÒSA (Rœm. et Schultes, l. c. p. 303, under *Convólvulus*,) twining; leaves digitate, quinate, entire, acuminated, rather pilose; stems, peduncles, and calyxes hairy. ♃.⌒. S. Native in shady places, about Cumana.

Grove Ipomœa. Pl. twining.

214 I. FRONDÒSA (Rœm. et Schultes, l. c. p. 303, under *Convólvulus*,) stems creeping, twining a little; leaves oblong, obtuse, mucronate; flowers axillary, racemose. ♃.⌒. S. Native about Havannah, among rubbish.

Leafy Ipomœa. Pl. creeping.

215 I. DENTICULA'TA (Rœm. et Schultes, syst. 4. p. 303, under *Convólvulus*,) stem erect; leaves elliptic, denticulated, silky beneath; flowers axillary, sessile.—Native of America, Vahl.

Denticulated-leaved Ipomœa. Pl. erect.

216 I. SCA'BRA (Willd. rel. ex Rœm. et Schultes, syst. 4. p. 789.) hairy, scabrous; leaves cordate, 3-lobed; peduncles 3-flowered. ⊙.⌒. S. Native country unknown.

Scabrous Ipomœa. Pl. twining.

217 I. BAHIE'NSIS (Willd. l. c.) leaves cordately-hastate, acuminated, glabrous; peduncles 3-flowered; sepals membranous, blunt, glabrous; seeds woolly.—Native of Brazil, Hoffmannsegge. Conv. Bahiénsis, Spreng. syst. 1. p. 598. Ipomœ'a eriospérma, Bertero.

Bahia Ipomœa. Pl. twining.

218 I. TUBULÒSA (Willd. l. c.) leaves cordate, acuminated;

peduncles 1-flowered; tube of corolla cylindrical, elongated; limb undivided; bottom of stem, and underside of leaves, as well as the peduncles, muricated.—Native of tropical America. Perhaps a species of *Quámoclit*.

Tubular-flowered Ipomœa. Pl. twining.

219 I. símplex (Thunb. prod. p. 36.) leaves lanceolate, entire; flowers solitary. ♄. ◠. G. Native of the Cape of Good Hope. Conv. simplex, Spreng. syst. 1. p. 607.

Simple Ipomœa. Shrub twining.

Species only known by name.

1 I. hispídula, Ledeb. ind. sem. hort. dort. 1822. p. 11.—2 I. supérba, Ledeb. l. c.—3 I. Sinénsis, Fisch. cat. hort. gor. p. 28.

Cult. All the species of *Ipomœ'a* are very showy when in blossom, and much admired. The shrubby and perennial herbaceous kinds require the same treatment as that recommended for *Exogònium*, see p. 264; and the annual species as those of *Pharbìtis*, see p. 263.

XV. JACQUEMO'NTIA (named by Choisy, after Victor Jacquemont, who lately travelled in the East Indies in search of objects of natural history, where he died.) Choisy, in mem. soc. phys. gen. 6. p. 476.—Convólvulus and Ipomœ'a species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 sepals. Corolla campanulate. Style one; stigmas 2, ovate, flattened. Ovarium 2-celled, 4-ovulate. Capsule 2-celled.—Herbs or sub-shrubs, natives of South America.

1 J. cœru'lea (Choisy, l. c.) plant prostrate, rather creeping; leaves ovate, emarginate, quite glabrous; peduncles equal in length to the petioles, twice trifid; pedicels 1-flowered. ↄ. S. Native of Guinea. Convólvulus cœrùleus, Schum. pl. guin. p. 101. Root simple. The 3 outer calycine segments roundish, the 2 inner small. Corolla campanulate, blue, entire. Stigmas thickish, entire, recurved. Seeds naked. Said to be allied to *Conv. ovalifòlius*.

Blue-flowered Jacquemontia. Pl. prostrate.

2 J. azu'rea (Choisy, l. c.) stem, petioles, nerves, and margins of leaves downy; leaves oblong-cordate; peduncles long, fasciculately many-flowered. ↄ. ? ◠. S. Native of South America. Conv. azùreus, Rich. act. soc. hist. nat. par. p. 107. Desr. in Lam. dict. 3. p. 554. Stem rather villous at top. Leaves subsinuated, glaucescent beneath. Sepals acute. Corollas small, blue.

Azure-flowered Jacquemontia. Pl. tw.

3 J. capita'ta; pilose; leaves cordate, entire, acute; peduncles hardly longer than the petioles; flowers capitate, involucrated; sepals narrow, lanceolate. ⊙. ? ◠. S. Native of Senegal. Conv. capitàtus, Desr. in Lam. dict. 3. p. 554. Leaves 2 inches long, length of petioles. Peduncles bearing each a dense villous head of involucrated sessile flowers. Bracteas 6-7, unequal, length of calyxes.

Capitate-flowered Jacquemontia. Pl. tw.

4 J. micra'ntha; leaves cordate-oblong, mucronate, rather downy; peduncles many-flowered, corymbose, short, somewhat verticillate. ↄ. ? ◠. S. Native of St. Domingo, on hills, among rocks. Conv. micránthus, Desr. in Lam. dict. 3. p. 556. Pers. ench. 1. p. 177.—Burm. amer. p. 83. t. 94. f. 2.—Plum. mss. 2. t. 62. Stems slender. Leaves bluntish, mucronate. Corollas small, campanulate, purplish, deeply 5-cleft, ex Plum. Capsule 4-celled; seeds fulvous, angular, ex Desr. l. c.

Small-flowered Jacquemontia. Pl. tw.

5 J. nodiflòra; rather tomentose; leaves ovate or subcordate; peduncles bifid, many-flowered, shorter than the leaves. ♄. ◠. S. Native of the Island of Santa Cruz. Conv. nodiflòrus, Desr. in Lam. dict. 3. p. 557. Vahl, eclog. 2. p. 14. Pers. ench. 1. p. 177. Conv. albiflòrus West, besk. over. st. croix. p. 271. Leaves hoary beneath, with a short acumen. Peduncles divided above the middle into many short branches; bracteas subulate. Sepals scarious on the edges, equal, oblong, pale rusty, rather villous. Corollas white, campanulate; limb 5-cleft, crenulated. Corymbs 12-20-flowered.

Knot-flowered Jacquemontia. Shrub tw.

6 J. penta'ntha; glabrous; leaves ovate-cordate, acuminated, rather repand; peduncles umbellately 5-flowered; flowers nearly sessile; calyxes ciliated. ♄. ◠. S. Native of tropical America? Conv. pentánthus, Jacq. coll. 4. p. 210. icon. rar. 2. t. 316. Willd. spec. 1. p. 855. Stem terete, glabrous. Leaves rather villous on the edges while young. Bracteas lanceolate, acuminated. Outer sepals larger, drawn out into a point, with reflexed sides: inner ones lanceolate, acuminated. Corolla campanulate, blue, with a paler star; lobes of limb roundish, acuminated. Lobes of stigma oblong.

Five-flowered Jacquemontia. Shrub tw.

Cult. All the species are free flowerers, and of easy culture, requiring only common care. The annual species should be treated in the manner recommended for the species of *Pharbítis*, see p. 263; the twining, shrubby species should be treated in the manner recommended for *Calonýction*, see p. 265.

XVI. CONVO'LVULUS (from *convolvo*, to entwine; twining habit of most of the species.) Choisy, in mem. soc. phys. gen. 6. p. 477.—Convólvulus species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 sepals. Corolla campanulate. Style 1; stigmas 2, linear-cylindrical, often revolute. Ovarium 2-celled, 4-ovulate. Capsule 2-celled.—Herbs or sub-shrubs.

Sect. I. Orthocau'los (from *ορθως, orthos*, straight; and *καυλος, kaulos*, a stem; in reference to the stems being straight, never trining.) Stems erect or prostrate.

§ 1. *Leaves entire, ovate-oblong, spatulate, lanceolate, or linear.*

* *Shrubby or herbaceous perennial plants. Peduncles* 1-2-3-4-*flowered.*

1 C. pluricau'lis (Choisy, in mem. soc. phys. gen. 6. p. 477.) stems suffruticose, villous, many rising from the same root; leaves linear, dilated at apex, sessile, much crowded at the base; flowers 2-3 together, axillary, nearly sessile; sepals linear, acuminated, acute. ↄ. S. Native of the East Indies, at Buxor, Hurdnear, Bhagulpur, and Vikram, on mountains in the south of Hindostan. Evólvulus ferrugíneus, Wall. cat. no. 1316. Conv. spicæfòlius, Ham. herb. Stems simple. Leaves bluntish, villous or ciliated. Flowers rising from the base to the top of the stem, forming a spike. Corolla glabrous, twice longer than the calyx. Every part of the plant is hairy.

Many-stemmed Bind-weed. Pl. ½ foot.

2 C. microphy'llus (Sieb. ex Spreng. syst. 1. p. 611.) stem branched, suffruticose at the base; leaves linear, sessile, villous, as well as the branches, which are twiggy; peduncles 1-flowered, about equal in length to the leaves; sepals acute. ♄. H. Native of Egypt.

Small-leaved Bind-weed. Shrub small.

3 C. erina'ceus (Ledeb. in litt. ex Meyer. verz. pflanz, p. 102.) plant silky, stems much branched, shrubby at the base; branches and branchlets very long and spreading; leaves linear; cauline ones elongated: of the branches and branchlets minute: peduncles solitary, generally 1-flowered, about equal in length to the bractless flowers; sepals elliptic, silky, as well as the 5-cleft corolla. ♄. H. Native of Caucasus in the loose sand

towards the Caspian sea, and Sallian, near the Karavansarai Eszek.

Erinaceous Bind-weed. Shrub dwarf.

4 C. ERIA'NTHUS (Willd. herb. ex Spreng, syst. 1. p. 610.) stems decumbent, branched, woolly; leaves linear, elongated, attenuated at the base, nearly naked; peduncles elongated, 1-flowered; sepals acute, and are, as well as the corollas, woolly outside. ♃. H. Native of North America.

Woolly-flowered Bind-weed. Pl. decumbent.

5 C. ROTTLERIA'NUS (Choisy, 1. c.) stem simple, biennial; leaves linear, acute, almost sessile, clothed with rusty hairs on both surfaces; peduncles 2-flowered, at first short, but at length elongated; sepals ovate, acuminated, very acute: outer ones rather the longest, hairy; corolla very small. ♃.? G. Native of Madura. Rétzia pilòsa, Rottl. herb. ex Wall. cat. no. 6669. Stems very leafy the first year, clothed with rusty hairs, as well as the peduncles, branchlets, and leaves. Corolla tubular, clothed with rusty hairs outside at apex, ending in 5 taper points. Ovarium glabrous. Nearly allied to *Conv. lineàtus*.

Rottler's Bind-weed. Pl. $\frac{3}{4}$ foot.

6 C. LINEA'TUS (Lin. spec. p. 224.) root creeping; floriferous stems erect, simple, corymbose at top; leaves lanceolate, petiolate, acute, silky, villous, lined; peduncles 1-2-flowered, shorter than the leaves; sepals rather foliaceous, silky; corolla hairy outside. ♃. H. Native of Spain, Italy, by the Mediterranean Sea, and of Greece. Sibth. et Smith, fl. græc. t. 199. Conv. spicæfòlius, Desr. in Lam. dict. 1. p. 549.—Mor. hist. 2. p. 17. sect. 1. t. 4. f. 2. bad.—Barrel. icon. t. 311.—Triumf. obs. 91. t. 90. f. 2. —Tourn. cor. p. 1. Leaves narrowed at the base. Peduncles bibracteate. Flowers pale reddish purple.

Lined-leaved Bind-weed. Fl. June, July. Clt. 1714. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

7 C. BESSE'RI (Spreng syst. 1. p. 610. Led. fl. alt. 1. p. 226.) leaves spatulate, running into the petioles, silky, lined; peduncles very short, mostly 2-flowered; sepals ovate, acute; stem suffruticose. ♄. H. Native of Siberia, in sandy places, at the river Bekum, near Loktewsk; and of Podolia. Conv. lineàtus, Bieb. fl. cauc. 1. p. 146. Bess. enum. pl. volh. p. 43. no. 1352.

Besser's Bind-weed. Shrub small, $\frac{1}{4}$ to $\frac{1}{2}$ foot.

8 C. GERA'RDI (Rœm. et Schultes, syst. 4. p. 294.) root creeping; stem villous, weak; branches very short; leaves lanceolate, dilated and obtuse, silky; peduncles axillary and terminal, 2-flowered, shorter than the leaves; sepals small, ovate, acute, silky; corolla villous outside. ♃. H. Native of Spain, and the south of France. Ger. prov. p. 317. no. 3. Conv. lineàtus, Desr. in Lam. dict. 3. p. 553, exclusive of the synonymes. D. C. fl. fr. no. 2750. Conv. Cneòrum β, Gouan, hort. monsp. p. 94.—Barrel, icon. t. 311.—Munting, p. 29. t. 110.—Tourn. inst. p. 84. Stems rather angular. Lower leaves approximate. Calyx with 2 small bracteas under it. Corolla middle sized, a little spreading, rufescent.

Gerard's Bind-weed. Fl. June, July. Clt.? Pl. $\frac{1}{4}$ foot.

9 C. INTERME'DIUS (Lois. not. p. 40. journ. de bot. 2. p. 264.) root creeping?; stems erect, simple; leaves lanceolate, downy; peduncles axillary and terminal, 1-2-flowered, about equal in length to the leaves; bracteas twin, longer than the calyx. ♃. H. Native of France, near Avignon. C. lineàtus, β, Poir. suppl. 3. p. 474. D. C. fl. fr. suppl. p. 423. Very like *C. lineàtus*, but differs in being clothed with short down, not silky, and the stems 8-10 inches, and more, high. It is also allied to *C. Cantábrica*, but the stems are not branched, as in that plant, and the peduncles are shorter. Corollas purple or white.

Intermediate Bindweed. Pl. $\frac{3}{4}$ foot.

10 C. SCOPA'RIUS (Ait. hort. kew. 1. p. 213.) stem shrubby; branches twiggy; leaves linear, rather pilose; peduncles generally 3-flowered; calyx silky; sepals ovate, acute. ♄. G. Native of Teneriffe, on the mountains near the town of Santa Cruz. Willd. spec. 1. p. 872. Vent. choix. t. 24. Habit of a species of *Spártium* or *Genista*. Stem terete, glabrous. Leaves short, remote. Racemes terminal, somewhat secund. Corolla white, hairy outside. Wood hard and white, with radiating stripes; and is, perhaps, according to Lin. the *Lignum Rhodium* of the shops. Capsule 1-celled, 1-seeded, dehiscing at the base.

Broom-like Bind-wood. Fl. Aug. Sept. Clt. 1733. Shrub.

11 C. FRONDÒSUS (Willd. herb. ex Spreng. syst. 1. p. 610.) leaves oblong-subspatulate, obtuse, mucronulate, clothed with stellate down when young, as well as the branches; peduncles usually 4-flowered, shorter than the leaves; sepals glabrous, acutish. ♄. F. Native country unknown.

Leafy Bind-weed. Pl. erect, suffruticose.

12 C. ŒNOTHEROÌDES (Lin. suppl. 157.) shrubby, erect; leaves linear, canescent; peduncles axillary, erect, 1-flowered: sepals lanceolate, glabrous, hoary. ♄. G. Native of the Cape of Good Hope. Willd. spec. 1. p. 872. Habit of *Œnothèra mollissima*. Stem terete, reddish. Peduncles at the tops of the stems. Bracteas subulate, recurved. Corolla funnel-shaped, large, fulvous.

Evening-Primrose-like Bind-weed. Shrub erect.

13 C. HELIANTHEMIFÒLIUS (Poir. dict. 3. p. 465.) shrubby, villous; leaves sessile, small, narrow-lanceolate, acute; flowers small, almost solitary; calyx villous; sepals lanceolate, acute. ♄. G. Native of America. Conv. mínimus, Vittm. summ. pl. 1. p. 434. Gmel. syst. veg. 1. p. 341.—Plum. amer. mss. t. 6. f. 47.—Tourn. cor. 84. Plant densely clothed with cinereous down or villi. Stem divided from the base into many short, spreading branches. Peduncles filiform, villous, length of leaves, 1- rarely 2-flowered. Corolla blue.

Sun-rose-leaved Bind-weed. Shrub $\frac{1}{2}$ foot.

14 C. HOLOSERÍCEA (Bieb. fl. taur. 1. p. 147. cent. pl. ross. t. 24.) the whole plant clothed with shining, silky hairs; leaves linear-lanceolate, bluntish; peduncles usually 1-flowered, longer than the leaves; sepals ovate, acute: the 3 outer ones inflately gibbous in the disk. ♃. H. Native of Tauria, on calcareous mountains, along with *C. saxátilis*. C. procúmbens, Pall. ind. Bracteas linear, about equal in length to the calyx. Flowers a little larger than those of *C. Doryćnium*. Corolla milk-coloured, silky outside.

Silky Bind-weed. Fl. June, July. Clt. 1824. Pl. prostrate.

15 C. DORY'CNIUM (Lin. spec. 224.) stem shrubby, dichotomously panicled; branches stiff; flowers sessile, solitary, terminating the branches lateral, and in the forks of the branches; leaves lanceolate, villous, sessile; sepals nakedish, obtuse, mucronate. ♄. H. Native of the Levant; Candia, near Canea; and on road sides, about Corinth. Willd. spec. 1. p. 871. Desr. in Lam. dict. 3. p. 548. Sibth. et Smith, fl. græc. t. 201.—Tourn. inst. p. 84. Habit different from other species of *Convólvulus*. Corolla campanulate, spreading, villous outside, 3-4 times longer than the calyx, rose roloured.

Dorycnium-like Bind-weed. Fl. June, July. Clt. 1806. Shrub $1\frac{1}{2}$ foot.

16 C. SUFFRUTICÒSUS (Desf. atl. 1. p. 175. t. 48.) suffruticose, villous; stems ascending; leaves narrow-lanceolate, acuminated, peduncles 1-flowered, 3 times longer than the leaves; sepals villous, ovate-oblong, acute. ♃. H. Native of Atlas, near Tlemsen; and of Greece. Smith, prod. fl. græc. 1. p. 135. This species differs from *C. Cantábrica*, in the stem being suffruticose; in the corolla being twice or thrice larger, beset with spreading, not adpressed hairs. Corolla pale red or white. Stems tufted. Bracteas setaceous.

Suffruticose Bind-weed. Shrub 1 foot.

17 C. CANTA'BRICA (Lin. spec. 225.) plant beset with spread-

ing hairs; stems branched, prostrate; leaves oblong-lanceolate, acute; sepals narrow, very villous; peduncles usually 2-3-flowered. ♃. H. Native of the south of Europe, north of Africa, and of Tauria. Willd. spec. 1. p. 869. Bieb. fl. taur. 1. p. 147. Smith, prod. fl. græc. 1. p. 135. Jacq. fl. austr. t. 296.—Mor. hist. 2. p. 17. sect. 1. t. 4. f. 3.—Tourn. inst. p. 83. and 84. This species is readily distinguished from *C. lineàtus*, *C. saxátilis*, and *C. holosericeus*, by the hairs being spreading, and by the narrow, very villous sepals. Corollas pale red.

Var β, terréstris (Lin. spec. 224.) leaves linear, silky; peduncles generally 3-flowered; calyx hairy, mucronate. ♃. H. Conv. terréstris, Dalech. hist. 1425. Bauh. hist. 2. p. 160.

Var. γ; stem erect. ♃. ⌒. H. Ait. hort. kew. ed. 2d. vol. 1. p. 336.

Cantabrian Bind-weed. Fl. Aug. Sept. Cit. 1680. Pl. ½ o 1 foot, prostrate.

18 C. palu'stris (Cav. icon. 6. p. 80. t. 600. f. 2.) stems slender, terete, erect, branched, pilose; leaves sessile, linear-lanceolate, hairy; flowers solitary, minute, rather tomentose; sepals ovate-lanceolate, villous. ♃.? S. Native of Mexico, in the vicinity of Acapulco, in marshy places. Poir. suppl. 3. p. 465. Leaves an inch long, and a line broad. Peduncles bibracteate. racemose. Corolla yellow, rather tomentose outside, campanulate, 3 times longer than the calyx, ending in 5 obtuse lobes or crenæ.

Marsh Bind-weed. Pl. 1 foot.

19 C. Pe'rsicus (Lin. amœn. acad. 2. p. 341.) tomentose; leaves oval, obtuse, on very short petioles; peduncles 1-flowered, length of leaves; sepals ovate: inner ones smaller. ♃. H. Native of Persia, on the shores of the Caspian Sea; and in the sand, by the Euxine Sea, near Fanar. Willd. spec. 1. p. 874. Desr. in Lam. dict. 3. p. 549. Bieb. fl. taur. 1. p. 148. —Gmel. sib. 3. p. 36. t. 7. Stems thickness of a writing-quill, terete. Stigmas linear, thickish. Corolla white.

Persian Bind-weed. Pl. 1 foot?

20 C.? trine'rvis (Thunb. fl. jap. p. 85. Willd. spec. 1. p. 860.) stems filiform, glabrous, simple; leaves opposite, petiolate, ovate-oblong, glabrous, 3-nerved; peduncles very short, generally 1-flowered, seldom 2-flowered. ♃. H. Native of Japan. Leaves paler beneath. Sepals lanceolate-setaceous, glabrous, one-half the length of the corolla. Corolla purple. Stigmas capitate. A species of *Ipomœ'a*, or a distinct genus, with opposite leaves.

Three-nerved-leaved Bind-weed. Pl. tw. or erect.

21 C. Amma'nni (Desr. in Lam. dict. 3. p. 549. Bunge, pl. chin. in mem. acad. petersb. 5. p. 46. Led. fl. alt. 1. p. 226.) plant clothed with silky hairs; stems procumbent; leaves linear, or oblong-linear; peduncles 1-flowered, length of leaves, spreading; bracteas equal in length to the calyxes; sepals ovate, acute. ♃. H. Native of Siberia, at the rivers Jenezee, Tscharysch, Kan, Ulegumen, and Tschuga, and throughout the Kerghisean steppe, and at Lake Baikal; and of the north of China, in sterile, gravelly places. Willd. spec. 1. p. 870.—Amm. ruth. p. 5. no. 6.—Gmel. sib. 4. p. 95. no. 51. Peduncles furnished with 2 linear bracteas in the middle. Corolla marked by 5 silky lines outside, disposed in a stellate manner, white, with purple lines.

Ammann's Bind-weed. Pl. ½ foot.

22 C. spinòsus (Lin. suppl. 137. Willd. spec. 1. p. 871. Bunge, enum. pl. chin. in mem. acad. petersb. 5. p. 47.) shrubby; the whole plant beset with white, glittering, silky hairs; leaves spatulate-lanceolate, or oblong, silky, sessile; peduncles elongated, 1-flowered; floriferous branches erectish, spiny. ♄. H. Native of Siberia, on sandy hills; at the river Irtysch; and of the north of China. Conv. fruticòsus, Pall. itin. 2. p. 734. t. M. Stem branched at top; branches horizontal, stiff, terminated each by a small, erect, whitish flower. The rudiments of branchlets in the axils of the leaves, and branches are changed into spines. Plant somewhat flexuous, hardly climbing. Limb of corolla 5-cleft.

Var. β; calyx quite glabrous. ♄. H. Native of Persia, Desr. in Lam. dict. 3. p. 548. Conv. spinòsus, Burm. fl. ind. p. 47. t. 19. f. 4.

Spiny Bind-weed. Pl.

23 C. tragacanthoìdes (Turcz. dec. p. 22. Choisy, in mem. soc. phys. gen. 6. p. 478.) shrubby; stems diffuse, branched; branches spiny at length; leaves linear; flowers terminal, nearly sessile, bractless; sepals ovate, abruptly acute, 3 times shorter than the corolla. ♄. H. Native of Mongolia, at Zzagan-Balgassu. Nearly allied to the 2 preceding, but differs from the first in the branches being at length spinescent, in the flowers being larger, and in the form of the sepals; and from the second in the more dwarf habit, in the linear leaves, and in the flowers terminating the stems among the branches. Corolla purple.

Tragacanth-like Bind-weed. Shrub.

24 C. hy'strix (Vahl, symb. 1. p. 16. Willd. spec. 1. p. 871.) shrubby, much branched, stiff, diffuse; branchlets silky, spinescent; leaves sessile, oblong, silky; flowers sessile, usually solitary, rarely twin; calyx hairy; 2 outer sepals oblong, stiff, larger than the inner 3. ♄. G. Native of Arabia, at Dakhi. Conv. spinòsus, Forsk. cat. arab. p. 106. no. 121. Leaves small. Bracteas 2, at the base of the calyx, oblong, acutish, reflexed. Corolla small, hairy.

Porcupine Bind-weed. Shrub 1 foot.

* * *Flowers capitate, or umbellate. Shrubby or herbaceous perennial plants.*

25 C. cneòrum (Lin. spec. 224.) stem shrubby, branched; leaves lanceolate-obovate, clothed with silky tomentum; flowers capitate on short peduncles; bracteas, some of them, as large as the leaves, and are, as well as the calyxes, hairy. ♄. F. Native of Spain, Crete, and Syria, and the Island of Samos, on rocks. Sibth. et Smith. fl. græc. t. 200. Curt. bot. mag. 459.—C. argénteus, Desr. in Lam. dict. 3 p. 552.—Tourn. inst. p. 84.—Mor. hist. 2. p. 11. sect. 1. t. 3. f. 1.—Barrel, icon. rar. 4. p. 470.—Bocc. mus. 2. p. 79. t. 70.—Dorýcnium, Clus. hist. 2. p. 254. —Cneòrum album folio argenteo molli, Bauh. pin. p. 463. Plant clothed with silky silvery down. Leaves sessile, attenuated at the base, mucronate. Corollas white or pale red, hairy outside.

Widow-Wail-like Bind-weed. Fl. May, Sept. Clt. 1640. Shrub 1-3 feet.

26 C. saxa'tilis (Vahl, symb. 3. p. 33.) very hairy; stems erect; leaves linear; flowers capitate; sepals acuminated. ♃. H. Native of Spain, on hills, France, Italy, Tauria. Bieb. fl. taur. 1. p. 146. Lepeyr. abr. p. 101. Conv. lanuginòsus, Desr. in Lam. dict. 3. p. 551, exclusive of the syn. of Bocc. t. 70, and Barrel, t. 470. Conv. cneòrum, Hablitz, taur. p. 147. Conv. pusíllus, Pall. ind. taur.—Bocc. mus. t. 96. Tourn. inst. p. 84. Corolla white, purplish, and villous outside. Heads of flowers girded by 5 unequal leaves or bracteas. Stem clothed with white tomentum.

Var, β, humílior (Rœm. et Schultes, syst. 4. p. 295.) Conv. lanuginòsus, β, Desr. in Lam. dict. 3. p. 551. Conv. capitàtus, Cav. icon. 2. p. 72. t. 189. descr. p. 97.—Tourn. cor. p. 1. Stem erect.

Var. γ; stems half a foot high, declinate. ♃. H. Conv. saxátilis, Bieb. fl. taur. 1. p. 147. Conv. Dorýcnium, Pall. ined.

Stone Bind-weed. Fl. Ju. Aug. Clt. 1796. Pl. ½ foot.

27 C. lana'tus (Vahl, symb. 1. p. 16.) shrubby; old branches leafless, sterile, spinose, rather villous; leaves lanceolate, obtuse, tomentose; flowers capitate, involucrated; sepals ovate-lanceolate. ♄. F. Native of Lower Egypt, on Mount Sinai;

and of Candia, on dry hills. Willd. spec. 1. p. 871. Sibth. et Smith, fl. græc. t. 202. C. cneòrum, Forsk. cat. ægypt. p. 63. no. 106. C. seríceus, Burm. ind. p. 49. t. 19. f. 3.?—Tourn. cor. 1. Flower-bearing branches simple from the base of the old ones, very hairy. Leaves sessile. Floral or involucral leaves 6, a little broader than the rest, very hairy. Peduncles axillary, shorter than the leaves, hairy. Corolla villous outside, white or reddish.

Woolly Bind-weed. Shrub 1-2 feet.

28 C. salvifòlius (Sieb. pl. cret. ex Link. enum. 1. p. 201.) stem shrubby, branched; leaves oblong-lanceolate, bluntish, nearly sessile, veiny, clothed with woolly villi; flowers in lateral, involucrated, sessile fascicles; bracteas ovate; sepals foliaceous, lanceolate. ♄. F. Native of Palestine.

Sage-leaved Bind-weed. Fl. May, Sept. Clt. 1825. Pl.

29 C. secu'ndus (Desr. in Lam. dict. 3. p. 555.) plant clothed with rusty tomentum; stem flexuous, a little branched; leaves sessile, lanceolate, unilateral on the branches; heads of flowers secund, numerous, nearly sessile; flowers sessile, or on very short pedicels. ♃. H. Native of the Levant, about Damascus. Stem terete. Leaves furrowed from nerves an inch long. Flowers 5-6 in a head. Bracteas intermixed with the calyxes, and a little longer than them. Corolla rather villous outside, size of those of *C. cneòrum*.

Secund-leaved Bind-weed. Pl. ½ to 1 foot.

30 C. oleifòlius (Desr. in Lam. dict. 3. p. 552, exclusive of var β.) shrubby, silky; leaves linear-lanceolate; flowers capitately umbellate, terminal, involucrated; sepals lanceolate. ♄. H. Native of the Levant. Dorýcnium, Pýrosp. Alp. exot. p. 73. This species is very nearly allied to *C. cneòrum;* but it differs, in the sepals being twice longer, and lanceolate. Leaves acutish, 1½ inch long, and 2-3 lines broad.

Olive-leaved Bind-weed. Shrub 1-2 feet.

31 C. linea'ris (Curt. bot. mag. 289.) erect, shrubby; leaves linear, acute, clothed with silky hairs; flowers terminal, umbellately panicled; calyx hairy. ♄. F. Native of Spain and South of France. Willd. spec. 1. p. 809. Conv. oleifolius, β, Desr. in Lam. dict. 3. p. 552. D. C. fl. fr. suppl. no. 2752. Conv. Tournefórtii, Sieb.—Tourn. cor. p. 1. Plant silvery. Flowers 3-6 together on long peduncles, girded by 3-4 bracteas, which are hardly longer than the calyxes. Corollas very pale red.

Linear-leaved Bind-weed. Fl. Ju. July. Clt. 1770. Shrub ½ to 1½ foot.

32 C. prólifer (Vahl. eclog. 1. p. 18.) shrubby, erect; leaves linear, silky beneath; heads of flowers terminal, and in the forks of the branches; bracteas ovate, very hairy outside. ♄. F. Native of South America. Habit of *C. Cantábrica*. Branches filiform, glabrous at bottom, and tomentose above, bifid at apex. Superior leaves remote: lower ones crowded, glabrous above. Heads of flowers size of a filbert. Bracteas 3 times broader than the leaves, acuminated, glabrous inside. Flowers solitary in the axils of the bracteas.

Proliferous Bind-weed. Shrub erect.

33 C. flóridus (Lin. suppl. 136.) plant shrubby, prostrate, hoary; leaves linear-lanceolate, rather pilose; thyrse terminal, pyramidal, panicled; sepals ovate, concave, acute. ♄. G. Native of Teneriffe, on rocks. Jacq. coll. 1. p. 62. icon. rar. t. 34. Ait. hort. kew. 1. p. 224. Willd. spec. 1. p. 873. Very like *C. cneòrum*. Leaves attenuated at the base. Peduncles branched, rising from the axils of the superior leaves, the whole forming a large, ovate, thyrsoid panicle. Flowers very numerous, small. Corolla pale red, or whitish, hairy outside.

Flowery Bind-weed. Fl. Aug. Sept. Clt. 1779. Shrub prostrate.

* * * *Annual plants.*

34 C. pilosellæfòlius (Desr. in Lam. dict. 3. p. 551.) plant villous; axillary branches floriferous; leaves spatulate-lanceolate, sessile; peduncles elongated, many-flowered (few-flowered, ex Willd.), loosely racemose. ⊙. H. Native of the Levant, Willd. spec. 1. p. 870.—Tourn. cor. 1. Leaves and stems green, but pilose. Peduncles 4-6-flowered; bracteas small, lanceolate. Sepals ovate, acute, villous, twice longer than the corolla. Corolla small, campanulate. The Conv. ramosus, incanus, foliis pilosellæ, Tour. cor. 84, is probably a syn. of this, and therefore *Conv. linearifòlius*, Mill. dict. no. 28.

Pilosella-like Bind-weed. Pl. prostrate.

35 C. trícolor (Lin. hort. cliff. p. 19.) stem declinate, terete, beset with small, soft, white hairs; leaves ovate-lanceolate, or spatulate, hairy, ciliated; peduncles 1-flowered, bibracteate, longer than the leaves; sepals ovate-lanceolate, acute. ⊙. H. Native of Sicily, Spain, Portugal; on the hills of Ajuda, near Lisbon; and of the North of Africa. Willd. spec. 1. p. 874. Link, fl. port. 1. p. 368. Curt. bot. mag. t. 27. St. Hil. 18. t. 3.—Knip. cent. 5. no. 26.—Mor. hist. 2. p. 17. sect. 1. t. 4. f. 4. Corolla rather large, with a yellowish throat, a blue limb, the rest white. This is a very common annual in gardens. There is also a variety with almost white flowers.

Three-coloured-flowered Bind-weed. Fl. July, Sept. Clt. 1629. Pl. 1 foot.

36 C. Shera'rdi (Pursh. fl. amer. sept. 2. p. 30.) trailing, downy; leaves elliptic, retuse at both ends, mucronate; flowers solitary, nearly sessile. ⊙. H. Native of Carolina, Catesby. Nearly allied to *Conv. trichosánthes*.

Sherard's Bind-weed. Pl. trailing.

37 C. trichosa'nthes (Michx. fl. bor. amer. 1. p. 137.) plant trailing, downy; leaves lanceolate-oblong, linear or oblong, obtuse, mucronate, nearly sessile; peduncles 1-5-flowered, longer than the leaves; sepals ovate, acute; corolla short, campanulate, hairy outside. ⊙. H. Native from Virginia to Georgia, in sandy woods. Pursh. fl. 1. p. 143. Flowers small, white. Capsule ovate, downy.

Var. α, pàtens (Desr. in Lam. dict. 3. p. 547. ill. 1. p. 453.) plant filiform, erectish; leaves linear, mucronate; peduncles spreading, longer than the leaves, usually 2 flowered. ⊙. H. C. aquáticus, Walt. fl. carol. p. 94.

Var. β, tenéllus (Lam. ill. 1. p. 459. Pursh, fl. 1. p. 143.) twining; leaves oblong-elliptic, obtuse, mucronate, nearly sessile; peduncles longer than the leaves, usually 2-flowered. ⊙. H. C. humistràtus, Walt. fl. carol. p. 94. Plukn. alm. t. 166. f. 4.

Hairy-flowered Bind-weed. Pl. trailing.

38 C. pentapetaloìdes (Lin. syst. 3. p. 229.) plant prostrate, filiform; stems rather hairy at top; lower leaves petiolate, spatulate-lanceolate, obtuse, nearly naked, lined, ciliated: upper ones linear-cuneiform, sessile; peduncles short, 1-flowered, rather pilose. ⊙. H. Native of Majorca, Calabria, and the Grecian Islands. Willd. spec. 1. p. 867. exclusive of the syn. of Jacq. Sibth et Smith, fl. græc. t. 197. C. prostràtus, Forsk. descr. p. 203. Roth, beytr. 1. p. 121. abhandl. p. 11. no. 10. t. 3. catalec. bot. 1. p. 392. p. 22.—Tourn. inst. p. 83. Herb very like *C. trícolor*, but smaller. Bracteas very small. Corolla form of that of *Conv. lineàtus*, but 3 times smaller, bluish, with a yellow throat, and a semi 5-cleft limb.

Five-petalled-like-flowered Bind-weed. Fl. June, July. Clt. 1789. Pl. trailing.

39 C. meona'ntha (Link, et Hoffm. fl. port. 1. p. 369.) stems angular, downy at top, ascending; leaves lanceolate, sessile, with a few scattered hairs; peduncles 1-flowered, longer than the leaves; calyx with a few scattered hairs; sepals oval,

acutish. ⊙. H. Native of Portugal, in calcareous places about Coimbra. C. trícolor, β. mìnor, Brot. fl. lus. 1. p. 268. Leaves narrowed at the base. Bracteas obsolete. Corolla pale blue, with a yellowish bottom. Very nearly allied to *C. trícolor*, but differs in the corollas being smaller, paler, in the obsolete bracteas, and hairiness.

Small-flowered Bind-weed. Fl. June, July. Clt.? Pl. ½ to 1 foot.

40 C. strícTus (Lehm. sem. hort. hamb. 1823. p. 17. pug. 1. p. 15.) stems nearly simple, straight, villous; lower leaves obovate-spatulate: superior ones lanceolate, spreadingly pilose; sepals unequal, foliaceous; bracteas shorter than the calyx; peduncles 1-flowered, villous, shorter than the leaves. ⊙. H. Native of Egypt. Calyx woolly. Corolla funnel-shaped, white; tube length of calyx; limb pale rose-coloured at the plicæ. Capsule ovate, pilose at apex, length of calyx.

Straight Bind-weed. Fl. June, Aug. Clt. 1822. Pl. ¼ to ½ foot.

41 C. undula'tus (Cav. icon. 3. p. 39. t. 277. f. 1. ann. des cienc. nat. 3. p. 17.) stems prostrate, terete, rather villous; leaves spatulate, obtuse, sessile, pilose; flowers axillary, solitary, sessile; sepals oblong-ovate, acute, villous. ⊙. H. Native of Tunis, near Sbiba; in the Island of Cyprus; also near Tangier; Spain, about the canal near Madrid. C. hùmilis, Jacq. coll. 4. p. 209. t. 22. f. 3. C. evolvuloìdes, Desf. fl. atl. 1. p. 176. t. 49. Sibth. et Smith, fl. græc. t. 198. C. ciliàtus, Roth, catalec. 1. p. 39. 2. p. 22. Pers. ench. 1. p. 180. Willd. enum. 1. p. 205. C. decúmbens, Ortega. Stems reddish. Leaves villous, usually undulated, spatulate, ex Desf. Corolla longer than the calyx, with a red and white limb, and a yellow tube, ex Cav. blue, ex Desf. blue, with a white throat, ex Smith. Capsule villous.

Undulated-leaved Bind-weed. Fl. June, Oct. Clt. 1816. Pl. prostrate.

§ 2. *Leaves cordate. Annual plants.*

42 C. Sículus (Lin. spec. p. 223.) stems trailing; leaves cordate-ovate: superior ones acute, all hairy; peduncles 1-flowered, shorter than the leaves; bracteas lanceolate, below the calyx; sepals hairy, ovate, acute. ⊙. H. Native of Sicily; Spain, in Valencia; Island of Hieris; Peloponnesus; Candia, in shady mountains; as well as of Mauritania and Teneriffe. Willd. spec. 1. p. 866. Lam. dict. 3. p. 540. Sibth. et Smith, fl. græc. t. 196. Ker. bot. reg. 445.—Bocc sic. p. 89. t. 48.—Tourn. inst. 83. Stems filiform, angular, beset with adpressed hairs above, and spreading ones at bottom. Corolla small, blue, with a white throat. Stem twining a little.

Sicilian Bind-weed. Fl. June, Aug. Clt. 1640. Plant ½ to 1 foot.

43 C. elonga'tus (Willd. enum. 1. p. 205.) leaves cordate-ovate, cuspidate; peduncles 1-2-flowered, longer than the leaves; bracteas linear-subulate, shorter than the pedicels; calyxes ciliated. ⊙. H. Native of the Canaries. Ker. bot. reg. t. 498, C. pseùdo-Sículus, Cav. descr. p. 97. Very like *Conv. Sículus*, but differs in the leaves being broader; in the bracteas not being close to the calyx. Corolla white, having the tube yellow inside. Stems twining a little.

Elongated-peduncled Bind-weed. Fl. July, Aug. Clt. 1815. Pl. 1 foot.

44 C. unilatera'lis (Rœm. et Schultes, syst. 4 p. 284.) stems decumbent, diffuse; leaves cordate, acuminated; peduncles secund, very long; flowers subumbellate; sepals equal, ovate, bluntish. ⊙.? S. Native of Peru, on sandy hills; as between Santa Rosa and Yazo, in the valley of Canta. C. secúndus, Ruiz. et Pav. fl. per. 2. p. 10. t. 117. f. 6. Poir. suppl. 3. p. 472. but not of Desr. in Lam. dict. Leaves petiolate, as long as broad, white beneath, acute or obtuse, with an emarginate point. Pedicels bracteate; bracteas small, subulate. Corolla rather large, blue. Stamens exserted. Stigmas flat.

Unilateral-flowered Bind-weed. Pl. decumbent.

45 C.? ebractea'tus (Desr. in Lam. dict. 3. p. 541.) stem slender, twining a little; leaves cordate-sagittate, blunt behind; peduncles 1, rarely 2-flowered, bractless, shorter than the petioles; outer sepals the broadest. ⊙. H. Native country unknown. Pers. ench. 1. p. 180. Very similar to *C. Sículus* at first sight; but the leaves and whole plant are larger, and beset with short white hairs. Corolla small, white. Stigmas 2, globular. Perhaps a species of *Ipomœ'a*.

Bractless Bind-weed. Pl. trailing.

§ 3. *Leaves cordately lobed, or hastate. Annual and perennial plants.*

46 C. Impera'ti (Vahl, symb. 1. p. 17.) glabrous, trailing, creeping; leaves panduriform or entire, emarginate, cordate at the base; peduncles 1-flowered, length of leaves, sometimes twin; sepals ovate, obtuse, rather transparent. ♃. H. Native along the Mediterranean Sea; and of the kingdom of Naples and Mauritania. Willd. spec. 1. p. 896. C. stoloníferus, Desr. in Lam. dict. 3. p. 553. Cyr. pl. rar. fasc. 1. p. 14. t. 5. Ipomœ'a stolonífera, Poir. dict. 6. p. 20. C. sinuàtus, Petagn. inst. bot. 2. p. 553.—Mor. hist. 2. sect. 1. p. 15. t. 7.—Barrel. obs. p. 33. icon. 856.—Convolvulo Marino Imperati, no. 671. p. 767. Leaves usually lobately palmate, ex Pentagna, l. c. Bracteas small. Corolla large, campanulate, cream-coloured. Plant lactescent. Very like *Calystègia soldanélla*.

Imperati's Bind-weed. Pl. creeping.

47 C.? sagitta'tus (Thunb. prod. 35.) glabrous; stems filiform, prostrate; leaves lanceolate-sagittate: hind lobes acute, deflexed; peduncles 1-flowered, longer than the leaves.—Native of the Cape of Good Hope. Willd. spec. 1. p. 877. Sepals ovate, obtuse, concave, equal, glabrous. Corollas small, clothed with rusty villi outside.

Sagittate-leaved Bind-weed. Pl. trailing.

48 C.? hi'rtus (Mill. dict. no. 10. Willd. spec. 1. p. 875.) stem and petioles pilose; leaves cordate and subhastate, villous; peduncles many-flowered; pedicels naked; flowers alternate, pedicellate, having a small lanceolate bractea on each pedicel.—Native of the East Indies.

Hairy Bind-weed. Fl. June, Aug. Clt. 1806. Pl. twining.?

49 C. Cape'nsis (Willd. spec. 1. p 877.) stems ascending, glabrous; leaves linear, hastate at the base: lobes divaricate, small, glabrous, semibifid; peduncles 1-flowered, length of leaves; stems decumbent, villous; sepals ovate, acuminated, equal.—Native of the Cape of Good Hope. C. hastàtus, Thunb. prod. p. 55. Corolla large, downy outside.

Cape Bind-weed. Pl. trailing.

50 C. subloba'tus (Lin. suppl. p. 135.) procumbent, pilose; lower leaves cordate: superior ones repandly toothed at apex; flowers capitate, usually 3 in a head, surrounded by a 6-leaved involucrum. ⊙. H. Native of India. Willd. spec. 1. p. 877. Corolla large.

Sublobate-leaved Bind-weed. Pl. procumbent.

51 C.? edu'lis (Thunb. jap. p. 84.) stem creeping, angular: leaves cordate, entire, or 3-lobed, glabrous. ♃. G. Native of Japan, Willd. spec. 1. p. 875. Tubers large, fleshy, as in *Batàtas edùlis*, or sweet potatoe, eatable, of a very pleasant flavour. Perhaps only a variety of *Batàtas edùlis*.

Edible-rooted Bind-weed. Pl. creeping.

§ 4. *Leaves pinnate, jagged, or palmate. Annual and perennial plants.*

52 C. platyca'rpos (Cav. icon. 5. p. 55. t. 482.) stems prostrate, villous; leaves pinnate: leaflets sessile, often 3-lobed at apex, cuneate at the base; racemes terminal; pedicels distant, 1-flowered; sepals villous, nearly linear. ⊙.? G. Native of Mexico, about Chalma. Poir. suppl. 3. p. 472. Corolla campanulate, twice longer than the calyx, scarlet, divided even to the middle, into roundish segments, lined with green. Stamens villous at the base, with red filaments and yellow anthers. Stigmas subulate. Capsule roundish, compressed, 2-celled, 2-valved, divided by a dissepiment. Seeds black, dotted, 2 or more in each cell, fixed to the dissepiment. Perhaps a new genus.

Broad-fruited Bind-weed. Pl. prostrate.

53 C. lacinia'tus (Desr. in Lam. dict. 3. p. 546. exclusive of β.) stems slender, terete; leaves finely jagged, somewhat bipinnate; segments capillary, 2-3-cleft; peduncles longer than the leaves, 1-flowered, rarely 2-flowered; sepals ovate, obtuse, mucronate, rather scarious. ⊙.? G. Native near Monte Video. Cav. icon. 5. p. 479. f. 2. Bracteas linear. Corolla campanulate, white, twice as long as the calyx. Seeds black, naked. Leaves similar to those of *Quámoclit vulgàris*, glabrous or silky from pili.

Jagged-leaved Bind-weed. Pl. 1-2 feet.

54 C. lasia'nthus (Cav. icon. 5. p. 53. t. 479. f. 1.) stems numerous, simple, prostrate, terete, tomentose; leaves palmately jagged, tomentose: segments 7, unequal: middle one largest, all pinnatifid; peduncles 1-flowered, longer than the leaves; sepals concave, coriaceous, scarious, ovate, acuminated, very villous. ⊙.? G. Native of Chili, about Talcahuana. Poir. suppl. 3. p. 463. C. laciniàtus, β, Lam. dict. 3. p. 546. Bracteas linear, acute. Corolla white, campanulate, nearly funnel-shaped, villous outside; segments of the limb obtuse, ending in a small bristle each. Capsule globose.

Woolly-flowered Bind-wind. Pl. prostrate.

55 C. multífidus (Thunb. prod. p. 35.) leaves palmate; lobes 7, linear, entire; peduncles 1-flowered; stems decumbent. ↄ. G. Native of the Cape of Good Hope. Willd. spec. 1. p. 877.

Multifid-leaved Bind-weed. Fl. June, Aug. Clt. 1822. Pl. dec.

56 C. obtusílobus (Michx. fl. bor. amer. 1. p. 139.) plant prostrate, glabrous; leaves thick, sinuately lobed; lobes rounded, obtuse: the middle lobe large and emarginate; peduncles 1-flowered; sepals oblong-oval; corolla short, campanulate. ↄ. H. Native of Georgia and Florida, on the sandy beach. Pursh. fl. amer. sept. 1. p. 144. Pers. ench. 1. p. 82. Lower leaves sometimes not lobed, but repand. Calyx bractless, ex Michx.

Blunt-lobed-leaved Bind-weed. Pl. prostrate.

57 C. littora'lis (Lin. spec. p. 227.) stems creeping; leaves large, oblong, lobately palmate, fleshy; peduncles 1-flowered, rarely 2-flowered, shorter than the leaves. ↄ. S. Native of Crabe's Island, near Porto Rico, by the shore. Willd. spec. 1. p. 878. Desr. in Lam. dict. 3. p. 546. Plum. spec. 1. ed. Burm. amer. 90. f. 2.—Plum. mss. vol. 2. t. 5. Stems much branched. Petioles rather long. Corolla rather large, white, campanulate, with a spreading, somewhat fringed limb. Capsule clothed with white silky villi.

Sea-shore Bind-weed. Pl. creeping.

Sect. II. Strophocau'los (from στροφαω, *strophao*, to twist; and καυλος, *kaulos*, a stem.) Stems twining.

§ 1. *Leaves sagittate or hastate, or cordately or sagittately hastate.*

58 C. arve'nsis (Lin. spec. p. 218.) stems angular, striated; leaves sagittate, somewhat auricled; peduncles usually 1-flowered, bibracteate about the middle; sepals ovate-roundish; corolla white or rose-coloured. ↄ. ◠. H. Native throughout Europe, in sandy fields, and by road sides; as well as of China, Cochinchina, some parts of the East Indies, and Persia; and of Virginia, in meadows; very common in Britain. Willd. spec. 1. p. 844. Pursh, fl. amer. sept. 1. p. 144. on the authority of Gronovius, fl. virg. p. 27. Smith, engl. bot. t. 312. Curt. lond. fasc. 2. t. 13. Oed. fl. dan. t. 459. Bull. herb. t. 269. Drev. et Hayn. t. 24. Hayn. term. bot. t. 12. f. 1. a. Plenck, off. t. 104. Conv. Chinénsis, Ker. bot. reg. t. 322. Conv. Malcólmi, Roxb. in Wall. fl. ind. 2. p. 55. Conv. Màhur, Ham. herb. Conv. divaricàtus, Wall. cat. no. 1422. 1 and 2. Conv. hastàtus, Delisle, descr. ægypt. p. 55. C. prostràtus, Schmidt, fl. boh. no. 195. Root creeping extensively under ground, difficult to extirpate. Leaves smoothish. Bracteas in the middle of the peduncles, or near their top. Flowers sweet-scented.—There is a variety with 2-flowered peduncles. Leaves varying in shape, obtuse or acute, having the hind lobes also acute, obtuse, or angular.

Var. α, *eréctus* (Ledeb. fl. alt. 1. p. 224.) glabrous; stem erect, neither procumbent nor twining; leaves hastately-triangular: lobes acuminated, or 2-lobed; peduncles mostly 2-flowered, bibracteate, about equal in length to the leaves: having one of the pedicels bracteate, and the other naked; sepals mucronate. ↄ. H. Native of Siberia, on the stony banks of the rivulet called Tinguriuk, and the river Katunga, to the north; but has not been observed elsewhere. Flowers rose-coloured or white, with the margins reddish.

Var. β, *volùbilis* (Led. l. c.) glabrous; stems twining; leaves sagittately triangular: hind lobes acute, 2-lobed at bottom; peduncles exceeding the leaves, mostly 2-flowered, bibracteate, having one of the pedicels naked; sepals roundish, mucronate. ↄ. ◠. S. Native of Siberia, on mountains near Alexandrowsk.

Var. γ, *vulgàris* (Ledeb. l. c. p. 225.) plant rather villous; stems sometimes erect, sometimes prostrate or twining; leaves sagittate or hastate; lobes oblong: terminal one elongated, roundish, and mucronate at the apex: lateral ones somewhat 2-lobed, or somewhat serrated below; peduncles exceeding the leaves more or less, 1-3-flowered, bibracteate; pedicels bractless; sepals roundish, ciliated, hardly mucronate. ↄ. ◠. H. Native of Siberia, frequent in fields.

Var. δ, *angustàtus* (Ledeb. l. c.) stems twining; leaves hastate: lobes rounded at the apex: terminal one elongated, oblong, mucronate: lateral ones furnished with a straight stretched out angle; peduncles usually 1-flowered, longer than the leaves, bibracteate above the middle; sepals rounded at the apex, somewhat emarginate, sub-mucronate. ↄ. ◠. H. Native of Siberia, in dry places; at the rivers Ulegumen and Katunga.

Var. ε, *sagittàtus* (Ledeb. l. c.) rather pilose; stems twining a little; leaves sagittate; lobes broad-lanceolate: terminal one mucronate; peduncles 1-flowered, bibracteate, equal in length to the leaves; sepals sub-mucronate. ↄ. ◠. H. Native of Siberia, in dry places, very rare. C. sagittæfòlius, Fisch. hort. gorenk. 1810. p. 28.? Bieb. fl. cauc. suppl. 3. p. 137.—Gmel. sib. 4. p. 96. no. 54. t. 48. f. 1.

Corn Bind-weed. Fl. June, Sept. Britain. Pl. tw.

59 C. emargina'tus (Link. enum. 1. p. 201.) leaves hastately sagittate: hind lobes emarginate or bicuspidate; peduncles axillary, 2-3-flowered; calycine segments ovate, acute. ↄ. ◠. H.

Native country unknown. Stem quadrangular. Young leaves hoary: adult ones with a few adpressed hairs, as well as the calyx. Bracteas linear under the calyx. Corolla red.

Emarginate-lobed Bind-weed. Fl. June, Aug. Clt. 1817. Pl. tw.

60 C. bicuspida'tus (Fischer, ex Link, enum. p. 201.) leaves hastate: hind lobes bicuspidate; peduncles axillary, 1-flowered; calycine segments obtuse, emarginate, somewhat apiculated. ♃. ⌒. H. Native of Dauria. Stem glabrous, quadrangular. Leaves with a lanceolate middle lobe, and recurved hind or lateral ones, scabrous on the margins. Peduncles longer than the leaves, bearing a linear bractea above the middle. Calyx glabrous. Corolla red.

Bicuspidate-lobed Bind-weed. Fl. June, July. Clt. 1818. Pl. tw.

61 C. auricula'tus (Desr. in Lam. dict. 3. p. 540. exclusive of the synonymes); leaves linear-hastate, acuminated: hind lobes entire; peduncles 2-flowered. ♃. ⌒. S. Native of the Isle of France. Pers. ench. 1. p. 177. Nearly allied to *C. arvénsis*, and probably only a variety of it; but differs from the common form of that species, in the leaves being narrower, more oblong, in the peduncles being 2-flowered, nearly the length of the leaves, and in the bracteas being nearer the calyx. Root creeping.?

Auricled-leaved Bind-weed. Pl. tw.

62 C. Córsicus (Rœm. et Schultes, syst. 4. p. 256.) leaves ovate-hastate, rounded at the apex, somewhat emarginate: hind lobes obtuse. ♃. ⌒. H. Native of Corsica. Nearly allied to some varieties of *C. arvénsis;* but differs in the shorter petioles, broader leaves, shorter, thicker peduncles. Superior leaves smaller, and sessile. Probably only a variety of *C. arvénsis.*

Corsican Bind-weed. Pl. tw.

63 C. incarna'tus (Vahl, eclog. amer. 2. p. 12.) leaves sagittate-oblong, acuminated, glabrous: hind lobes divaricate, acute, entire; peduncles 1-flowered, longer than the petioles; bracteas at the base of the peduncle; sepals lanceolate, acute. ♃. ⌒. S. Native of Curaçoa. It differs from *C. arvénsis*, to which it is nearly allied, in the hind lobes of the leaves being ovate, acute; in the bracteas being at the base of the peduncles; in the flowers being larger, &c. Corolla large, purple, campanulate.

Flesh-coloured-flowered Bind-weed. Pl. tw.

64 C. Mechoaca'nna (Willd. anleit. selb. p. 93.) leaves ovate and lobed, hastate; peduncles thick, 1-flowered. ♃. ⌒. S. Native of Brazil; and Mechoaca, in New Spain. Root thick, marked under the name of *Mechoacanna.* Conv. Mechoàcan, Vittm. summ. 1. p. 434. Conv. Jetiaúcu, Pis. bras. with a figure. Conv. Jatiaúca, Gmel. 1. p. 339. with the following description: "Nearly allied to *C. sèpium.* Root bifid, brown outside. Stem many-angled. Leaves cordate-eared, deep green, nerved beneath. Corolla white or pale red, purple inside. Seeds brown."

Mechoacan Bind-weed. Pl. tw.

65 C. atriplicifòlius (Poir. suppl. 3. p. 467.) hairy; leaves on short petioles, sagittate, truncate behind; peduncles axillary, hairy, very long, forked at top, each fork bearing a flower; calyx villous: outer sepals the longest, lanceolate, acute, mucronate. ♃. ⌒. H. Native of Syria, La Billardiere. Hairs on stems and peduncles rufescent. Peduncles furnished with 2 subulate bracteas at the fork, and 2 longer ones on each pedicel. Corolla white, twice as long as the calyx.

Atriplex-leaved Bind-weed. Pl. tw.

66 C. acetosellæfòlius (Desr. in Lam. dict. 3. p. 564.) muricated; leaves hastately 3-lobed: lateral lobes roundish-angular; peduncles short, usually 2-flowered; sepals short, ovate, bluntish. ♃. ⌒. S. Native of the Isle of France. Conv. lapathifòlius, Spreng. syst. 1. p. 604. Glabrous, as in *Ipomœ'a triloba*, to which it is nearly allied in habit. Stems terete, and are, as well as the petioles and peduncles, rough from black acute tubercles. Leaves almost panduriform. Corolla small, campanulate, twice longer than the calyx.

Acetosella-leaved Bind-weed. Pl. tw.

67 C. inca'nus (Vahl, symb. 3. p. 23.) clothed with silky tomentum; leaves lanceolate-sagittate, obtuse, a little toothed at the base; peduncles 2-flowered, length of leaves; sepals ovate, acute: outer ones villous. ♃. ⌒. S. Native of South America. Willd. spec. 1. p. 847. Stems terete. Petioles short. Leaves 1½ inch long; hind lobes rounded. The longest pedicel bibracteate in the middle. Bracteas setaceous. Corolla villous outside. Capsule glabrous, globose.

Hoary Bind-weed. Pl. tw.

68 C. hasta'tus (Forsk. descr. p. 203.) stem pilose; leaves lanceolate-hastate; peduncles axillary, twin, 2-flowered; sepals acuminated, spreading at apex. ♃. ⌒. H. Native of Egypt. Vahl, symb. 1. p. 15. Willd. spec. 1. p. 849. Conv. hastifòlius, Poir. suppl. 3. p. 467. Petioles one-half shorter than the leaves. Leaves 2 inches long, glabrous above and villous beneath, with rounded auricles, which are sometimes unidentate behind. Peduncles shorter than the petioles, villous.

Halbert-leaved Bind-weed. Pl. tw.

69 C. Scammònia (Lin. spec. p. 218. Roy. ludgb. 427.) glabrous; stem angular; leaves cordate-sagittate, truncate behind; peduncles terete, generally 3-flowered, longer than the leaves; sepals loose, glabrous, ovate, repand, obtuse, with a reflexed point. ♃. ⌒. H. Native of Syria, Mysia, Cappadocia; and of the Island of Rhodes, in hedges. Mill. fig. t. 102. Plench. off. t. 92. Sibth, et Smith, fl. græc. t. 192. Woodv. med. bot. 1. p. 13. t. 5. Sweet, fl. gard. n. s. 2. t. 173. Conv. Syrìacus, and Scammònia Syrìaca, Tourn. inst. 83.—Morr. hist. 2. p. 12. sect. 1. t. 3. f. 5.—Lob. icon. 620. f. 1. Corollas large, campanulate, cream-coloured, or very pale red. The roots of Scammony, which are very long and thick, when fresh contain a milky juice. This is obtained by removing the earth from the upper part of the roots, and cutting off the tops obliquely. The milky juice which flows out is collected in a small vessel sunk in the earth at the lower end of the cut. Each root furnishes only a few drachms; but the produce of several roots is added together, and dried in the sun. This is the true and unadulterated Scammony. It is light, of a dark grey colour, but becomes of a whitish yellow when touched with the wet finger. It is shining in its fracture, has a peculiar nauseous smell, and bitter, acrid taste, and forms, with water, a greenish milky fluid. In this state of purity it seldom reaches us, but is commonly mixed with the expressed juice of the root, and even of the stalks and leaves, and often with flour, sand, or earth. The best to be met with in the shops comes from Aleppo, in light, spongy masses, having a heavy, disagreeable smell, and a shining ash-colour, verging to black, friable, and easily powdered; powder of a light grey, or whitish colour. An inferior sort is brought from Smyrna, in more compact, ponderous pieces, with less smell, not so friable, of a darker colour, not so resinous and full of sand and other impurities. This last is said to be the produce of *Periploca Scammònium*, and of the *Cynánchum A'rghil.* Resin is the principal constituent of Scammony. Sixteen ounces of good Aleppo Scammony give eleven ounces of resin, and three ounces and a half of watery extract. Scammony is an efficacious and powerful purgative. It may be given triturated with sugar, or with almonds, and becomes sufficiently safe and mild in its operation. It may be also given to strengthen other purgatives, in small quantities, as with powdered rhubarb, &c. The common dose of Scammony is from 3 to 12 grains; but when mixed with other purgatives, ½ to 1 grain is sufficient.

Scammony Bind-weed. Fl. July, Aug. Clt. 1596. Pl. tw.

70 C. Sibthórpii (Rœm. et Schultes, syst. 4. p. 285.) leaves cordate-hastate, acuminated, pilose, angular at the base; peduncles generally 1-flowered; capsule hairy. ♃. ⌒. H. Native of the Island of Samos, and other Grecian Islands, in vineyards and corn-fields. C. sagittifòlius, Sibth. et Smith, fl. græc. t. 193. but not of Michx. — Tourn. cor. p. 1. — Bocc. mus. t. 35. Flowers white, or reddish white; sepals hairy, ovate, acute. Very nearly allied to *C. Scammònia*.

Sibthorp's Bind-weed. Fl. July, Aug. Clt. 1823. Pl. twining.

71 C. Loureíri; stem branched, suffruticose, slender, pilose; leaves sagittate-oblong, somewhat truncate at the base; corollas yellow, plicate, undivided; peduncles long, terete, usually 4-flowered; bracteas lanceolate. ♄. ⌒. S. Native of Cochinchina, in woods. C. Scammònia, Lour. coch. p. 106.

Loureiro's Bind-weed. Shrub tw.

72 C. Bonarie'nsis (Cav. icon. 5. p. 54. t. 480. f. 2.) stems filiform, downy; leaves hastate, cuneated at the base, terminating each in a bristle; peduncles generally 3-flowered, shorter than the leaves. ♃. ⌒. G. Native of Buenos Ayres, in plains. Poir. suppl. 3. p. 470. Leaves petiolate; middle lobe linear, very long, 2 inches, obtuse, 2 lines broad: lateral ones very short, with a tooth outside. Calyx length of the tube of the corolla. Corolla small, white, variegated with red veins; segments of the limb acute.

Buenos Ayrean Bind-weed. Pl. tw.

73 C. erube'scens (Sims, bot. mag. 1067. R. Br. prod. p. 482.) plant rather pilose; leaves hastate: hind lobes toothed or cut: intermediate one lanceolate or linear, toothed or quite entire; peduncles 1-3-flowered, shorter than the leaves; sepals equal, ovate, mucronulate, spreading; capsule erect, 2-valved; seeds scabrous. ♂. ⌒. G. Native of New South Wales, about Port Jackson; and of Van Diemen's Land. C. rubéscens, Poir. suppl. 3. p. 466. Corollas small, red. Nearly allied to *C. althæoìdes* and *C. bryoniæfòlius*.

Reddish-flowered Bind-weed. Fl. July, Sept. Clt. 1803. Pl. tw.

74 C. remòtus (R. Br. prod. p. 483.) rather pilose from adpressed hairs; leaves hastate, linear-oblong, entire; peduncles 1-flowered; sepals equal, ovate, mucronulate; seeds scabrous. ♃. ⌒. G. Native of New Holland, on the South coast.

Remote-leaved Bind-weed. Pl. tw.

75 C. genicula'tus (Lehm. sem. hort. hamb. 1826. p. 17. pug. 1. p. 15.) radical leaves hastately-cordate, very blunt; cauline leaves hastately-lanceolate, acute: auricles or hind lobes angularly toothed; peduncles 1-flowered, length of leaves, jointed and bracteate in the middle, and thickened above; calycine segments reflexed at apex, mucronulate. ⊙. ⌒. G. Native of Australia. Stem angular, pilose. Leaves downy. Bracteas linear-lanceolate. Corolla pale red, glabrous, 5-lobed, silky underneath at the plicæ; lobes rounded. Capsule size of a pea.

Jointed-peduncled Bind-weed. Fl. July, Aug. Clt. 1826. Pl. tw.

76 C. quinqueflòrus (Vahl, symb. 3. p. 31. Willd. spec. 1. p. 862.) stems downy, terete; leaves sagittately ovate, attenuated, glabrous, hoary, crenately sub-repand; peduncles generally 5-flowered, length of leaves; sepals oblong, obtuse, mucronate, rather villous. ♃. ⌒. S. Native of the Island of Bourbon. Hind lobes of leaves erect, truncated behind and unidentate. Peduncles downy: upper ones 3-flowered. Lobes of corolla bearded at top. Probably a species of *Ipomœ'a*.

Five-flowered Bind-weed. Pl. tw.

77 C. ru'ber (Vahl, eclog. 2. p. 12.) glabrous; stems terete; leaves sagittate, emarginate: hind lobes oblong, very blunt, divaricate, quite entire; peduncles length of leaves, bearing about 4 flowers in an umbel, which are at first sessile, but at length pedicellate, involucrated by 2 ovate membranous leaves; sepals unequal, glabrous: 2 outer ones larger, mucronate. ♃. ⌒. S. Native of Tropical America. Stem beset with piliferous dots. Leaves 2 inches long. Bracteas oblong at the base of the pedicels. Corolla purple. Perhaps a species of *Ipomœ'a*.

Red-flowered Bind-weed. Pl. tw.

78 C. crenatifòlius (Ruiz. et Pav. fl. per. 1. t. 118. f. a.) stems terete, downy; leaves sagittate, acute, crenated; peduncles long, 10-11-flowered, umbellate, involucrated at the base. ⊙. ⌒. S. Native of Peru, along with *C. Hermánniæ*. Poir. suppl. 3. p. 470. Leaves petiolate, 3-4 inches long, crenate at the base, but generally entire from the middle to the apex. Bracteas on the pedicels, small, subulate. Corolla middle-sized; lobes acute, pilose at apex. Stamens exserted. Stigmas flat.

Crenate-leaved Bind-weed. Pl. tw.

79 C. Cherle'ri (Agardh, ex Rœm. et Schultes, syst. 4. p. 261.) glabrous; stems prostrate, angular; leaves hastately 3-lobed: lobes linear, very narrow; peduncles 1-flowered, length of leaves; sepals truncately rounded. ♃. ? ⌒. H. Native near Malaga. Middle lobe of leaves 3-4 lines longer than the lateral ones, obtuse, mucronate. Bracteas short, downy. Corolla 3 times longer than the calyx.

Cherler's Bind-weed. Pl. tw.

80 C. rufe'scens (Choisy, in mem. soc. phys. gen. 6. p. 479.) plant of a rufous rusty colour; leaves hastately cordate, acute at the apex, mucronulate, with sinuated edges: auricles crenately-lobed; peduncles short, 1-3-flowered; sepals ovate, acuminated, equal. ♃. ⌒. H. Native of the Nilligherry mountains. Stem terete. Sepals ciliated: outer ones downy outside. Petioles villous. Capsule glabrous. Nearly allied to *C. atriplicifòlius* and *C. crenàtus*.

Rufescent Bind-weed. Pl. tw.

81 C. pannifòlius (Salisb. par. p. 20. Ait. hort. kew. edit. 2d. vol. 1. p. 328.) canescent; leaves cordately hastate, hairy; peduncles generally 3-flowered; bracteas linear, distinct from the calyx; sepals hairy, oblong, acute; corollas large, pale red. ♄. ⌒. G. Native of the Canary Islands. Ker. bot. reg. 222.

Cloth-leaved Bind-weed. Fl. June, Sept. Clt. 1805. Shrub twining.

82 C. lanuginòsus (Vahl, symb. 3. p. 23. Willd. spec. 1. p. 847.) stem beset with rust-coloured hairs; leaves on short petioles, cordate-oblong, somewhat hastate, clothed with very soft, rusty, silky tomentum: auricles bidentate; peduncles 3-flowered, pilose; the 3 outer sepals very hairy, ovate, acuminated. ♃. ⌒. H. Native of the Levant. The two lateral pedicels bibracteate, and the middle one bractless. Bracteas lanceolate. Corolla nearly as in *Conv. Scammònia*, yellowish, with a lanceolate purple ray outside of each lobe, clothed with yellowish villi.

Woolly Bind-weed. Pl. tw.

83 C. ? cordifòlius (Thunb. prod. p. 35.) downy; leaves cordately hastate, acuminated, toothed: hind lobes acute, divaricate, glabrous, hairy beneath; peduncles bifid, umbellate, length of leaves. ♃. ? ⌒. G. Native of the Cape of Good Hope. Willd. spec. 1. p. 857. Flowers small. Sepals ovate, acuminated, glabrous. Corolla pale blue.

Heart-leaved Bind-weed. Pl. tw.

84 C. hirsu'tus (Bieb. fl. taur. 1. p. 442. cent. pl. ross. 66.) plant clothed with white hairs; leaves cordate, acute, subhastate: auricles angularly toothed; peduncles usually 3-flowered, longer than the leaves; sepals nearly equal, ovate-lanceolate, acuminated. ♃. ⌒. H. Native of the South of Tauria,

on arid hills by the Black Sea, near Gursuph. C. Scammònia, Bieb. fl. cauc. 1. p. 145. Habit of *C. arvénsis*. Bracteas subulate. Corollas size of those of *C. Scammònia*, hairy, the plicæ yellow outside, and the angles purplish.

Hairy Bind-weed. Fl. July, Aug. Clt. 1824. Pl. tw.

§. 2. *Leaves cordate, lobed.*

85 C. fla'vus (Willd. spec. 1. p. 852.) smoothish; leaves cordate, repandly sublobate; peduncles much longer than the leaves: superior ones 3-flowered: lower ones bifid, many-flowered. ♃. ⌒. S. Native of the East Indies. Evólvulus hederàceus, Burm. ind. 77. t. 30. f. 2. Leaves acuminated, rather scabrous: superior ones obtuse. Lower peduncles bifid, with 3-flowered branches, and a flower in the fork, scabrous from tubercles. Corolla small, yellow.

Yellow-flowered Bind-weed. Pl. tw.

86 C. calystegioìdes (Choisy, in mem. soc. phys. gen. 6. p. 480.) quite glabrous; leaves cordate-hastate, 5-lobed; middle lobe very long: lateral ones sometimes toothed; peduncles 1-flowered, equal in length to the petioles; outer sepals largest. ♃. ⌒. G. Native of China. C. Scammònia, Lour. coch. p. 106.? Stem terete, striated. Leaves 1-2 inches long. Middle lobe lanceolate, acute. Corolla campanulate, hardly an inch long.

Calystegia-like Bind-weed. Pl. tw.

87 C. díchrous (Rœm. et Schultes, syst. 4. p. 263.) hairy; stems terete; leaves subcordate, 3-lobed, hoary beneath; peduncles many-flowered, longer than the petioles; sepals narrow, acute. ☉.?⌒. S. Native of Senegal. C. bícolor, Desr. in Lam. dict. 3. p. 564. Habit of a species of *Rùbus*. Stem beset with blackish dots, and long stiff hairs. Lobes of leaves ovate, acute. Peduncles dichotomous. Bracteas twin, subulate at the forks. Corollas small.

Two-coloured Bind-weed. Pl. tw.

88 C. angula'ris (Lin. mant. 203.) stems downy; leaves villous, cordate, 5-angled, entire; peduncles many-flowered, length of leaves; sepals pilose, acute. ☉.?⌒. S. Native of Java. Willd. spec. 1. p. 853. Burm. ind. 46. t. 19. f. 2. Leaves rather scabrous. Corolla campanulate, 3 times larger than the calyx, orange-coloured.

Angular-leaved Bind-weed. Pl. tw.

89 C. tomentòsus (Lin. spec. 222.) stems terete, white, woolly; leaves cordate, deeply 3-lobed, clothed with white tomentum; peduncles secund, many-flowered. ☉.?⌒. S. Native of Jamaica. Desr. in Lam. dict. 3. p. 564. Willd. spec. 1. p. 861.—Sloan. jam. p. 55. hist. 1. p. 154. t. 98. f. 2.—Plukn. alm. 115. t. 167. f. 4. Corolla campanulate, purplish. Conv. tomentòsus of Lour. is certainly distinct.

Tomentose Bind-weed. Pl. tw.

90 C. varia'bilis (Cham. et Schlecht. in Linnæa, 5. p. 116.) pilose; leaves deeply-cordate, acuminated, entire, or angularly toothed at the base, or hastately 3-lobed, beset with adpressed hairs, especially beneath: but the hairs on the stems and peduncles are spreading; peduncles longer than the leaves, cymose, many-flowered, 2-7; pedicels short, nearly glabrous, muricated; sepals elliptic, nearly glabrous, mucronately-acuminated: outer ones ciliated with long hairs. ♃.?⌒. G. Native of Mexico, near Hacienda de la Laguna. Corolla large, rose-coloured, nearly $1\frac{1}{2}$ inch in diameter.

Variable-leaved Bind-weed. Pl. tw.

91 C. trílobus (Thunb. prod. p. 35.) leaves cordate, villous, 3-lobed; lobes ovate, acute; peduncles 1-flowered. ♃.?⌒. G. Native of the Cape of Good Hope.

Three-lobed-leaved Bind-weed. Pl. tw.

§. 3. *Leaves quinate, pedate, palmate, or jagged.*

92 C. angustíssimus (R. Br. prod. p. 482.) rather pilose; leaves cordate, tripartite; lateral lobes bifid or trifid: the middle one the longest, narrow-linear, channelled; pedunceles 1-flowered; sepals equal, oval, mucronulate; capsule nutant, 2-valved; seeds scabrous. ♃.⌒. H. Native of Van Diemen's Land. Very nearly allied to *C. erubéscens*.

Very narrow-lobed-leaved Bind-weed. Pl. tw.

93 C. althæoìdes (Lin. spec. 222.) plant canescent, pilose; lower leaves cordate, deeply crenated: superior ones pedatifid: middle lobe long, pinnatifid; peduncles usually 1-flowered; sepals ovate, acute. ♃.⌒. H. Native of the South of Europe, North of Africa, Levant, Spain, &c. Willd. spec. 1. p. 862. Sibth. et Smith, fl. græc. t. 194. Tenor. fl. neapol. 1. p. 58. Wulf. in Jacq. coll. 1. p. 316. Desr. in Lam. dict. 3. p. 564. C. argyræ'eus, D. C. fl. fr. suppl. p. 423.—Barrel. icon. t. 312.—Tourn. inst. p. 85. Leaves shining, silvery. Peduncles longer than the leaves. Corolla pale red or lilac, large, spreading, entire.

Var. β, hùmilis; plant more dwarf, greener, almost glabrous; leaves more divided; peduncles all 1-flowered. ♃.⌒. H. Native of the South of France.

Althæa-leaved Bind-weed. Fl. June, Sept. Clt. 1597. Pl. tw.

94 C. hasta'tus (Nutt. in amer. phil. trans. n. s. 5. p. 194.) leaves hastately pedate, silky: intermediate segment sub-lanceolate, much larger than the rest; peduncles mostly 2-flowered, much longer than the leaves; sepals downy, imbricate, oval, obtuse, tinged with purple. ♃.⌒. H. Native on the high hills of the Red River, contiguous to the confluence of the Kiamesha. Stem downy. Leaves clothed with short hoary and silky down; the first ones simply hastate; the rest palmate; commonly producing on each side at base 2 lateral, reflexed-toothed, or entire lobes; the central one more than double their length, and twice their breadth. This species differs but little from *C. althæoìdes*.

Hastate-leaved Bind-weed. Pl. tw.

95 C. Ita'licus (Rœm. et Schultes, syst. 4. p. 266.) hairy; radical leaves cordate, wrinkled, repand-toothed, or lobed: cauline ones palmately cut; peduncles longer than the leaves, 2-3-flowered. ♃.⌒. H. Native of Naples and Italy, in hedges; and of the North of Africa. Conv. hirsùtus, Tenore, fl. neap. prod. p. 15. fl. neap. 1. p. 60. t. 15. syn. p. 34. C. althæoìdes, D. C. fl. fr. no. 2747. suppl. 423. Plant less silky, and much greener than *C. althæoìdes*. Flowers pale red.

Var. β; leaves less hairy; peduncles generally 1-flowered. ♃.⌒. H. Rœm. et Schultes, syst. 4. p. 266.

Var. γ; plant more erect; leaves less divided, more hairy. ♃.⌒. H. Rœm. et Schultes, l. c.

Italian Bind-weed. Fl. July, Aug. Clt. 1820. Pl. tw.

96 C. tenui'ssimus (Sibth, et Smith, fl. græc. t. 195.) leaves pedate, silky, shining: lobes linear, obtuse; radical leaves cordate, crenated; peduncles 1-flowered. ♃.⌒. H. Native of Candia, and about Athens, on the higher hills; also of Zante. C. althæoìdes, β, Lin. spec. 222. C. althæoìdes, Desr. in Lam. dict. 3. p. 565. Conv. Ægýpticus, Vesl. ægypt. 73. t. 74. Conv. elegantíssimus, Mill. dict. no. 22. C. althæoìdes, Curt. bot. mag. 359.—Munting, p. 28. f. 137.—Tourn. inst. p. 85. C. seríceus, Forsk. descr. p. 204. Flowers pale red or rose-colour. Very like *C. althæoìdes*.

Very slender Bind-weed. Fl. June, Oct. Clt. 1597. Pl. twining.

97 C. bryoniæfòlius (Sims, bot. mag. t. 943.) downy; lower leaves cordate, obtuse, crenated, or toothed; upper leaves some-

what palmately 7-lobed: middle lobe long, toothed, or lobed; peduncles long, 1-flowered, articulated; sepals ovate, acute. ♃. ⌒. G. Native of China. Plant rather hispid, green. Bracteas subulate. Corolla large, reddish purple.

Bryony-leaved Bind-weed. Fl. July, Aug. Clt. 1802. Pl. tw.

98 C. Fa'lkia (Jacq. hort. schroenbr. 2. t. 198.) root perpendicular; stems numerous, much branched; leaves petiolate, ovate-cordate, deeply jagged, rather pilose on both surfaces; peduncles hairy, very long, 1-flowered; calyx villous; sepals ovate, concave, acute: outer ones broader. ♃. ⌒. G. Native of the Cape of Good Hope. Poir. suppl. 3. p. 462. Leaves 1-2 inches long. Bracteas lanceolate, acute. Corolla campanulate, with a short white tube, and a flat, 5-lobed, pale flesh-coloured limb, rather hairy outside. Stigmas thick, cylindrical, obtuse.

Falkia Bind-weed. Pl. twining.

99 C. alceifòlius (Lam. ill. no. 2096.) hairy; leaves all deeply jagged, somewhat palmate; peduncles few-flowered, longer than the leaves. ♃.? ⌒. G. Native of the Cape of Good Hope. Flowers red?.

Alcea-leaved Bind-weed. Fl. July, Aug. Clt. 1823. Pl. twining.

100 C. Thunbe'rgii (Rœm. et Schultes, syst. 4. p. 268.) stems tomentose; cauline leaves palmately and hastately jagged, hairy; peduncles articulated, usually 1-flowered, length of leaves, or shorter; sepals lanceolate, acuminated. ♃.? ⌒. G. Native of the Cape of Good Hope. Segments of leaves acute; middle one the longest, and sinuated.

Thunberg's Bind-weed. Pl. tw.

101 C. macroca'rpus (Lin. spec. 222.) leaves palmately pedate, 5-parted; peduncles 1-flowered. ⊙. ⌒. S. Native of Martinico. Desr. in Lam. dict. 3. p. 544. Willd. spec. 1. p. 864. C. frutéscens, Mill. dict. no. 13. t. 56.—Plum. ed. Burm. amer. p. 80. t. 91. f. 1. Root thick, fleshy, turnip-formed. Lobes of leaves entire, acute; the lateral ones not so deep. Peduncles articulated in the middle, winged. Sepals concave, roundish. Corolla large, purplish, having the margin sinuated. Capsule globose, angular, size of a walnut, inclosed in the calyx. Seeds round, black, villous, size of filberts.

Large-fruited Bind-weed. Fl. July, Aug. Clt. 1752. Pl. tw.

102 C. quinquefòlius (Lin. syst. 170. spec. p. 166.) stem hispid; leaves digitate, glabrous; leaflets 5-toothed; peduncles smooth, 3-7-flowered. ⊙. ⌒. S. Native of tropical America. Desr. in Lam. dict. 3. p. 566. Willd. spec. 1. p. 865. Vahl. eclog. 2. p. 15. Plukn. alm. 116. t. 167. f. 6.—Plum. ed. Burm. t. 91. f. 2.—Plum. mss. 2. t. 55. therefore Conv. pentaphýllus, β, Lin. spec. 166. Willd. spec. 1. p. 866. Conv. palmàtus, Mill. dict. no. 8. Sepals oval-oblong. Corolla campanulate, white, 5-toothed.

Five-leaved Bind-weed. Fl. July, Aug. Clt. 1752. Pl. twining.

103 C. gla'ber (Aubl. guian. 1. p. 138. t. 53.) quite glabrous; leaves digitately quinate; leaflets petiolulate, attenuately acuminated, quite entire; peduncles branched, divaricate, many-flowered; sepals long, firm, smooth, acute. ♃. ⌒. S. Native of Cayenne. Willd. spec. 1. p. 866. Desr. in Lam. dict. 3. p. 566. Corolla white, with a long tube, and spreading limb; lobes of limb rounded. Lobes of stigma acute.

Glabrous Bind-weed. Fl.? Clt. 1806. Pl. tw.

104 C. eriospe'rmus (Desr. in Lam. dict. 3. p. 567.) glabrous; leaves digitate; leaflets generally 8, linear, very narrow; racemes small, somewhat secund in the forks of the branches, a little longer than the leaves; sepals obtuse; seeds very hairy. ♄. ⌒. S. Native of St. Domingo. Branches grey. Corolla cylindrical, purplish. Capsule ovate, smooth. Hairs on the seeds white, silky.

Woolly-seeded Bind-weed. Shrub tw.

105 C macroca'lyx (Ruiz. et Pav. fl. per. 2. p. 10. t. 118. f. a. Poir. suppl. 3. p. 471.) glabrous; leaves quinate; leaflets unequal, oblong-lanceolate, quite entire; peduncles very long, racemosely forked; sepals ovate-lanceolate. ♃. ⌒. G. Native of Peru, in groves. Bracteas of the pedicels subulate. Calyx large, purplish, spreading. Corolla white; having the tube length of the calyx, and the lobes of the limb hardly acute. Stamens exserted. Stigmas flat, ex icon.

Large-calyxed Bind-weed. Pl. tw.

106 C. Chile'nsis (Pers. ench. 1. p. 180.) downy; leaves deeply 5-parted; segments linear, unequal, diverging, acute: middle one long, rather undulated: the rest short, marked by the tooth in the middle; peduncles 1-flowered, shorter than the leaves, bearing 2 small bracteas at apex; calyx villous. ⊙.? ♃.? ⌒. F. Native of Chili. Corolla campanulate, spreading, red; tube a little longer than the calyx; segments of the limb ovate, mucronate. Lobes of stigma elongated. Seeds black. Capsule globose.

Chili Bind-weed. Pl. tw.

107 C. apocynoìdes (Cham. et Schlecht, in Linnæa, 5. p. 117.) herbaceous, clothed with villous, stellate down, intermixed with short, black, glandular hairs; the hairs on the upper surface of the leaves 3-parted; leaves ternate: leaflets oblong-ovate, acuminated, acute; peduncles longer than the leaves, 3-7-flowered; sepals ovate, long-acuminated, acute. ⊙. ⌒. G. Native of Mexico, near Hacienda de la Laguna. Corolla small, half an inch long, short, blue.

Apocynum-like Bind-weed. Pl. tw.

108 C. heptaphy'llus (Willd. act. am. nat. cur. 4. p. 196. Rœm. et Schultes, syst. 4. p. 271.) glabrous; leaves digitate; leaflets 4, linear-lanceolate: the 2 outer ones bipartite: peduncles generally 1-flowered. ⊙.? ⌒. S. Native of the East Indies.

Seven-leaved Bind-weed. Pl. tw.

§. 4. *Leaves cordate or subcordate, entire. Peduncles many-flowered.*

109 C. nummula'rius (Vahl, eclog. 1. p. 13.) villous; leaves cordate, mucronate; peduncles many-flowered, longer than the leaves; sepals ovate; bracteas lanceolate. ⊙. ⌒. S. Native of South America. Stems terete. Leaves nearly like those of *Lysimàchia némorum*. The 3 outer sepals foliaceous, broadly ovate, acuminated, villous: the 2 inner ones smaller, oblong, acuminated. Corolla campanulate, entire.

Moneywort-leaved Bind-weed. Pl. tw.

110 C. ramosíssima (Poir. suppl. 3. p. 468.) leaves cordate, quite entire; stem filiform; peduncles many-flowered, umbellately cymose; bracteas subulate. ⊙.? ⌒. S. Native of Peru, towards Pozuzo. Conv. cymòsus, Ruiz. et Pav. fl. per. 2. p. 9. t. 117. f. b. Pers. ench. 1. p. 178. Stem much branched. Hairs deciduous. Leaves on long petioles, acuminated, 2-3 inches long, shining above. Peduncles bifid, 5-17-flowered. Stamens exserted. Stigmas flat.

Much-branched Bind-weed. Pl. tw.

111 C. Canarie'nsis (Mill. dict. no. 16. Lin. spec. p. 121.) stems terete, villous; leaves cordate, downy, oblong, acute; peduncles many-flowered, longer than the petioles; calyx villous; segments acute. ♃. ⌒. G. Native of the Canary Islands. Desr. in Lam. dict. 3. p. 556. Willd. spec. 1. p. 858. Sims, bot. mag. t. 1228.—Comm. hort. 2. p. 101. t. 51.—Plukn. alm. 114. t. 325. f. 1. Leaves permanent, soft, white beneath.

Corolla middle-sized, purplish-violet, hairy outside, at length almost flat. Stigmas filiform.

Canary-Island Bind-weed. Fl. June, Sept. Clt. 1690. Shrub tw.

112 C. subglobòsus; stems villous; leaves cordate, acute, downy; peduncles short, many-flowered, capitulate; corolla subglobose, campanulate, connivent. ♃. ⌒. G. Native of Cochinc'ina, in hedges. C. Canariénsis, Lour. coch. p. 108. Flowers w ite.

Subglobose-flowered Bind-weed. Shrub tw.

113 C. viola'ceus (Vahl, symb. 3. p. 29.) stems, peduncles, and calyxes villous; leaves smoothish, or a little hairy, ovate-cordate, acuminated; peduncles elongated, bifid, many-flowered, 3-4 times longer than the leaves; the 2 outer sepals cordate: the third lanceolate: and the 2 interior ones glabrous, mucronate, much smaller than the outer ones. ⊙. ? ⌒. S. Native of the Island of Santa Cruz. Willd. spec. 1. p. 856. Leaves an inch long. Bracteas linear-lanceolate at the base of the pedicels. Corolla campanulate, violaceous, with 5 paler rays. Stigmas reflexed.

Violaceous-flowered Bind-weed. Pl. tw.

114 C. tilia'ceus (Willd. enum. 1. p. 204.) glabrous; leaves cordate, acuminated: hind lobes divaricate; peduncles axillary, racemosely corymbose, longer than the leaves; sepals oblong-lanceolate, mucronate, glabrous. ♃. ⌒. S. Native of Brazil. Leaves 2 inches long. Nearly allied to *Conv. acuminàtus*, but the leaves are never 3-lobed; and the bracteas are wanting on the proper peduncles; and the sepals are different.

Lime-tree-leaved Bind-weed. Fl. June, Aug. Clt. 1820. Pl. tw.

115 C. multiva'lvis (R. Br. prod. p. 483.) leaves ovate, acuminated, subcordate, entire, downy; corymbs pedunculate; sepals unequal, acute; capsules erect, many-valved; seeds roughish, with narrow margins. ♃. ⌒. S. Native of New Holland, within the tropic.

Var. α; leaves downy on both surfaces, hardly cordate; capsule a little longer than the calyx.—Conv. corymbòsus, Forst. prod. but not of Lin.

Var. β; leaves smoothish, subcordate; capsule shorter than the sepals, which are acuminated.

Many-valved capsuled Bind-weed. Pl. tw.

116 C. cilia'tus (Vahl, eclog. 2. p. 13.) stems downy; leaves cordate-ovate, acuminated, with subciliated, villous edges; heads of flowers pedunculate, very hairy, involucrated. ♄. ⌒. S. Native of Cayenne. C. villòsus, Pers. ench. 1. p. 177. no. 13. Poir. suppl. 3. p. 471. Habit of *C. Guianénsis*. Leaves 2 inches long, glabrous above, rather villous beneath, of a shining yellow colour. Peduncles downy, twice longer than the petioles. The 2 outer bracteas large, ovate-lanceolate under the head of flowers, the rest lanceolate, length of calyx, all very hairy from rusty pili, as well as the subulate sepals.

Ciliated-leaved Bind-weed. Fl. June, Aug. Clt. 1820. Shrub tw.

117 C. crini'tis (Desr. in Lam. dict. 3. p. 568.) leaves cordate, nearly naked; heads of flowers very hairy, on long peduncles, involucrated: capsule smooth. ♃. ⌒. S. Native country unknown.

Long-haired Bind-weed. Pl. tw.

118 C. parviflòrus (Vahl, symb. 3. p. 29. Choisy, in mem. soc. phys. gen. 6. p. 480.) downy; leaves cordate-ovate, very acute, glabrous; peduncles a little higher than the petioles, umbellately many-flowered; sepals equal, ovate, very acute. ⊙. ⌒. G. Native of India, as in Ava, Prome, Dindygul, Dumraong, &c.; also of the Islands of Java and Timor. Roxb. in Wall. fl. ind. 2. p. 51. Ipomœ'a parviflòra, Pers. ench. 1. p. 183. Ipomœ'a paniculàta, Burm. ind. p. 50. t. 21. f. 3. Conv. quinquenérvius, Ham. herb. C. asclepiádeus, Wall. mss. Ipomœ'a Timoriénsis, Blum. bijdr. p. 711.? Leaves hardly villous on the nerves beneath. Bracteas linear, villous. Corolla a little longer than the calyx, tubular, 5-lobed at apex, glabrous, blue: lobes acute, white. Capsule and seeds glabrous. Stigmas twisted, cylindrical.

Small-flowered Bind-weed. Pl. tw.

119 C. verticilla'tus (Lin. spec. 220. H. B. et Kunth, nov. gen. amer. 3. p. 98.) leaves ovate-oblong, somewhat cordate, acuminately mucronate, smoothish above, and clothed with canescent tomentum beneath; corymbs dichotomous, axillary, nearly sessile, shorter than the leaves; sepals smoothish, roundish, obtuse, nearly equal. ♃. ⌒. S. Native of tropical America; as near Caraccas. Ipomœ'a verticillàta, Lin. amœn. acad. 5. p. 394. Conv. spiràlis, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 302.—Plum. icon. t. 94. f. 2. Flowers small, white. Stigmas terete, revolute.

Verticillate Bind-weed. Pl. tw.

120 C. polya'nthes (Cham. et Schlecht, in Linnæa, 5. p. 117.) shrubby; stems terete, clothed with scattered, somewhat adpressed, short, white, stellate, 2-3-parted hairs; leaves oblong-ovate, cordate, long-acuminated, discoloured, sparingly pilose above, and clothed with short, dirty, yellow tomentum beneath; peduncles many times dichotomous, downy, cymose: every branch furnished with a lanceolate, acute bractea; flowers fascicled; sepals unequal, broad-ovate, short-acuminated: outer ones the largest, and pilosely tomentose on the back and margins. ♄. ⌒. G. Native of Mexico, near Hacienda de La Laguna. Leaves 3 inches long, and $1\frac{3}{4}$ broad. Corolla funnel-shaped, blue, 8 lines long. Perhaps the same as *C. violàceus*, Vahl.

Many-flowered Bind-weed. Shrub tw.

§. 5. *Leaves cordate or subcordate, usually repand or crenated, rarely entire. Peduncles* 1-3-*flowered.*

121 C. farinòsus (Lin. mant. 2. p. 203.) branches terete, mealy; leaves cordate, acuminated, repand, wrinkled above, and veiny beneath, very blunt and emarginate behind; peduncles longer than the leaves, 3-flowered. ♄. ⌒. G. Native of Madeira; and of Mysia and Peloponnesus, in hedges frequent. Jacq. hort. vind. 1. t. 35. Sal. par. lond. t. 45. Petioles mealy. Stipulas hardly any. Calyx terete, close. Corolla small, thrice larger than the calyx, somewhat flesh-coloured, acute, 5-cleft.

Mealy Bind-weed. Fl. May, June. Clt. 1777. Shrub tw.

122 C. Herma'nniæ (Lher. stirp. 4. p. 67. t. 33.) tomentose, white; leaves cordate-oblong, obtuse; peduncles 2-flowered, longer than the petioles; sepals ovate, acuminated, downy, nearly equal; limb of corolla acute. ♃. ⌒. G. Native of Peru, in arid places. Ruiz. et Pav. fl. per. 2. p. 10. Cav. desc. 98. Conv. crenàtus, Jacq. coll. 2. p. 277. icon. rar. t. 315. Desr. in Lam. dict. 3. p. 558. Leaves oblong-lanceolate, cordately sagittate at the base, obtuse, mucronate, crenately repand. Corolla small, white; limb crenulated; lobes acute.

Hermann's Bind-weed. Fl. Aug. Sept. Clt. 1799. Pl. twining.

123 C. Massòni (Dietr. gart. nachtr. 2. p. 377. Rœm. et Schultes, syst. 4. p. 279.) leaves oblong, subcordate, acute; stems suffruticose, smooth; peduncles 3-flowered and many-flowered. ♄. ⌒. G. Native of Madeira. C. suffruticòsus, Ait. hort. kew. ed. 2d. vol. 1. p. 330. Ker. bot. reg. 133. C. Dryándri, Spreng. syst. 1. p. 597. Corollas pink.

Masson's Bind-weed. Fl. June, Sept. Clt. 1690. Shrub twining.

124 C. suberòsus (Willd. enum. suppl. p. 10.) downy; leaves cordate, acute, entire; peduncles axillary, furnished with linear bracteas in the middle; sepals ovate, obtuse, a little reflexed,

glabrous, ciliated. ♄. G. Native country unknown. Corolla white, with 5 hairy purple plicæ outside.

Corky Bind-weed. Shrub tw.

125 C. pilòsus (Willd. act. am. nat. cur. berol. 4. p. 196.) leaves roundish-cordate, acuminated, pilose above; peduncles usually 3-flowered. ♃.? ◠. S. Native of the East Indies. Stems hairy.

Pilose Bind-weed. Pl. tw.

126 C. eròsus (Desr. in Lam. dict. 3. p. 558.) tomentose; leaves cordate-oblong, obtuse, erose; peduncles length of leaves, 2-flowered. ♃. ◠. G. Native of Monte Video. C. crenàtus, β. Lam. ill. no. 2073. Perhaps only a var. of *C. Hermánniæ.*

Erose-leaved Bind-weed. Pl. tw.

127 C. plica'tus (Desr. in Lam. dict. 3. p. 559.) tomentose; leaves cordate, acute, angularly serrated, wrinkled, plicate; peduncles usually 2-flowered. ♃. ◠. G. Native of the Cape of Good Hope. This species is intermediate between *C. crenàtus* and *C. eròsus.* Stigmas elongated.

Plicate-leaved Bind-weed. Pl. tw.

128 C. Va'hlii (Rœm. et Schultes, syst. 4. p. 280.) clothed with rather silky tomentum; leaves cordate-oblong, very blunt, crenulated; peduncles 1-flowered, length of leaves; sepals nearly equal, oblong, acutish: 2 inner ones glabrous. ♃.? ◠. S. Native of Brazil. C. crenàtus, Vahl, symb. 3. p. 31. Hind lobes of leaves straight, oblong, obtuse. Corolla one half longer than the calyx, silky, with 5 villous lines outside; lobes bearded at apex.

Vahl's Bindweed. Pl. tw.

129 C. rupe'stris (Willd. spec. 1. p. 846.) glabrous, except the undersides and edges of the leaves, which are finely pilose when examined by a lens; leaves oblong-lanceolate, acute, bluntly cordate; peduncles 1-flowered, nearly the length of the leaves; sepals ovate, acute, rather pilose. ♄. ◠. H. Native of Siberia. Bracteas setaceous, in the middle of the peduncles. Leaves 2 inches long. Corolla size of those of *Conv. tricolor*, violaceous, flat, 5-plicate; plicæ downy outside. It differs from *C. Sibíricus*, in the leaves not being acuminated, in the peduncles being 1-flowered, in the corollas being twice the size, and violaceous.

Rock Bindweed. Shrub tw.

130 C. fruticulo'sus (Desr. in Lam. dict. 3. p. 451.) glabrous; stems terete; leaves linear-lanceolate, sub-cordate at the base, on short petioles; floriferous branches very leafy; peduncles longer than the petioles, but hardly the length of the flowers. ♄. ◠. G. Native of the Canary Islands. Bracteas subulate, unequal. Calyx glabrous. Corolla small, with rather deep segments, and 5 purple stripes.

Shrubby Bindweed. Shrub tw.

§. 6. *Leaves ovate or oblong, and lanceolate or linear.*

131 C. chenopodioìdes (Desr. in Lam. dict. 3. p. 544.) villous; leaves ovate, serrately sinuated; flowers solitary, nearly sessile; sepals ovate, acute. ♃. ◠. S. Native country unknown. Leaves hardly an inch long. Bracteas small, filiform. Corolla narrow, probably tubular.

Goose-foot-like Bindweed. Pl. tw.

132 C. tene'llus (Desr. in Lam. dict. 3. p. 559.) stems filiform; leaves oblong-elliptic, obtuse, mucronate, nearly sessile, sometimes emarginate at the base; peduncles longer than the leaves. ♃.? ◠. H. Native of Carolina, Fraser. Willd. spec. 1. p. 861.—Plukn. alm. 114. t. 166. f. 4. Peduncles bearing 2 subulate bracteas at apex. Corolla small, campanulate.

Tender Bindweed. Pl. tw.

133 C. Havane'nsis (Jacq. obs. 2. p. 45. f. 3.) glabrous; leaves oblong, shining; peduncles 1-flowered, shorter than the flower. ♃.? ◠. S. Native of Cuba, about Havannah. Jacq. amer. pict. t. 264. Lam. ill. 462.—Vittm. summ. pl. 1. p. 435. Stem much branched. Leaves obtuse, quite entire. Corolla small, white; tube hardly longer than the calyx; limb erectish; segments long, acute, spreadingly reflexed. Anthers hastate.

Havannah Bindweed. Pl. tw.

134 C. Guiane'nsis (Aubl. guian. 1. p. 136. t. 52.) branches terete, purplish, villous; leaves oblong, and are, as well as the calyxes, tomentose; peduncles elongated, villous; flowers capitate; sepals acute. ♃. ◠. S. Native of Cayenne and Guiana. Vahl, symb. 3. p. 28. Desr. in Lam. dict. 3. p. 554. Corolla small, white or bluish, larger than the calyx: lobes acuminated. Stigmas reflexed.

Guiana Bindweed. Fl. June, Aug. Clt. 1820. Pl. tw.

† *Doubtful species.*

1 C. dia'nthus (Gmel. spec. 1. p. 343.) leaves truncately rounded at base; peduncles generally 2-flowered.—Native of deserts, about Cairo. C. biflòrus, Forsk. fl. ægypt. arab. p. 203. Delisl. descrip. ægypt. p. 55.

Two-flowered Bind-weed. Pl. tw.

2 C. betonicifòlius (Mill. dict. no. 20.) leaves cordate-sagittate; peduncles 1-flowered. ⊙.? ◠ H. Native of the North of Africa. Convolvulus exoticus betonicæ folio, flore magno albo, fundo purpureo, cat. hort. par. Peduncles long, slender.

Betony-leaved Bind-weed. Pl. tw.

3 C. ròseus (Mill. dict. no. 18.) leaves cordate, acuminated; peduncles 2-flowered. ⊙. ◠. S. Native of Jamaica. Conv. Americànus hirsùtus, folio acuminato, flore amplo roseo, Houst. mss. Petioles and peduncles very long. Calyx deeply parted. Corolla large, rose-coloured. Seeds large, woolly.

Rose-coloured-flowered Bind-weed. Pl. tw.

4 C. gla'ber (Mill. dict. no. 11.) leaves ovate-oblong, glabrous; peduncles 1-flowered; calyx 10-parted. ⊙. ◠. S. Native of Barbadoes. Stems slender. Flowers large, purple.

Glabrous Bind-weed. Pl. tw.

5 C. aristolochiæfòlius (Mill. dict. no. 9.) leaves hastately lanceolate: auricles rounded; peduncles many-flowered. ⊙. ◠. S. Native of Carthagena. Flowers racemose, yellow. Capsule trigonal, 3-celled; cells 3-seeded. Perhaps a species of *Pharbìtis.*

Aristolochia-leaved Bind-weed. Pl. tw.

6 C. cymòsus (Thunb. ex Rœm. et Schultes, syst. 4. p. 303.) stem creeping; leaves ovate-oblong, acute, mucronate, shining but fulvous and tomentose beneath; cymes sessile, terminal, many-flowered; sepals acute, silky. ♃. S. Native of Sierra Leone. Conv. Senegámbiæ, Spreng. syst. 1. p. 610.

Cymose-flowered Bind-weed. Pl. creeping.

7 C. sphærostígma (Cav. icon. 5. p. 54. t. 481.) leaves cordate, acuminated, rather villous; umbels pedunculate; calyx hairy; stigmas twin, divaricate.—Native of the Philippines. Corolla campanulate, small, pale red: lobes acute. Capsule 4-valved, 2-celled; cells 2-seeded. Perhaps a species of *Ipomæ'a*, or a new genus.

Round-stigmaed Bind-weed. Pl. tw.

† † *The 3 following names occur in append. to Salt's Abys. p. 475, but without any definition.*

1 C. cirrhòsus. 2 C. conge'stus. 3 C. pilòsus.

What are Conv. armàtus, Forsk. descrip. de l'egypt. t. 18. Delile, desc. egypt. p. 55, as also is Conv. Forskæ'li, natives of Egypt.

Cult. The hardy species of this genus are mostly beautiful

plants when in blossom; common garden soil and a dry situation, suit them best. They are increased by dividing at the root, or by seed. For culture of the stove species, see *Ipomœ'a*, p. 283.

XVII. ANISE'IA (from *ανισος, anisos*, unequal; in reference to the sepals or segments of the calyx being unequal in size and shape.) Choisy, in mem. soc. phys. gen. 6. p. 481.—Convólvulus, Ipomœ'a, and Calystègia species of authors.

Lin. syst. *Pentándria, Monogy'nia.* Sepals 5, disposed in 2-3 series; the 2 exterior sepals the largest, and inserted lower down, and also running down the peduncle; the 3d or intermediate sepal, and the 2 interior ones smaller, and inserted higher upon the peduncle. Corolla campanulate. Style one. Stigma capitate, 2-lobed. Ovarium 2-celled, 4-ovulate. Capsule 2-celled; cells 2-seeded.—Creeping or diffuse herbs, rarely twining.

1 A. calycìna (Choisy, l. c. p. 482.) stem pilose, twining; leaves oblong-cordate, acuminated, very acute, glabrous, petiolate; peduncles hardly the length of the petioles, 1-3-flowered; sepals with villous edges: exterior ones sagittate; corolla tubular. ♄. ◠. S. Native of the interior parts of India, as at Cawnpore, where it was collected by General Hardwicke. Conv. calycìnus, Roxb. in Wall. fl. ind. 2. p. 51. Conv. Hardwíckii, Spreng. syst. 4. p. 60. Stems terete. Leaves 1-2 inches long. Petioles pilose. Peduncles villous, furnished with small, acute bracteoles at the apex. Corolla white. Seeds villous, particularly on the angles.

Large-calyx Aniseia. Shrub twining.

2 A. Afze'lii; downy; leaves cordate-sagittate, acuminated: hind lobes obtuse; peduncles 3-4-flowered; calyx foliaceous, involucriform; bracteas lanceolate. ⊙.? ◠. S. Native of Sierra Leone, in humid places. Corolla yellow, with a brown bottom, 5-lobed, with acute segments.

Afzelius's Aniseia. Pl. twining.

3 A. me'dium (Choisy, l. c.) stems glabrous; leaves sessile, linear-lanceolate, hastately acuminated, auriculately toothed at the base; peduncles shorter than the leaves, 1-flowered; exterior sepals sagittately cordate. ⊙. ◠. S. Native of the East Indies, Java, and Madagascar. Conv. mèdium, Lin. spec. 218, exclusive of the syn. of Rheed; but not of Wall. nor Willd. Desr. in Lam. dict. 3. p. 542. Conv. Javanénsis, Garc. herb. ex Burm. fl. ind. p. 43. Stems and peduncles angular. Auricles of leaves stem-clasping. Leaves glabrous. Bracteas ovate, acuminated. Auricles of outer sepals rounded or toothed; the 2 inner sepals acute. Corolla yellow, a little longer than the calyx. What is *Conv. mèdium*, Lour.?

Intermediate Aniseia. Pl. tw.

4 A. uniflòra (Choisy, l. c. p. 483.) stem glabrous or pilose at the apex, prostrate; leaves oblong, on very short petioles, mucronate at the apex, glabrous; peduncles equal in length to the petioles, 1-flowered; outer sepals joined obliquely at the base. ♃. S. Native of the East Indies, as of Silhet, Malabar, and Goalpara; also of Java. Conv. uniflòrus, Desr. in Lam. dict. 3. p. 544. Burm. ind. 47. t. 21. f. 2. Conv. emarginàtus, Vahl, symb. 3. p. 23. Ipomœ'a uniflòra, Rœm. et Schultes, syst. 4. p. 247. Conv. Rheèdii, Wall. in fl. ind. 2. p. 70. Wight, ill. ind. bot. p. 17. t. 8. Conv. Béntiru, Ham. herb. Ben-tiru-Tali, Rheed, mal. 11. p. 111. t. 54. Stem terete, radicant. Leaves 1-2 inches long; lower ones sometimes emarginate. Peduncles nutant, beset with brown hairs, and usually furnished with 2 linear, villous bracteas at apex. Corolla white, exceeding the calyx a little, clothed with brown hairs outside. Capsule glabrous, but clothed with silky hairs inside.

One-flowered Aniseia. Pl. prostrate.

5 A. biflòra (Choisy, l. c.) stem pilose; leaves cordate-oblong; peduncles twin, shorter than the petioles; outer sepals cordate-oblong. ⊙. H. Native of China. Ipomœ'a biflòra, Pers. ench. 1. p. 183. Conv. biflòrus, Lin. spec. 168. but not of Forsk. Stems terete. Petioles pilose. Peduncles hairy, approximating nearly into one at the base. Corolla white, campanulate, small. Stigma purple.

Two-flowered Aniseia. Pl. erect or diffuse.

6 A. barlerioìdes (Choisy, l. c. p. 284.) stems elongated, downy; leaves oblong, attenuated at the apex, usually obtuse, entire at the base, or hardly cordate, on very short petioles; peduncles 1-flowered, exceeding the petioles; outer sepals oblong-lanceolate, acute; corolla long, tubularly funnel-shaped. ♃. G. Native of India, as of Gorackpur, Sukanagur, Kamaon, Mysore, &c. Conv. oblóngus, Wall. cat. no. 1382. Conv. subacaúlis, and Conv. barlerioìdes, Ham. herb. Wall. cat. no. 2256. Stems beset with grey or yellow down. Root thick, twisted. Leaves often mucronate, 1-2 inches long, clothed with adpressed hairs on both surfaces. Peduncles and petioles downy. Calyx villously downy. Corolla with an entire plicate limb, smoothish, 2-3 times longer than the calyx.

Barliria-like Aniseia. Pl. diffuse.

7 A. salicifòlia (Choisy, l. c. p. 482.) glabrous; leaves lanceolate, serrated, on short petioles; calyx angular. ♃. S. Native of St. Domingo. Conv. salicifòlius, Desr. in Lam. dict. 3. p. 542. Leaves acute at both ends, 3-4 inches long. Peduncles 1-flowered, shorter than the leaves. Bracteas small, subulate, under the tops of the peduncles. Sepals large, acute at both ends.

Willow-leaved Aniseia. Pl. diffuse.

8 A. Martinice'nsis (Choisy, l. c.) glabrous; stems terete, creeping; leaves elliptic; peduncles 1-flowered, longer than the leaves: the 3 outer sepals ovate, acute, very large, and very loose: the 2 inner ones much smaller, lanceolate, acuminated. ♃. S. Native of Martinico, in shady, inundated places. Conv. Martinicénsis, Jacq. amer. p. 26. t. 17. pict. p. 19. t. 29. Willd. spec. 1. p. 878.—Loefl. itin. p. 231. Leaves 2 inches long. Bracteas small. Corolla white.

Martinico Aniseia. Pl. creeping.

Cult. Elegant plants when in blossom. See *Calonyction*, p. 264, for the culture of the perennial, herbaceous kinds; and *Pharbìtis*, p. 263, for the annual species.

XVIII. POLYME'RIA (from *πολυς, polys*, many; and *μερις, meris*, a part; in allusion to the stigma being divided into many parts.) R. Br. prod. p. 488. Choisy, in mem. soc. phys. gen. 6. p. 484.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped, plicate. Style one; stigmas 4-6, acute. Ovarium 2-celled; cells 1-seeded. Capsule 2-4-valved, 1-celled, 1-2-seeded.—Diffuse or creeping, non-lactescent herbs, natives of Australia. Peduncles axillary, bi-bracteate. This genus differs from *Convólvulus*, in the greater number of stigmas, and the cells of the ovarium being only 1-seeded.

1 P. calycìna (R. Br. prod. p. 488.) sepals unequal: outer ones cordate at the base; seeds glabrous. ♃. G. Native of New South Wales, and New Holland, within the tropic.

Var. α; leaves oblong, obtuse, smoothish. ♃. G. Native of New South Wales, about Port Jackson.

Var. β; leaves oblong-linear, clothed with very fine down. ♃. S. Native of New Holland, within the tropic.

Large-calyxed Polymeria. Pl. creeping.?

2 P. pusílla (R. Br. l. c.) sepals equal; leaves cordate, somewhat emarginate; peduncles 1-flowered; seeds rather villous. ♃. S. Native of New Holland, within the tropic.

Var. α; leaves ovate, obtuse.

Var. β; leaves sub-hastate, linear.

Small Polymeria. Pl. creeping.

3 P. quadriva'lvis (R. Br. l. c.) sepals equal; leaves cordate, obtuse, glabrous above, but downy on the veins beneath; peduncles 1-flowered; capsule 4-valved, 2-seeded; seeds tomentose. ♃. S. Native of New Holland, within the tropic.

Four-valved-fruited Polymeria. Pl. creeping.

4 P. lana'ta (R. Br. l. c.) sepals equal; leaves cordate, obtuse, mucronulate, woolly on both surfaces, as well as the seeds; peduncles 1-flowered. ♃. S. Native of New Holland, within the tropic.

Woolly Polymeria. Pl. creeping?.

5 P. ambígua (R. Br. l. c.) sepals equal; leaves cordate-oblong, obtuse, mucronulate, smoothish above, and woolly beneath; peduncles 1-3-flowered. ♃. S. Native of New Holland, within the tropic.

Ambiguous Polymeria. Pl. creeping.

Cult. The species of *Polymèria* will grow in a mixture of sand and loam; and they are easily increased by separating the creeping, rooted shoots, or by cuttings.

XIX. CALYSTE'GIA (from καλυξ, *calyx;* and στεγω, *stego*, to cover; in reference to 2 large opposite bracteas which inclose the flower.) R. Br. prod. p. 483. Choisy, in mem. soc. phys. gen. 6. p. 485.—Convólvulus species of Lin. and other authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, inclosed within 2 foliaceous bracteas. Corolla campanulate, 5-plicate. Style one; stigma 2-lobed: lobes terete or globose. Ovarium 2-celled; cells 2-ovulate. Capsule 1-celled from the shortness of the dissepiment.—Lactescent, glabrous, twining, or prostrate herbs. Peduncles solitary, 1-flowered.

1 C. se'pium (R. Br. prod. p. 483.) leaves sagittate or cordate, very acute: hind lobes obtuse or truncate, entire; bracteas cordate, keeled, acute, longer than the calyx, but one half shorter than the corolla; peduncles tetragonal, exceeding the petioles; sepals acute. ♃. ⌒. H. Native throughout Europe, in hedges; also of Caucasus, and on the banks of the river St. Laurence; New South Wales, south coast of New Holland, and Van Diemen's Land. Very common in Britain. Conv. sèpium, Lin. spec. 1. p. 218. Willd. spec. 1. p. 844. Œd. fl. dan. t. 458. Smith, engl. bot. t. 313. Curt. fl. lond. 1. t. 13. Stev. and Church. med. bot. 1. p. 11. t. 2.—Plenck. off. t. 91. Mayerhoffer, fl. mon. t. 27. Conv. Tuguriòrum, Forst. prod. no. 74, is hardly distinct. Flowers white, sometimes tinged with red. Roots creeping much, and difficult to extirpate; and, like the roots of most perennial convolvulaceous plants, are purgative in a greater or less degree. A pill composed of one ounce and a half of the extract of this root, two drachms of aloes, and one drachm of ginger, acts with certainty and ease in doses of 10 grains, and might be substituted in most cases for the compound extract of colocynth, where economy is required. Haller affirms, that the expressed juice, if taken in the quantity of 20 or 30 grains, possesses the virtues of scammony: hence it is sometimes called German scammony, and is recommended by Dr. Mason Good, as a hydrogogue purgative in dropsies.

Var. β, incarnàta; corollas pale red; white, with a red border, or beautiful crimson, as figured in bot. mag. no. 732. ♃. ⌒. H. Native of North America, from Canada to Carolina, in hedges, and among bushes, sometimes trailing on the ground. Conv. rèpens, Michx. fl. bor. amer. 1. p. 137. Lin. spec. 1st. p. 158. ed. 2d. p. 225.—Gron. virg. p. 28.

Var. γ, marítima (Gouan. monsp. p. 27.) leaves narrower, more fleshy, nearly lanceolate.

Hedge Calystegia, or Common Bind-weed. Fl. Ju. Sept. Britain. Pl. tw.

2 C. subvolu'bilis; stems erect at bottom, smoothish, but twining at top, and rather villous; lower leaves mucronate, cordately sagittate: with the hind lobes roundish; superior leaves acuminated, hastate; peduncles erect, longer than the leaves; bracteas broad-cordate, acute, rather hairy, one half longer than the calyx; sepals ovate, acute. ♃. ⌒. H. Native of Dahuria, in stony, mountainous places. Conv. subvolùbilis, Bunge, in Led. fl. ross. alt. ill. t. 205. fl. alt. 1. p. 222. Root creeping. Corolla pale red, larger than that of *C. sèpium.*

Somewhat-twining Calystegia. Pl. twining.

3 C. pellìta; twining, villous; leaves ovate-oblong, mucronate, somewhat cordate at the base; peduncles about equal in length to the leaves; bracteas cordate, acute, villous, one half longer than the calyx; sepals elliptic, acuminated, ciliated, villous. ♃. ⌒. H. Native of Siberia, near Irkutsk. Conv. pellìtus, Led. fl. ross. alt. ill. t. 206. fl. alt. 1. p. 223. Hind lobes of leaves drawn out, rounded, and mucronate.

Clothed Calystegia. Pl. twining.

4 C. sylve'stris (Rœm. et Schultes, syst. 4. p. 183.) leaves cordate-sagittate: hind lobes angularly truncate, approximate; peduncles nearly terete; bracteas ovate, obtuse or emarginate, concave, swollen, keeled, longer than the calyx; sepals obtuse. ♃. ⌒. H. Native of Hungary, about Mehadia, near the hot baths of Hercules. Conv. sylváticus, Willd. enum. 1. p. 202. Waldst. et Kit. pl. rar. hung. 3. p. 290. t. 261. Schultes, œst. fl. 2. ed. 1. p. 381. Very nearly allied to *C. sèpium.* Corollas large, white.

Wild Calystegia. Fl. June, Sept. Clt. 1815. Pl. tw.

5 C. Luca'na; leaves sagittate: hind lobes entire; peduncles tetragonal, longer than the leaves; bracteas ovate-oblong, acuminated, clasping the calyx; corolla with a long cylindrical tube. ♃. ◡. H. Native of Lucania, in woods. Convólvulus Lucànus, Tenore, fl. neap. prod. append. 5. 1826. Tube of corolla 2-3 inches long; limb white, red below. This species differs from *C. sèpium* in the tube of the corolla being cylindrical, and twice as long, in the bracteas being concave, and clasping the calyx, not flat.

Lucania Calystegia. Pl. tw.

6 C. Dahu'rica (Sims, bot. mag. 2609, under *Convólvulus.*) stems tomentose; leaves glabrous, oblong-cordate, having the margins and nerves on the under side tomentose; peduncles tetragonal, tomentose; bracteas broad-ovate, acute, longer than the calyx; sepals lanceolate, acute, the 2 outer ones broadest. ♃. ⌒. H. Native of Dahuria. Corolla of a rosy purple colour. Roots creeping.

Dahurian Calystegia. Fl. July, Aug. Clt. 1826. Pl. tw.

7 C. Catesbya'na (Pursh, fl. amer. sept. 2. p. 729.) tomentose; leaves oblong-sagittate, acuminated; peduncles 1-flowered, shorter than the leaves; bracteas oval, obtuse, longer than the calyx. ♃. ⌒. H. Native of Carolina. Conv. Catesbæ'i, Spreng. syst. 1. p. 603. Flowers large, purple.

Catesby's Calystegia. Pl. tw.

8 C. paradóxa (Pursh, fl. amer. sept. 2. p. 729.) trailing, tomentose; leaves oblong, cordately sagittate, acute; peduncles elongated, 1-flowered, longer than the leaves; bracteas linear, remote from the flower; calyxes naked, glabrous, acuminated. ♃. H. Native of Virginia or Carolina. Conv. paradóxus, Spreng. syst. 1. p. 608. Flowers large, white.

Paradoxical Calystegia. Pl. trailing.

9 C. soldane'lla (R. Br. prod. p. 483, in a note.) trailing, glabrous; leaves rather fleshy, reniform, entire, or a little angular; peduncles angular: angles winged; bracteas large, ovate, blunt, mucronate, generally shorter than the calyx. ♃. H. Native of many parts of Europe, along the sea coast; and along the Euxine sea, in Tauria. Found in several places along the coast of Britain. Conv. soldanélla, Lin. spec. p. 226. Smith, engl. bot. t. 314. Regnault, bot. t. 402. Plenck, off. t. 93. C. marítimus, Lam. fl. fr. 2. p. 265.—Lob. icon. t. 602. f. 2. Flowers large, pale red, with 5 longitudinal, yellowish plicæ. Seeds angular.

FIG. 30.

The sea bindweed abounds on sea-coasts, where the inhabitants gather the tender stalks, and pickle them. It is considered rather of a cathartic quality.

Soldanel a-leaved Calystegia. Fl. June, July. Britain. Pl. trailing.

10 C. margina'ta (R. Br. prod. p. 483.) trailing, glabrous; leaves sagittate, veiny, acute: hind lobes acutish, and a little toothed; bracteas obtuse, one half longer than the corolla; peduncles angular, shorter than the petioles: angles marginate, undulated. ♃. G. Native of New South Wales, about Port Jackson.

Marginate-peduncled Calystegia. Pl. trailing.

11 C. renifórmis (R. Br. l. c.) prostrate, glabrous; leaves reniform, sub-repand, thickish; peduncles nearly terete; bracteas cordate, length of calyx. ♃. F. Native of New South Wales, about Port Jackson; and of Chili, about Conception. Hook. et Arn. Beech. voy. pt. bot. p. 35. Sweet, fl. gard. 2. t. 181. Conv. renifŏrmis, Spreng. syst. 1. p. 609. Very nearly allied to *C. soldanélla*, but differs in the peduncles being nearly terete, &c. Corolla pale red.

Reniform-leaved Calystegia. Fl. June, Aug. Clt. 1822. Pl. prostrate.

12 C. hedera'cea (Wall, fl. ind. 2. p. 94.) glabrous; stems angular; radical leaves ovate-sagittate, of the stem deeply 3-lobed; peduncles 1-flowered, angular; corolla hardly an inch long. ⊙. ⌒. G. Native of Nipaul, Penang. Conv. Wallichiànus, Spreng. syst. 4. p. 61. Corolla pale purple.

Ivy-like Calystegia. Pl. tw.

13 C. grandiflòra; glabrous; leaves cordate, acuminated, mucronate; auricles rounded, entire on the angles; peduncles 1-flowered, angular, nearly as long as the leaves; bracteas cordate, acuminated, twice as long as the calyx. ♃. ⌒. S. Native of Guayaquil. Convol. grandiflòrus, Ruiz. et Pav. in herb. Lamb. Corolla large, purple.

Great-flowered Calystegia. Pl. twining.

14 C. tomentòsa (Pursh, fl. amer. sept. 1. p. 143.) erect, tomentose; leaves oblong-lanceolate, acuminated, cordate: hind lobes obtuse; peduncles 1-flowered, elongated; bracteas ovate, acute; sepals lanceolate; stem floriferous below. ♃. H. Native from Canada to Virginia, on dry rocky hills. Conv. stáns, Michx. fl. amer. bor. 1. p. 136. Flowers large, white.

Tomentose Calystegia. Fl. June, July. Clt. 1818. Pl. 1 foot.

15 C. spithamæ'a (R. Br. prod. 483, in a note. Pursh, fl. amer. sept. 1. p. 143.) erect, downy; leaves subcordate-oval, obtuse; peduncles 1-flowered, shorter than the leaves; bracteas ovate, acute; stem floriferous above. ♃. H. Native from Pennsylvania to Carolina, on dry hills. Hook. exot. fl. t. 97. Conv. spithamæ'us, Lin. spec. 225. Willd. spec. 1. p. 873. Flowers white, middle-sized.

Span Calystegia. Fl. July, Aug. Clt. 1796. Pl. ½ to 1 foot.

Cult. The species are elegant when in blossom, and are of the most easy culture. They will grow in any common garden soil, and are easily increased by pieces of the roots, or by seeds. The *C. soldanélla*, a native of the sea-shore, thrives best if watered with salted water now and then.

XX. SHUTERE'IA (named after Dr. Shuter, who collected many plants in the neighbourhood of Madras.) Choisy, in mem. soc. phys. gen. 6. p. 486.—Convólvulus, Ipomœ'a, and Calystègia, species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 unequal sepals. Corolla campanulate. Style one; stigma 2-lobed: lobes ovate, flattened. Capsule 1-celled, 4-seeded. — Herb twining.

1 S. bícolor (Choisy, l. c. p. 486.) stem villous; leaves ovate-cordate, entire, or usually sinuately angular; peduncles usually 1-flowered, bracteate, exceeding the leaves; outer sepals large, involucrating the flower. ⊙. ⌒. S. Native of the East Indies, as of Coromandel, Pegu, Ava, Nopalry, Courtall, Rangoon, Straits of Sunda, &c. Conv. bícolor, Roxb. hort. beng. p. 14. Vahl. symb. 3. p. 25. Sims, bot. mag. 2205. Wall. fl. ind. 2. p. 57. Ipomœ'a bícolor, Sweet, hort. brit. p. 287. Calystègia Keriàna, Sweet, hort. brit. p. 287. Conv. sublobàtus, Lin. suppl. p. 135, ex Wall. Conv. involucràtus, Ker, bot. reg. 318, but not of Beauv. Conv. bracteàtus, and C. bícolor, Herb. madr. Conv. Malabar, and C. geméllus, Russ. herb. Leaves 1-3 inches long, glabrous, villous or hairy. Peduncles villous: Bracteas attenuated at both ends, downy, close to the flower. Outer sepals villous; inner ones linear lanceolate, glabrous, all remaining round the fruit at length. Corolla villous outside, yellow; bottom of the bell deep purple. Capsule hairy, 4-seeded, rarely 2-3-seeded by abortion.

Var. β, bracteàta; peduncles shorter; leaves nearly entire, and hastately 3-lobed. ⊙. ⌒. S. Conv. bracteàtus, Vahl, symb. 3. p. 25. Ipomœ'a bracteàta, Rœm. et Schultes, syst. 4. p. 227.

Two-coloured-flowered Shutereia. Fl. Ju. Aug. Clt. 1818. Pl. tw.

Cult. This is a beautiful plant when in blossom. The seeds of it should be raised on a hot bed in spring; and the plants, when of sufficient size, should be planted into separate pots, and trained to sticks, and then placed in a stove or greenhouse, where they will blossom, and ripen their seed. A few plants may be tried out in the open border, in a warm, sheltered situation.

XXI. SKINNE'RIA (named in honour of Capt. Thomas Skinner, of the East India Company's Service, who lately visited the fountains of the rivers Jumna and Ganges, and Himalaya.) Choisy, in mem. soc. phys. gen. 6. p. 487.—Convólvulus species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 sepals. Corolla small, and as if it were urceolate. Style one; stigma capitate, 2-lobed. Ovarium 1-celled, 4-ovulate. Capsule 1-celled.—Tufted herbs.

1 S. cæspitòsa (Choisy, l. c.) stems herbaceous, diffuse; leaves linear-lanceolate, entire, on short petioles; peduncles sometimes simple, sometimes loosely brachiate, many-flowered; sepals ovate, obtuse; corolla veiny, pale yellow. ♂ S. Native of the East Indies, as of Gualpara, Dinagapore, Rungpore, Tavoy, &c. Conv. cæspitòsus, Roxb. in Wall. *fl. ind. 2. p. 70.*

Conv. praténsis, Ham. herb. ex Wall. cat. no. 1357. Conv. Benthàmii, Wall. cat. no. 1393. Stems glabrous or villous. Branches usually beset with rufous hairs. Leaves glabrous, 2-3 inches long. Petioles generally hairy. Sepals glabrous. Corolla glabrous, yellowish, hardly plicate at apex. Capsule and seeds glabrous, rarely 2-3-seeded by abortion.

Tufted Skinneria. Pl. diffuse.

Cult. For culture and propagation see *Pharbìtis*, p. 263.

XXII. PORA'NA (probably from *πορευω, porewo*, to extend from the rambling branches.) Burm. fl. ind. p. 51. t. 21. f. 1. Schreb. gen. no. 286.—Lam. ill. t. 186. Juss. gen. p. 420. ed. Usteri, p. 400. Dinètus, Sweet, fl. gard. t. 127.

Lin. syst. *Pentándria, Monogýnia.* Calyx middle-sized, of 5 sepals, increasing wonderfully and unequally after florescence, Corolla campanulate, or tubularly funnel-shaped. Style one, entire or semi-bifid; stigmas capitate. Ovarium 1-celled, 2-4-seeded. Capsule 1-celled, usually 1-seeded.—Climbing herbs, nearly all natives of India.

1 P. volu'bilis (Lin. syst. p. 200. Burm. ind. l. c.) suffruticose, twining; leaves cordate, acuminated, glabrous; panicles dense-flowered; sepals ovate, obtuse, glabrous, equal; corolla 5-cleft, exceeding the calyx a little. ♄. ⌒. S. Native of Bengal, Sirmore, and the Straits of Sunda. Lam. ill. t. 186. Wall. fl. ind. 2. p. 40. Stems terete, glabrous, smooth or covered with white warts. Lobes of corolla obtuse, yellow, veined. Stigmas slender, glabrous. Flowers numerous, small, white, scentless.

Twining Porana. Fl.? Clt. 1823. Shrub tw.

2 P. acumina'ta (Beauv. fl. d'ow. 1. p. 65. t. 49.) suffruticose, twining; leaves ovate, acuminated, glabrous; panicles dense-flowered; sepals ovate, obtuse, villous; corolla 5-parted, 2-3 times higher than the calyx. ♄. ⌒. S. Native of Guinea, in the kingdom of Waree. Stem glabrous, smooth. Leaves 1½ inch long, and 1 broad. Panicles elongated, naked, branched. Bracteas pressed to the calyx, small, acute, villous. Flowers small, white; lobes of corolla ovate, acute, veiny, ciliated, and villous inside. Stigmas slender, globose.

Acuminated-leaved Porana. Shrub twining.

3 P. racemòsa (Roxb. fl. ind. 2. p. 41. Coll. append. 3. p. 48. mem. act. tur. 33. p. 160.) plant herbaceous, twining; leaves cordate, acuminated, glabrous or downy; panicles loose-flowered; sepals lanceolate, villous, acute, after inflorescence becoming ovate, scarious, glabrous; corolla exceeding the calyx much. ⊙. ⌒. H. Native of Nipaul, Kamaon, and Silhet. P. dichótoma, Ham. mss. ex D. Don, prod. fl. nep. p. 99. P. cordifòlia, Ledeb. ind. sem. hort. dorp. suppl. 1824. p. 6. Dinètus racemòsus, Sweet, brit. fl. gard. t. 127. Stems terete or angular, glabrous, smooth or strigose. Leaves 3-4 inches long, with a wide recess at the base. Panicles composed of racemes, leafy. Flowers small, white. Corolla funnel-shaped, glabrous; segments of the limb ovate, acute.

FIG. 31.

Racemose-flowered Porana. Fl. July, Nov. Clt. 1823. Pl. twining.

4 P. panicula'ta (Roxb. cor. t. 235. fl. ind. 2. p. 39.) suffruticose, twining, clothed with hoary tomentum; leaves cordate, acuminated, glabrous above, and hoary beneath; panicles large, much branched; sepals linear-subulate, unequal after florescence, 3 of which are acute and scarious; corolla 3 times higher than the calyx. ♄. ⌒. S. Native of India, as of Bengal, ruins of Gowr, Ramajahl hills, Saharampore, Hurdwar, Silhet, Kamaon, banks of the Irrawaddi, &c. P. tomentòsa, Lesch. mss. Dinètus paniculàtus, Sweet, hort. brit. p. 289. P. cordàta, Gaur. Stems terete. Leaves 3 inches long, and 1½ broad. Panicles leafy. Bracteas at the base of the pedicels. Flowers very small, pure white. Corolla tubularly campanulate. Stigma capitate, 2-lobed. Capsule glabrous, compressed, containing only 1 seed, which fills the capsule.

Panicled-flowered Porana. Fl.? Clt. 1823. Shrub twining.

5 P. grandiflòra (Wall. in Roxb. fl. ind. 2. p. 43.) plant herbaceous, twining; leaves cordate, acuminated, aristate, scabrous above, and usually glabrous beneath; panicles loose-flowered; sepals linear-lanceolate, acute, increasing much after florescence; corolla more than an inch long. ⊙. ⌒. H. Native of the East Indies, as of Katumanda, Shivapoor mountains, Hutowdal, Nepaul, Chandigherry, &c. Stem angular, branched, glabrous, or hairy. Leaves 2-6 inches long, and 1-3 broad. Panicles racemose, axillary, hardly branched. Bracteas small, filiform. Sepals smoothish or ciliated. Corollas funnel-shaped, rose-coloured; limb 5-plicate, entire, glabrous. Capsule membranous, containing one ovate-spherical, glabrous seed.

Great-flowered Porana. Pl. twining.

Cult. The shrubby species of *Porana* are well adapted for training on rafters or pillars, in a stove, or warm part of a greenhouse; a mixture of loam, peat, and sand, is the best soil for them; and cuttings will strike root readily in the same kind of soil, under a hand-glass. The annual species are hardy, and grow fast when planted in a sheltered situation, and soon make a good covering for a temporary arbour; or they may be trained on branches of trees; their flowers are produced in great profusion in autumn.

XXIII. DUPERREY'A (named in compliment to Louis Isidore Duperrey, an officer in the French navy, who collected many specimens of plants for Gaudichaud, during his hydrographic voyages.) Gaud. in Freyc. voy. pt. bot. p. 452. t. 63.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, propped by 2 smaller bracteas, increasing much after florescence, membranous, reticulately-nerved, and spreading. Corolla somewhat funnel-shaped, plicately 5-lobed. Stamens inclosed. Ovarium 1-celled? Style exserted; stigma large, thick, trigonally cordiform. Capsule elliptic, indehiscent, membranous, 1-seeded. Seed fixed to the bottom of the cell, sessile, elliptic. Albumen mucilaginous.—A small shrub, with narrow, alternate leaves; axillary, solitary, pedicellate, bluish flowers, the whole forming a leafy raceme.

1 D. seríca (Gaud. l. c.) ♄. G. Native of New Holland, on the west coast, in Shark's Bay.

Silky Duperreya. Shrub small.

Cult. For culture and propagation, see *Bonàmia*, p. 300.

XXIV. NEUROPE'LTIS (*νευρον, neuron*, a nerve; and *πελτη, pelte*, a buckler; in reference to the nerved bractea, which props the fruit.) Wall. fl. ind. 2. p. 43. Choisy, in mem. soc. phys. gen. 6. p. 491.

Lin. syst. *Pentándria, Digýnia.* Calyx of 5 permanent sepals. Corolla funnel-shaped, 5-parted, flat. Styles 2; stigmas fleshy, reniform. Capsule 1-seeded, large, dilated, membranous, propped by a floral leaf.—Weak, erect, spreading shrubs.

1 N. racemòsa (Wall. fl. ind. 2. p. 43.) woody; stem glaucous, cinereous, dotted with white; leaves ovate, entire, approxi-

mate, acute at both ends, petiolate, coriaceous; racemes axillary, erect; bractea roundish, surrounding the capsule. ♄. S. Native of Penang, where it was collected by W. Jack. Young branches downy Leaves numerous, 3-4 inches long, downy beneath. Racemes 4 or more from the same axil, 1-3 inches long.

Racemose-flowered Neuropeltis. Shrub.

2 N. ova'ta (Wall. cat. no. 1323. Choisy, l. c. p. 492.) woody; stem white, rugose, beset with white dots; leaves oblong-lanceolate, with revolute edges, but not coriaceous; bractea ovate, surrounding the capsule, which is about the size of the fruit of *Tìlia*. ♄. S. Native of the Burmann Empire, at Amherst. Leaves 3-4 inches long, glabrous on both surfaces. Racemes shorter than the leaves. This species is very nearly allied to the first; but differs, in the leaves being oblong-lanceolate, not ovate, coriaceous; in the bractea surrounding the fruit being ovate, not roundish, and in the capsule being larger.

Ovate-bractead Neuropeltis. Shrub.

Cult. For culture and propagation see *Bonàmia*, p. 299.

XXV. PREVO'STEA (named after M. Prevost, of Geneva.) Choisy, in mem. soc. phys. gen. 6. p. 492.—Calycábolos, Willd. —Dufoùrea, H. B. et Kunth, nov. gen. amer. 3. p. 113.—Dethardíngia, Nees, et Mart. in nov. act. bonn. 11. p. 79.—Reinwárdtia, Spreng. syst. 1. p. 598.

Lin. syst. *Pentándria, Digýnia.* Calyx of 5 sepals, the 2 outer ones large, and involving the flower. Corolla funnel-shaped, with a plicate limb. Ovarium 2-celled; cells 2-seeded. Styles 2, or style one, deeply bipartite; stigmas capitate. Capsule 2-celled; cells 1-2-seeded.—Twining shrubs, natives of South America. Leaves entire. Peduncles many-flowered, axillary and terminal, panicled. Corollas white.

1 P. gla'bra; leaves glabrous; peduncles axillary, many-flowered; outer sepals green. ♄. ◠. S. Native of the Missions of the Orinoco, on the banks of the Cassiquares, near San Francisco Solano. Dufoùrea glàbra, H. B. et Kunth, nov. gen. 3. p. 114. Reinwárdtia glàbra, Spreng. syst. 1. p. 863. Shrub much branched; branches terete. Leaves obovate, obtuse, mucronate, cordate at the base, $2\frac{1}{2}$ inches long, full of pellucid dots. Corollas white.

Glabrous Prevostea. Shrub twining.

2 P. serícea; leaves silky beneath; panicles terminal; outer sepals coloured. ♄. ◠. S. Native of New Granada, near the town of Mariquita, at the altitude of 400 hexapods. Dufoùrea serícea, H. B. et Kunth, nov. gen. 3. p. 114. t. 214. Reinwárdtia serícea, Spreng. l. c. Young branches clothed with silky down. Leaves ovate-elliptic, obtuse, mucronate, cordate at the base, glabrous above, but clothed with yellowish, silky down beneath, 3-4 inches long, and 2 broad, dotted. Corollas white.

Silky Prevostea. Shrub tw.

3 P. hetera'ntha; villous; leaves cordate-ovate, acute, rather angular; peduncles 3-flowered, about equal in length to the leaves; sepals unequal, 3 outer ones larger, green. ♃. ◠. S. Native of Brazil. Dufoùrea heteránthа, Mart. in nov. act. bonn. 11. p. 79. Convólvulus Mártii, Spreng. syst. 1. p. 598. Corolla blue. Style undivided. Perhaps Ipomœ'a Weinmánni, Rœm. et Schultes, is a species of *Prevóstea*.

Variable-flowered Prevostea. Shrub twining.

Cult. For culture and propagation see *Poràna*, p. 298.

XXVI. BREWE'RIA (named in memory of Samuel Brewer, who is much praised by Dillenius, in his Historia Muscorum.) R. Br. prod. 487. Choisy, in mem. soc. phys. gen. 6. p. 487.

Lin. syst. *Pentándria, Digynia.* Calyx of 5 equal sepals. Corolla funnel-shaped, or campanulate, plicate. Style one, bifid; stigmas 2, capitate. Capsule 2-celled, valvate; girded by the calyx, which is scarcely changed; cells 2-seeded.—Diffuse, non-lactescent herbs. Leaves entire. Flowers axillary, nearly solitary. This genus is intermediate between *Ipomœ'a* and *Evólvulus*. It differs from *Poràna* chiefly in the calyx not being changed in the fruit-bearing state, and in habit. It differs also from *Bonàmia*, by the same reason.

§ 1. *Leaves cordate at the base.*

1 B. Roxbu'rghii (Choisy, in mem. soc. phys. gen. 6. p. 493.) stem branched; branches rusty; leaves ovate-cordate, sub-acuminated, rusty; peduncles hardly equal in length to the petioles, 3-many-flowered; sepals ovate, acuminated or ovate-roundish, nearly equal. ♄. S. Native of the East Indies, as of Silhet, Penang, Amherst, Tavoy, Travancore, Courtall, Shreenugur, &c. Convólvulus semidígynus, Roxb. in Wall. fl. ind. 2. p. 47. Conv. ferrugíneus, Herb. madr. Leaves 2-3 inches long, and $1\frac{1}{2}$ broad. Peduncles and petioles downy. Outer sepals villous. Corollas villous, rufescent. Capsule glabrous, crowned by a tuft of hairs. Seeds black, angular, glabrous.

Roxburgh's Breweria. Shrub diffuse.

2 B. corda'ta (Blum. bijdr. p. 722.) plant tomentose; leaves cordate, acuminated, villous; peduncles umbellately 3-5-flowered at the apex; sepals acuminated, the 2 outer ones the largest. ♃. S. Native of Java, about Buitenzorg. Nearly allied to *B. pannòsa*. Styles unequal.

Cordate-leaved Breweria. Pl. diffuse?

3 B. pannòsa (R. Br. prod. p. 488.) tomentose; leaves ovate, sub-cordate, pannosely tomentose; sepals unequal: outer ones ovate, somewhat acuminated; styles unequal, combined at bottom. ♃. S. Native of New Holland, within the tropic.

Cloth-leaved Breweria. Pl. diffuse.

4 B. me'dia (R. Br. l. c.) plant rather villous; leaves lanceolate, obtuse at the base, and somewhat cordate; styles unequal, combined at the base. ♃. S. Native of New Holland, within the tropic.

Intermediate Breweria. Pl. diffuse.

5 B. Madagascarie'nsis (Choisy, in mem. soc. phys. gen. 6. p. 493.) Native of Madagascar. Nothing more is known of this species to us, but the name.

Madagascar Breweria. Pl. diffuse.

§ 2. *Leaves ovate or linear, entire.*

6 B. e'legans (Choisy, l. c. p. 494.) stem branched, elongated; older leaves ovate-elliptic, obtuse, emarginate: younger ones narrower, almost linear; peduncles 1-3-flowered, straight, generally exceeding the younger leaves; sepals cuneate-lanceolate, very acute; corolla showy, campanulately funnel-shaped, ♃. S. Native of the Burman Empire, at Prome. Conv. élegans, Wall. cat. no. 1392. Stems smoothish or downy. Leaves near 2 inches long, and hardly an inch broad, smoothish and green above, but clothed with rusty down, particularly on the veins beneath. Peduncles, pedicels, and bracteas downy. Corolla $1\frac{1}{2}$ inch long, downy on the tube outside.

Elegant Breweria. Pl. diffuse.

7 B. linea'ris (R. Br. prod. 488.) plant villous; leaves lanceolate-linear, complicate; styles equal, combined at the base. ♃. S. Native of New Holland, within the tropic.

Linear-leaved Breweria. Pl. diffuse.

8 B. linifòlia (Spreng. syst. 1. p. 614.) leaves scattered, linear, smoothish; stem scabrous, simple; peduncles corymbose. ♃. S. Native of Monte Video, Sello.

Flax-leaved Breweria. Pl. erect.

9 B. evolvuloìdes (Choisy, l. c.) stem suffruticose, branched; leaves ovate-lanceolate, sessile, small, glabrous; flowers solitary, axillary, on short peduncles; corolla small. ♄. S. Native of India? Root woody, yellow. Stems quite glabrous. Leaves

3 lines long, and hardly a line broad. Corolla funnel-shaped, twice longer than the calyx. Capsule glabrous; cells 1-seeded by abortion.

Evolvulus-like Breweria. Shrub 1½ foot.

10 B. Burche'llii (Choisy, l. c. p. 493.) Native of the Cape of Good Hope. Nothing is known to us of this plant, but the name.

Burchell's Breweria. Pl.

11 B. specta'bilis (Choisy, l. c.) Native of Madagascar. Nothing is known to us of this plant but the name.

Showy Breweria. Pl.

Cult. For culture and propagation see *Bonàmia*, below.

XXVII. BONA'MIA (in honour of M. Bonami, author of a Flora of the environs of Nantes in 1782.) Pet. Th. veg. d'afr. 1. p. 17. t. 5. Rœm. et Schultes, syst. 4. p. xli. Choisy, in mem. soc. phys. gen. 6. p. 495.

Lin. syst. *Pentándria, Monogýnia.* Calyx of 5 equal concave sepals. Corolla tubularly campanulate, 5-lobed. Stamens and style exserted. Style bifid; stigmas capitate. Capsule 2-celled; cells 2-seeded. Seeds arillate. A shrub, native of Madagascar.

1 B. Madagascarie'nsis (Pet. Th. veg. d'afr. fasc. 1. p. 17. t. 5. nov. gen. mad. no. 28. t. 5. Rœm. coll. p. 202.) leaves sinuated, ovate, acuminated, undulated, at length glabrous; corymbs panicled, terminal, dense; calyx villous. ♄. S. Native of Madagascar, at Foul-point. Shrub weak, elegant. Branches terete, pilose while young. Corollas white; segments of the limb ovate, acute. Arillus of seed pulpy, pale red.

Madagascar Bonamia. Shrub 5-6 feet.

Cult. This elegant shrub is worth cultivating in every collection of stove plants. A mixture of loam, peat, and sand, will answer it well, or any light rich soil; and cuttings will strike root readily under a hand-glass, in heat.

XXVIII. CRE'SSA (from Cressus, appertaining to the Isle of Crete, now Candia.) Lin. gen. no. 313. Juss. gen. p. 134. ed. Usteri, p. 150. Lam. ill. 183. f. 1. R. Br. prod. p. 490. Choisy, in mem. soc. phys. gen. 6. p. 495.—Anthýllis, Alp. cent. 157. t. 156. Magn. char. 212.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted, or of 5 sepals. Corolla funnel-shaped, 5-cleft. Stamens exserted. Styles 2; stigmas capitate. Ovarium 2-celled; cells 2-seeded. Capsule 2-celled, 1-4-seeded.—Dwarf, downy, branched herbs. Leaves scattered, crowded, quite entire. Flowers sub-spicate, solitary in the axils of the superior leaves, bi-bracteate.

1 C. I'ndica (Retz. obs. 4. p. 24. Wall. cat. no. 2260.) diffuse; leaves ovate, sessile, acute, crowded, obtuse at the base, clothed with cinereous or hoary down; flowers in the axils of the superior leaves, nearly sessile, forming a spike or head; tops of corolla bearded. ♃. H. Native of the East Indies. Said to be hardly distinct from *C. Crética*, of which, perhaps, it is only a variety.

Indian Cressa. Pl. diffuse.

2 C. Cre'tica (Lin. spec. 325.) stem usually diffuse; leaves ovate, sessile, obtuse at the base, hairy, white; calyxes rather silky; flowers in the axils of the upper leaves, forming a head; corolla more or less bearded outside. ⊙. H. Native of the provinces of France, Italy, Candia. Willd. spec. 1. p. 1320. D. C. fl. fr. no. 2753. Sibth. et Smith, fl. græc. t. 256. C. humifùsa, Lam. dict. fl. fr. 2. p. 268. Lin. amœn. acad. 1. p. 135. Anthýllis, Alp. cent. 157. t. 156.—Plukn. alm. 236. t. 43. f. 6. Branches hairy. Calycine segments ovate. Corolla white: segments obtuse, rufescent at top, inside. Capsule 1-seeded.

Cretan Cressa. Fl. July, Sept. Clt. 1822. Pl. ½ foot.

3 C. austra'lis (R. Br. prod. p. 490.) leaves lanceolate-elliptic, nearly sessile; stem erect. ⊙. H. Native of New Holland, within the tropic. Corolla more or less bearded outside. Capsule 1-seeded

Southern Cressa. Pl. ½ foot.

4 C. Truxille'nsis (H. B. et Kunth, nov. gen. 3. p. 93.) branches clothed with silky, hoary down; stems elongated, procumbent; leaves sessile, oblong, bluntish; flowers in the axils of the upper leaves. ♃. S. Native of Peru, near Truxillo, among the sea sand. Calyx clothed with silky down; sepals obovate, elliptic, obtuse, equal. Corolla white, hardly equal in height to the tube of the calyx; segments ovate, acute. Capsule 4-seeded.

Truxillo Cressa. Pl. procumbent.

† *Doubtful species.*

5 C. Ara'bica (Forsk. ægypt. 54. no. 81.) stem shrubby, diffuse, glabrous; leaves ovate-oblong, sessile, villous; peduncles axillary, length of leaves.—Native of Egypt, in the Taas mountains. Lam. dict. 2. p. 181. Leaves obtuse, mucronate, ½ an inch long. Sepals ovate-lanceolate, 3 times shorter than the corolla. Corolla campanulate; limb 5-toothed. Styles 2, diverging; stigmas capitate.

Arabian Cressa. Shrub ½ foot.

6 C. multiflòra (Willd. rel. ex Rœm. et Schultes, syst. 6. p. 207.) corollas bearded; capsule 4-seeded; leaves oblong, hoary on both surfaces; flowers subspicate.—Native of South America, Humb. et Bonpl.

Many-flowered Cressa. Pl.

7 C. serícea (Willd. l. c.) leaves lanceolate, acute, hoary, silky beneath; peduncles 1-flowered, axillary.—Native of South America. Humb. et Bonpl.

Silky Cressa. Pl.

8 C. arena'ria (Willd. l. c.) stem much branched, panicled; leaves ovate-elliptic, hairy.—Native of South America. Humb. et Bonpl.

Sand Cressa. Pl.

Cult. For culture and propagation see *Evólvulus*, p. 302.

XXIX. EVO'LVULUS (from *evolvo*, to turn, in the same sense as *Convólvulus*, which this genus resembles in habit.) Lin. gen. no. 385. Juss. gen. p. 134. edit. Usteri, p. 149. R. Br. prod. p. 489. Choisy, in mem. soc. phys. gen. p. 496.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted, or of 5 sepals. Corolla sub-rotate, campanulate or funnel-shaped, plicate. Styles 2, bifid; stigmas simple. Ovarium 2-celled; cells 2-seeded. Capsule 2-celled, valvate.—Non-lactescent, prostrate or creeping, rarely erect herbs. Leaves entire. Peduncles axillary, 1-few-flowered; pedicels bibracteate. The *Cladóstyles* of Humb. et Bonpl. differs from *Evólvulus*, in the valveless capsule, and number of ovula.

1 E. hirsu'tus (Lam. dict. 3. p. 538. ill. t. 216. f. 2. but not of H. B. et Kunth.) procumbent; leaves ovate-oblong, nearly sessile, distant, hairy from bristles on both surfaces; peduncles 1-flowered, equal in length to the leaves, also exceeding them. ♃. S. Native of the East Indies, as of Pondicherry, Kamaon, south of Hindostan, &c. E. seríceus, Wall. cat. no. 1315. Corolla blue.?

Hairy Evolvulus. Pl. procumbent.

2 E. alsinoìdes (Lin. fl. zeyl. p. 76. spec. p. 392.) elongated, villous; leaves ovate or oval, blunt at both ends, petiolate, glabrous above, and hairy beneath; peduncles usually 1-2-flowered, 4-bracteate; capsule deflexed. ♃. S. Native of the East Indies, as at Pegamew, Mungger and Ceylon, Straits of Sunda; and of New Holland, within the tropic. Burm. zeyl. 9. t. 6. f. 1., and 19 t. 9. Conv. alsinoìdes, Knip. cent. xi. no. 34.

Vistnu-Glandi, Rheed. mal. 11. p. 131. t. 64. Flowers blue. In Ceylon, this plant has the name of *Visnugarandi*, from the Malabar deity Visnu and Garandi, which signifies the dysentery. It is reputed to be a sovereign remedy in that disorder, ex Burm.

Chickweed-like Evolvulus. Fl. June, July. Clt. 1733. Pl. procumbent.

3 E. villòsus (Ruiz. et Pav. fl. per. 3. p. 30. t. 235. f. b.) diffuse, villous; branches ascending; lower leaves ovate-elliptic: uppermost floral ones minute; peduncles 1-2-flowered, longer than the leaves. ♃. S. Native of Peru, on sandy hills; and of New Holland, within the tropic. R. Br. prod. p. 489. Nearly allied to *E. alsinoìdes*. Bracteas subulate. Corolla blue, spreading. Calyxes ciliated.

Var. β, *lanceolàtus* (Poir. dict. 3. p. 459.) leaves lanceolate, nearly glabrous; peduncles 1-flowered, shorter than the leaves. ♃. S. Corolla pale blue, rather large.

Villous Evolvulus. Pl. procumbent.

4 E. nummula'rius (Lin. spec. p. 391. Swartz, obs. p. 118.) stems branched, beset with short hairs, creeping, downy; leaves roundish-oval, retuse or emarginate; flowers solitary or 3 together, pedunculate, shorter than the leaves. ♃. S. Native of Jamaica and Barbadoes, in meadows; as well as on the banks of the Mississippi. Lam. dict. 3. p. 539. Jacq. amer. pict. t. 260. f. 23. Conv. nummulàrius, Lin. spec. ed. 1st. 157.—Sloane, jam. hist. 1. p. 157. t. 99. f. 2. Leaves hardly larger than those of *Anagállis tenélla*. Calyx hairy. Corolla pale blue, but white, ex Swartz. Peduncles capillary, downy.

Money-wort-leaved Evolvulus. Fl. Oct. Clt. 1816. Pl. trailing.

5 E. veronicæfòlius (H. B. et Kunth, nov. gen. amer. 3. p. 117. t. 215.) stems creeping, pilose; leaves petiolate, nearly orbicular, somewhat retuse, cordate, smoothish; peduncles 1-flowered, about equal in length to the leaves. ♃. S. Native of New Granada, in temperate places, near Guadua. Nearly allied to *E. nummulàrius*. Calycine segments oblong-lanceolate, acuminated, equal, with pilosely ciliated edges. Young leaves pilose on the nerves beneath. Peduncles pilose. Corolla pale blue; limb 5-toothed. Capsule 1-celled, 1-3-seeded.

Speedwell-leaved Evolvulus. Pl. creeping.

6 E. linifòlius (Lin. spec. 392. syst. 299. amœn. acad. 4. p. 306.) erect, villous; leaves linear-lanceolate, nearly sessile; peduncles 1-3-flowered, a little longer than the leaves; styles 4, approximating by pairs. ⊙. S. Native of Jamaica, St. Thomas's; and New Holland, within the tropic. Lam. ill. t. 216. f. 1. Conv. linifòlius, Kniph. cent. 11. no. 26.—Brown. jam. p. 152. t. 10. f. 2. Leaves canescent. Corolla rather tubular, blue, small.

Flax-leaved Evolvulus. Fl. Aug. Sept. Clt. 1782. Pl. ½ ft.

7 E. decu'mbens (R. Br. prod. p. 489.) plant prostrate, villous; leaves linear-lanceolate, nearly sessile; peduncles usually 1-flowered, a little longer than the leaves; styles 2, bipartite. ⊙.? S. Native of New Holland, within the tropic. Corollas blue?

Decumbent Evolvulus. Pl. decumbent.

8 E. Java'nicus (Blum. bijdr. p. 724.) leaves linear-lanceolate, sessile, clothed with silky villi; peduncles 1-flowered, bibracteate, length of leaves; stems woody at bottom. ♃. S. Native of Java, on the top of Mount Gede.

Java Evolvulus. Fl. February. Pl. trailing?

9 E. de'bilis (H. B. et Kunth, nov. gen. et spec. 3. p. 115.) stems elongated, filiform, procumbent, pilose; leaves on short petioles, oblong, somewhat acuminated, silky from hairs on both surfaces; peduncles usually 2-flowered, much exceeding the leaves. ♃. S. Native at the foot of the Andes, about Quindiu, near Ibague; of Mexico, near Jalapa, and near Hacienda de la Laguna. E. filifòrmis, Willd. herb. Nearly allied to *E. linifòlius*. Root woody, creeping. Peduncles and pedicels clothed with silky down. Capsule 2-seeded. Corolla unknown.

Weak Evolvulus. Pl. procumbent.

10 E. seríceus (Swartz, prod. p. 55. fl. ind. occ. 1. p. 576.) stems filiform, glabrous, or downy, procumbent; leaves lanceolate, sessile, silky beneath; peduncles short, 1-flowered. ⊙. S. Native of Jamaica, in arid, sandy places; and of Mexico, near Jalapa. Brown. jam. p. 153. no. 3. t. 10. f. 3. Very like *E. linifòlius*. Leaves acutish, 3-nerved. Calyx silky outside; segments lanceolate, acute, with recurved tops. Corolla white, with a short tube, and a 5-parted, spreading limb; segments acute. Anthers blue. Capsule silky, 2-celled, many-seeded.

Silky Evolvulus. Pl. procumbent.

11 E. azu'reus (Schum. pl. guin. p. 166.) pilose; leaves ovate-lanceolate, acute, silky beneath; stems procumbent, filiform; peduncles 1-flowered, with a bibracteate joint towards the flower; calyx villous, with lanceolate segments. ⊙. S. Native of Guinea. Corolla rotate, blue, size of those of *Anagállis cærùlea*. Capsule globose, glabrous, 1-celled, 4-seeded. Styles 4. Stigmas simple.

Azure-blue Evolvulus. Pl. procumbent.

12 E. cuspida'tus (H. B. et Kunth, l. c. p. 116.) stems procumbent, clothed with silky villi; leaves nearly sessile, oblong, cuspidately mucronate, clothed with silky villi on both surfaces, hoary; flowers nearly sessile, shorter than the leaves. ♃. S. Native about the Orinoco, in sandy places near Angostura and Villa Farrera. Calyx clothed with silky villi; segments lanceolate, acuminately subulate, equal. Corolla unknown. Perhaps the same as the preceding.

Cuspidate-leaved Evolvulus. Pl. procumbent.

13 E. Commersònii (Rœm. et Schultes, syst. 6. p. 197.) stems slender, shrubby at bottom; leaves small, linear-lanceolate, silky beneath: lower ones lanceolate-oval; flowers axillary, almost sessile, solitary. ⊙.? S. Native of Monte Video. E. seríceus, Poir. dict. 3. p. 586. Pers. ench. 1. p. 288. Flowers white.

Commerson's Evolvulus. Pl. procumbent.

14 E. inca'nus (Pers. ench. 1. p. 288. H. B. et Kunth, nov. gen. 3. p. 116.) stems tufted, diffuse, silky; leaves on short petioles, oblong-lanceolate, somewhat falcate, clothed with silky, silvery down on both surfaces; peduncles 1-flowered, equal in length to the leaves, or longer. ♄. S. Native of Quito, among rubbish on the banks of the river Guallabamba. E. seríceus, Ruiz. et Pav. fl. per. 3. p. 30. t. 252. f. 1. Calyx clothed with silvery, silky down; segments lanceolate-subulate. Corollas blue. Capsule 1-4-seeded.

Hoary Evolvulus. Pl. procumbent.

15 E. arge'nteus (R. Br. prod. 489.) plant diffuse, hoary; branches elongated, undivided; leaves lanceolate-ovate, nearly sessile, acute, silvery; peduncles 1-flowered, about equal in length to the leaves. ⊙.? S. Native of New Holland, within the tropic, on the sea shore. Very nearly allied to *E. incànus*; but the leaves of that species are broader, ovate, and petiolate.

Silvery Evolvulus. Pl. diffuse.

16 E. holoseríceus (H. B. et Kunth, l. c. p. 116.) procumbent; leaves sessile, oblong, acute, glabrous above, silvery and silky beneath; flowers axillary, sessile. ♄. S. Native of New Granada, in fields; in La Culsta de Toluca; and near Ibague. Stem beset with silky hairs, as well as the calyx. Corolla blue.

Whole-silky Evolvulus. Pl. procumbent.

17 E. angusti'ssimus (H. B. et Kunth, l. c. p. 116.) stems rather procumbent, clothed with silky down; leaves sessile, linear-lanceolate, acuminately cuspidate, glabrous above, and clothed with silky hairs beneath; flowers almost sessile, shorter than the leaves. ♃. S. Native along with *E. cuspidàtus*.

Calyx hairy; segments lanceolate, acuminated. Corolla pale blue. Ev. virgàtus, Willd. rel. is probably the same.

Very narrow-leaved Evolvulus. Pl. procumbent.

18 E. Nuttallia'nus (Rœm. et Schultes, syst. 6. p. 198.) erect; leaves linear-oblong, clothed with silky tomentum or hairs on both surfaces; peduncles short, 1-flowered. ♃. F. Native on the banks of the Missouri, and the high hills of Red River, near Kiamesha; also in Florida, and about the banks of the Platte; and of Mexico. E. argénteus, Pursh, fl. 1. p. 187. Nutt. gen. amer. 1. p. 174. but not of R. Br. Flowers purple, coming out about the middle of the stem. Sepals partly linear, and acuminated.

Nuttall's Evolvulus. Fl. May, June. Clt. 1821. Pl. erect.

19 E. latifòlius (Ker. bot. reg. 401.) suffruticose, villous, erect at bottom; branches diffuse; leaves nearly sessile, oblong-cordate, acuminated; fascicles of flowers nearly sessile, generally 3-flowered; sepals linear-lanceolate, pilosely ciliated. ♃. S. Native of Brazil. Corollas white, rotate. Styles 2, bipartite.

Broad-leaved Evolvulus. Fl. June, July. Clt. 1819. Pl. diffuse.

20 E. capita'tus (Nees et Mart, in act. bonn. 11. p. 80.) erect, hairy; leaves sessile, lanceolate; flowers capitate, terminal. ⊙. S. Native of Brazil, about Barra da Varada, in fields. Plant hoary. Leaves sessile, hoary beneath, 1½ inch long. Flowers in small villous heads, involucrated by 5-6 ovate-elliptic bracteas. Calycine segments unequal, villous. Corolla reddish, somewhat funnel-shaped, twice longer than the calyx; limb large, 5-angled, plicate, villous outside.

Capitate-flowered Evolvulus. Pl. 1 foot.

21 E. glomera'tus (Nees et Mart. in act. bonn. 11. p. 81.) procumbent, villous; leaves oblong, attenuated at the base; heads of flowers axillary and terminal, leafy. ♄. S. Native of Brazil, about Tamburil and Valos, among bushes. Leaves 6-9 lines long, on short petioles: lower ones obtuse: superior ones acutish. Heads of flowers sessile, mixed with oblong-lanceolate or lanceolate, villous bracteas. Calycine segments lanceolate, acuminated. Corolla somewhat funnel-shaped, blue; limb 5-lobed, dilated.

Glomerate-flowered Evolvulus. Shrub procumbent.

† *Doubtful species.*

22 E. arbu'sculus (Poir. suppl. 3. p. 459.) plant hispid; leaves small, almost sessile, ovate-lanceolate; flowers lateral and terminal, on short peduncles; stem much branched, filiform. ♄. S. Native of St. Domingo. Leaves hairy. Calyx hardly pilose; segments acute. Corolla white, twice longer than the calyx.

Arbusculous Evolvulus. Shrub.

23 E. Acapulce'nsis (Willd. rel. ex Rœm. et Schultes, syst. 6. p. 199.) leaves lanceolate, villous, sessile; stem branched at the base; peduncles usually 2-flowered, length of leaves. ⊙. S. Native of Mexico, about Acapulco.

Acapulco Evolvulus. Pl. procumbent.

24 E. macrophy'llus (Willd. rel. l. c.) stem erect, branched; leaves ovate-oblong, mucronate, tomentose; corymbs axillary. ♄. S. Native of South America. Humb. et Bonpl.

Long-leaved Evolvulus. Shrub erect.

Cult. The species of *Evólvulus* are pretty little plants, of easy culture. They all do well in a light sandy soil, or a mixture of sand and peat. They are all readily increased by seed, which ripen in abundance.

XXX. CLADOSTYLES (from κλαδος, *klados*, a branch; and στυλος, *stylos*, a column; in reference to the branched style.) Humb. et Bonpl. pl. æquin. 1. p. 202. t. 57. H. B. et Kunth, nov. gen. amer. 3. p. 118.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted. Corolla rotately-campanulate; limb 5-cleft. Styles 2, bipartite; stigmas simple. Capsule 1-celled, 1-seeded, not dehiscent.—An erect herb; with alternate, entire leaves, and terminal loose panicles of small yellow flowers.

1. C. panicula'ta (Humb. et Bonpl. l. c.) ⊙. S. Native of New Granada, near Turbaco. Stem branched, rather rough from adpressed, scattered hairs. Leaves sessile, lanceolate, acute, mucronate, narrowed at the base, beset with adpressed hairs on both surfaces, 1 inch long, and 3-4 lines broad. Flowers on long pedicels.

Panicled-flowered Cladostyles. Pl. 2 feet.

Cult. For culture and propagation see *Evólvulus*, above.

XXXI. WILSO'NIA (named in memory of John Wilson, author of a synopsis of British plants in Ray's method.) R. Br. prod. p. 490. Choisy, in mem. soc. phys. gen. 6. p. 496.

Lin. syst. *Pentándria, Monogýnia.* Calyx urceolate, pentagonal, 5-toothed. Corolla funnel-shaped, imbricate in æstivation. Style bifid; stigmas capitate. Ovarium small, 2-seeded. —An humble, prostrate, much branched, downy shrub. Leaves imbricated in 2 rows, small, thickish, sessile. Flowers axillary, sessile, solitary, bractless.

1 W. hu'milis (R. Br. l. c.) ♄. G. Native of New Holland, on the south coast.

Dwarf Wilsonia. Shrub prostrate.

Cult. This is a singular and beautiful prostrate shrub, worth cultivating in every collection. A mixture of sand, loam, and peat, is the best soil for it; and it will be easily propagated by cuttings or by seeds.

Tribe III. DICHO'NDREÆ (this tribe contains plants agreeing with *Dichóndra* in having distinct carpella.) Choisy, in mem. soc. phys. gen. 6. p. 497. Embryo cotyledonous. Carpella distinct.

XXXII. DICHO'NDRA (from δις, *dis*, double; and χονδρος, *chondros*, a grain; in reference to the double capsule.) Forst. gen. p. 39. t. 20. Lam. ill. t. 183. R. Br. prod. 491. Juss. gen. 129. ed. Usteri, p. 144. H. B. et Kunth, nov. gen. 3. p. 119. —Sibthórpia spec. Lin.—Steràpha, Gært. fruct. 2. p. 81. t. 94. —Demidòfia, Gmel. veg. 458.—Anónymos, Walt. fl. car. 1. p. 110.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted. Corolla subrotate or campanulate; limb flat, 5-parted. Ovaria 2, 2-seeded. Styles 2, basilar; stigmas capitate or thick. Capsules 2, utricular, 1-seeded.—Humble, creeping, downy, non-lactescent herbs. Leaves cordate or reniform, entire, petiolate. Peduncles axillary, 1-flowered, without bracteas.

1 D. re'pens (Forst. gen. p. 39. t. 20.) leaves reniform or roundish-cordate, glabrous above and downy beneath; calyx exceeding the corolla a little. ? ♃. F. Native of America, New Holland, Van Diemen's Land; and of the East Indies, on Mount Taong-Dong, Ava, &c. Lam. ill. t. 183. Ruiz. et Pav. fl. per. 3. p. 22. Sibthórpia evolvulàcea, Lin. suppl. p. 288. Steràpha reniformis, Gærtn. fruct. 2. p. 81. t. 94. Leaves sometimes retuse or emarginate, ex R. Br.

Creeping Dichondra. Fl. July, Aug. Clt. 1803. Pl. cr.

2 D. rotundifòlia (Link. enum. 1. p. 249.) stems procumbent, hairy; leaves on long petioles, reniform, emarginate, repandly crenated, of the same colour on both surfaces, hairy; calyxes ciliated, hairy. ♃. F. Native of Persia.

Round-leaved Dichondra. Fl. June, Aug. Clt. 1816. Pl. trailing.

3 D. Carolinia'na (Michx. fl. bor. amer. 1. p. 136.) leaves

reniform, rounded, not emarginate, the same colour on both surfaces, downy beneath; calyxes villous, closed. ♃. H. Native of South Carolina, by way-sides about Charlestown; and on the banks of the Mississippi, near New Orleans. Pursh, fl. 1. p. 187. D. rèpens, β. Poir. suppl. 2. p. 470. D. rèpens, Nutt. in amer. phil. trans. n. s. 5. p. 195. Anónymos rèpens, Walt. fl. carol. 1. p. 110. Demidòfia rèpens, Gmel. syst. veg. p. 458. Plant small, creeping. Flowers small, green.

Carolina Dichondra. Fl. June, Aug. Clt. 1812. Pl. creeping.

4 D. seri'cea (Swartz, fl. ind. occ. 1. p. 556. icon. t. 10.) leaves reniform, retuse at the apex, glabrous, or downy above, silky and silvery beneath; calyx exceeding the corolla a little. ♃. F. Native of Jamaica, and near Santa Fe de Bogota; and of Mexico, about Jalapa. D. rèpens, δ. serícea, Poir. suppl. 2. p. 470. This species comes very near *D. rèpens;* and only differs in the leaves being smaller, white, and silky beneath, not of the same colour on both surfaces.

Var. β; leaves reniform, emarginate, nerved and silky beneath. ♃. F. Native of Peru. D. rèpens, Ruiz. et Pav. fl. per. 3. p. 23. D. rèpens Peruviàna, Poir. suppl. 2. p. 471.

Silky Dichondra. Fl. June, Aug. Clt. 1793. Pl. creeping.

5 D. arge'ntea (Willd. hort. berol. 2. p. 81. t. 81. enum. 1. p. 297.) leaves broadly reniform, cuneated at the base, retuse at the apex, silky and silvery on both surfaces; corolla exceeding the calyx. ♃. F. Native of Mexico, near Guanaxuato and Zelaya; also near Honda. H. B. et Kunth, nov. gen. 3. p. 120.

Silvery-leaved Dichondra. Fl. June, Aug. Clt. 1818. Pl. prostrate.

† *Doubtful species.*

6 D. repa'nda (Willd. rel. ex Rœm. et Schultes, syst. 6. p. 209.) leaves reniform, repand, villous. ♃. F. Native of South America. Humb. et Bonpl.

Repand-leaved Dichondra. Pl. creeping.

7 D. cymbalariæfòlia (Willd. rel. l. c.) leaves reniform, 7-lobed, downy beneath. ♃. F. Native of?

Cymbalaria-leaved Dichondra. Pl. creeping.

Cult. These are pretty little creeping plants, generally having the leaves silvery on the under sides. *D. rèpens, Caroliniàna* and *rotundifòlia* grow well in the seams between flat stones in front of a stove or green-house; and even the other species will do in a similar way through the summer. All grow well in pots in a mixture of peat, loam, and sand; and are easily increased by dividing the plants, which are all creepers.

XXXIII. FA'LKIA (so named by Thunberg, in honour of John Peter Falck, a Swede, professor of botany at Petersburgh, and who accompanied Pallas in part of his travels in Siberia.) Thunb. nov. gen. 17. Lin. suppl. 30. Juss. gen. 132. Schreb. gen. no. 611. Convólvulus species, Thunb.

Lin. syst. *Pentándria, Tetragy'nia.* Calyx 5-parted. Corolla campanulate, crenated. Styles 4; stigmas globose. Ovaria 4, 1-seeded.—A small, suffruticose, glabrous plant.

1 F. re'pens (Lin. suppl. 211. Thunb. diss. nov. gen. 1. p. 17.) ♄. F. Native of the Cape of Good Hope, on hills near Cape town. Convólvulus Fálkia, Thunb. prod. 1. p. 35. fl. cap. 2. p. 15. Andr. rep. t. 257. Stems brownish grey, decumbent, rooting; branches filiform. Leaves scattered, petiolate, cordate-ovate, obtuse, entire. Peduncles hardly longer than the leaves. Corollas red, with a paler throat.

Creeping Falkia. Fl. May, Aug. Clt. 1774. Pl. creeping.

Cult. Fálkia is a pretty little plant, which grows freely in a mixture of loam and peat, or any light soil; and the plant is readily increased by division.

Tribe IV. CUSCUTE'Æ (this tribe only contains the *Cuscùta.)* Choisy, in mem. soc. phys. gen. 6. p. 497. bryo without cotyledons. Plants parasitical.

XXXIV. CUSCU'TA (According to Golius, 2036, derived from the Arabic name Kechout.) Tourn. 422. Lin no. 170. ed. Schreb. no. 227. Gaertn. fruct. 1. p. 297. Juss. gen. 137. R. Br. prod. p. 491. H. B. et Kunth gen. amer. 3. p. 121. Choisy, in mem. soc. phys. p. 497.

Lin. syst. *Pentándria, Digýnia.* Calyx 5, rarely 4- Corolla urceolate or campanulate; limb 5, rarely 4- cescent. Stamens usually furnished with a scale each, rarely naked. Styles 2, sometimes free, combined; stigmas acute or capitate. Ovarium 2-seeded. Capsule 1-2-celled.—Leafless, twi herbs. Flowers aggregate, subcapitate, spicate, corymbose, unibracteate. The seed does not but opens and puts forth a little spiral body, bryo. The stalks twine contrary to the sun's Holla sending out a number of little vesicles, which to the bark of the supporting plant.

§ 1. *Species natives of Europe.*

1 C. Europæ'a (Lin. spec. ed. 1. p. 180.) flowers nearly sessile; corolla with a naked throat, 4-5-c talous scales none: stigmas acute, filiform. ⊙. of Europe and Caucasus, in hedges, usually on loftier plants, as *Brambles, Bitter-sweet, Ferns, Hops;* also on *Flax, Nettles,* and *Grass.* In En Cambridgeshire; at Shipston upon Stone, Worcestersh Scotland, near Aberdeen, and at Musselburgh. Smith, e t. 378. Bieb. fl. cauc. 1. p. 115. Oed. fl. dan. Plenck. off. t. 70.—Hook fl. lond. 67. C. màjor, B p. 209. D. C. fl. fr. no. 2754. C. tetrándra, Mœ scándens, Brotero, fl. lus. p. 208. C. Epíthymum, par. ed. 2. 1. p. 85. C. filifórmis, Lam. fl. fr. 2. p. densiflòra, Willemet, in Linnæa, 1. p. 322. Cassùtha cùta, Fuchs. hist. 347. t. 348. Bauh. hist. 3. p. 266. red; segments bluntish. Corollas urceolately campa white, usually 4-cleft, and tetrandrous; but in the so Europe 5-cleft and pentandrous. Seeds usually 2 in Anthers yellow.

European or *Great Dodder.* Fl. Aug. Sept. Brie parasitical.

2 C. Epi'thymum (Lin. spec. 180.) flowers fascicles. corollas 5-cleft; epipetalous scales crescent-shaped, stigmas acute. ⊙. H. Native throughout Europe; in Britain, in cultivated fields, particularly among pulse; furze, flax, thyme, nettles, heath, lavender, spurge, hops, &c. Smith, engl. bot. 378. Oed. fl. dan. t. 427. P off. t. 71. C. Europæ'a, Smith, engl. bot. t. 55. Lam. 88. C. Europæ'a, β, Lin. spec. p. 180. C. filifórm Lam. fl. fr. 2. p. 307. C. mìnor, D. C. fl. fr. no. 2755. thymum, Cam. epit. 983.—Col. ecphr. 2. p. 23. Stems filif Much smaller in every part than *C. Europæ'a.* Flowers crowded, frequently 4-cleft and tetrandrous. Calyx red rolla white, bell-shaped, with acute segments. The from επι, *epi,* upon, and *Thymus,* thyme; so called from parasitical on thyme.

Epithymum or Lesser Dodder. Fl. July, Oct. Br Pl. parasitical.

3 C. lupulifórmis (Krok. fl. siles. no. 251. t. 36.) fl racemose, not conglomerate or pedunculate; stems lupuli rough, dotted. ⊙. H. Native of Bohemia and Silesia. monógynum, Pohl. tent. fl. boh. p. 156. Schultes, oestr. fl 2d. no. 726.

)p-formed Dodder. Pl. parasitical.

C. MONÓGYNA (Vahl, symb. 2. p. 32.) flowers pedunculate, gynous; throat of corolla naked; styles combined; stigma se. ⊙. H. Native of the Levant, on *Támarix Gállica;* between Smyrna and Bursa; and of Caucasus. Sibth et n, fl. græc. t. 257. Bieb. fl. taur. 1. p. 116.—Tourn. cor. Buxb. cent. 1. p. 15. t. 23. Habit of *C. Americàna*, but he size in all its parts. Stem warted. Flowers clustered, g lateral and terminal interrupted racemes. Calyx shining egments ovate. Corolla urceolate, pale red; segments of obtuse, spreading. Cells of capsule 2-seeded.

rynous Dodder. Pl. parasitical.

§ 2. *Species natives of New Holland.*

STRA'LIS (R. Br. prod. p. 491.) digynous; stigmas epipetalous scales lacerately fringed, ending beneath ts, which are broadly subulate; calyx smooth, deeply gments keeled, rather wrinkled. ⊙. G. Native of nd, within the tropic; and New South Wales.

Dodder. Fl. July, Oct. Clt. 1818. Pl. parasi-

RINA'TA (R. Br. prod. p. 491.) digynous; stigmas , epipetal scales lacerately fringed, exceeding the bases subulately filiform filaments; calyx 5-cleft, with keeled, wrinkled segments. ⊙. G. Native of New Holland, e tropic. Grámmica aphýlla, Lour. coch. 171. Stems Corolla campanulate, 5-cleft. Berry white; cells 2-

d-calyxed Dodder. Pl. parasitical.

§ 3. *Species natives of America.*

CORYMBÒSA (Ruiz. et Pav. fl. per. 1. p. 69. t. 115. f. b.) pedunculate; corollas urceolate, quadrifid, tetrandrous, naked throat; stamens inclosed; stigmas capitate. ⊙. ative of Peru, in cultivated fields; particularly on *Medisatìva*. Scales on the branches acute, concave. Sepals , obtuse, white. Corollas white.

ymbose-flowered Dodder. Pl. parasitical.

. ODORA'TA (Ruiz. et Pav. fl. per. 1. p. 69. t. 105. f. a.) s crowded, sessile; corollas campanulate; scales at the f the filaments ovate, fringed, or ciliated; stigmas capi-. ⊙. G. Native of Peru, in corn-fields near Lima. Stems l with purple lines and spots. Scales of the branches ovate. Flowers sweet-scented, propped by concave Calyx white, dotted with red; segments roundish, ob-Corollas white; segments ovate, acute, reflexed; there-e stamens are exserted. This species is called *Cabellos igel* in Peru.

eet-scented-flowered Dodder. Pl. parasitical.

C. UMBELLA'TA (H. B. et Kunth, nov. gen. amer. 3. p.) umbels pedunculate, generally 8-flowered; calycine segts acute; corolla campanulate, with acute, reflexed segts; scales at the base of the filaments lacerately fringed; mas capitate; genitals exserted. ⊙. G. Native of New in, between Queretaro and Salamanca. Flowers pedicellate, androus, digynous, white.

mbellate-flowered Dodder. Pl. parasitical.

) C. OBTUSIFLÒRA (H. B. et Kunth, l. c. p. 122.) heaps of ers sessile; calycine segments obtuse; corolla campanulate, obtuse segments; scales at the base of the filaments lacey fringed; stigmas capitate; genitals hardly inclosed. ⊙. Native of Peru, on the Andes. Said by Torrey to be abundant about the sources of the Canadian river, para-l on *Port. Oleràcea*. Plant orange-coloured. Flowers on t pedicels, pentandrous, digynous, white. Cells of capsule seeded.

Blunt-flowered Dodder. Pl. parasitical.

11 C. GRAVE'OLENS (H. B. et Kunth, l. c.) heaps of flowers sessile; calycine segments obtuse; corollas globose, with obtuse, spreading segments; epipetalous scales fringed; genitals exserted; stigmas capitate. ⊙. G. Native of the Spanish Main, near Cumana, in meadows, where it is called by the natives *Hilo de Oro*. Flowers on short pedicels, pentandrous, digynous. Plant strong-scented.

Strong-scented Dodder. Pl. parasitical.

12 C. FŒ'TIDA (H. B. et Kunth, l. c.) heaps of flowers sessile; calycine segments acuminated; corolla nearly globose, with acute, reflexed segments; epipetalous scales ciliated; genitals exserted; stigmas capitate. ⊙. G. Native of Quito, near Chillo. Plant parasitical on *Bérberis* and *Barnadèsia*, orange-coloured. Flowers fœtid, pentandrous, digynous, white.

Fetid-flowered Dodder. Pl. parasitical.

13 C. FLORIBU'NDA (H. B. et Kunth, l. c. p. 123.) corymbs pedunculate; calycine segments obtuse; corolla globose, twice higher than the calyx, with acute, reflexed segments; epipetalous scales ciliated; genitals much exserted; stigmas capitate. ⊙. G. Native of New Spain, in hot places near Pont Istla. Plant parasitical on *Bignònia viminàlis*, orange-coloured. Flowers pedicellate, white, pentandrous, digynous. Cells of capsule 1-2-seeded.

Bundle-flowered Dodder. Pl. parasitical.

14 C. POPAYE'NSIS (H. B. et Kunth, l. c.) corymbs pedunculate; calycine segments obtuse; corolla globose, a little higher than the calyx, with acute, erect segments; epipetalous scales ciliated; genitals exserted; stigmas capitate. ⊙. G. Native near Popayan, in temperate places. Plant yellow. Corymbs trichotomous. Flowers white, pentandrous, digynous, pedicellate. Cells of capsule 1-2-seeded. Said to be allied to *corymbòsa*, Ruiz. et Pav.

Popayan Dodder. Pl. parasitical.

FIG. 32.

15 C. GRANDIFLÒRA (H. B. et Kunth, l. c. t. 213.) peduncles usually 3-flowered, a little crowded; calycine segments obtuse; corollas rotately-campanulate, with obtuse segments; epipetalous scales wanting; genitals inclosed; stigmas capitate. ⊙. G. Native near Santa Fe de Bogota. Plant parasitical on *Spermacòce*. Peduncles 2-3-flowered, solitary, or in fascicles. Flowers pedicellate, pentandrous, digynous. Cells of capsule 2-seeded.

Great-flowered Dodder. Pl. parasitical.

16 C. CHILE'NSIS (Ker. bot. reg. t. 603. Hook. et Arn. in Beech. voy. pt. bot. p. 35.) pentandrous, digynous; calycine segments ovate, rounded, 3 times shorter than the corolla; epipetalous scales lacerately fringed; segments of corolla ovate, 3 times shorter than the tube, reflexed; anthers sessile; one of the styles shorter than the other; stigmas piliately capitate. ♃. G. Native of Chili, about Conception, Valparaiso, and Andes of Chili.

Chili Dodder. Fl. Jan. Dec. Clt. 1821. Plant parasitical.

17 C. AMERICA'NA (Lin. spec. 180.) flowers pedunculate, umbellate, pentandrous, quinquefid; corolla tubular; limb small, spreading; stigmas capitate; epipetalous scales fringed. ⊙. H. Native of Jamaica, St. Thomas, Surinam, Virginia; parasitic in hedges, and on other plants, in moist situations. The

whole plant has a reddish-yellow appearance, Lam. dict. 2. p. 229. Pursh, fl. amer. sept. 1. p. 116. Jacq. amer. pict. t. 17.—Sloane, jam. 85. hist. 1. p. 201. t. 128. f. 4. C. Surinaménsis, Schill. lepr. t. 2. Vittm. summ. pl. 1. p. 341. C. Gronòvii, Willd. herb. Flowers small, aggregate, yellowish. Genitals hardly inclosed.

American Dodder. Pl. parasitical.

18 C. Jalape'nsis (Schlecht, in Linnæa, 8. p. 515.) scales ovate, cuneated, or spatulate at the base, much shorter than the style, which is hardly exserted; flowers aggregate; corolla deeply 5-lobed: lobes reflexed at length, therefore the anthers are exserted; capsule bicornute. ♃. S. Native of Mexico, near Jalapa, on *Tràgia Báccharis*, and *Cròton*, &c. Flowers white. Said to come nearest to *C. Americàna;* but differs from it in the corolla being longer, blunter, and more deeply lobed; and in the other characters indicated above.

Jalapa Dodder. Pl. parasitical.

19 C. minia'ta (Mart. reise. ex Linnæa, 5. p. 29.) racemes pedunculate, 6-8-flowered; throat of corolla closed by ciliated scales; genitals inclosed. ⊙. G. Native of Brazil.

Vermilion Dodder. Pl. parasitical.

20 C. racemòsa (Mart. l. c. p. 38.) flowers pedunculate, cymosely racemose; corolla twice longer than the calyx, pentandrous; throat closed by ciliated scales. ⊙. G. Native of Brazil.

Racemose-flowered Dodder. Pl. parasitical.

§ 3 *A species native of Africa.*

21 C. Africa'na (Thunb. phyt. blatt. p. 17. fl. cap. p. 568.) peduncles 1-flowered; flowers 5-cleft, pentandrous, digynous. ⊙. G. Native of the Cape of Good Hope, parasitical on various trees. C. Americàna, Thunb. prod. p. 32. Peduncles capillary, furnished with a bractea at the base. Calyx very short, 5-cleft. Filaments 5, inserted in the incisures between the lobes of the corolla, and equal in length to them. The stems are more slender, and the flowers are smaller than those of *C. Americàna*.

African Dodder. Pl. parasitical.

22 C. Ara'bica (Fres. fl. egypt. et arab. p. 165.) digynous, pentandrous; fascicles few-flowered; flowers nearly sessile, small; genitals inclosed; epipetalous scales fringed at top; branches capillary, densely imbricate. ♃. H. Native of Arabia. Habit of *C. epíthymum*. Tube of corolla and calyx shorter than the limb.

Arabian Dodder. Pl. parasitical.

§ 4. *Species natives of Asia.*

23 C. verrucòsa (Sweet, fl. gard. t. 6.) digynous, pentandrous; stigmas lanceolate, obtuse, dilated at the base, fleshy; epipetalous scales fimbriately jagged; anthers nearly sessile; calyx 5-cleft, with roundish segments. ♃. H. Native of Nipaul. Branches irregularly marked with purple, linear spots. Racemes numerous, often 3-flowered, but sometimes 9-10-flowered. Flowers white, fragrant.

Warted-stemmed Dodder. Fl. Sept. Nov. Clt. 1822. Pl. parasitical.

24 C. Hooke'ri (Sweet, hort. brit. p. 290.) digynous, pentandrous; stigmas nearly sessile, diverging, subulate; corolla campanulate, 5-toothed, with reflexed segments; epipetalous scales fringed; anthers sessile. ⊙. G. Native of Mysore and Coromandel. C. refléxa, var. β, verrucòsa, Hook. exot. fl. t. 150. Stems spotted, and dashed with purple. Peduncles and calyxes warted. Corolla white.

Hooker's Dodder. Fl. Sept. Nov. Clt. 1823. Pl. parasitical.

25 C. refle'xa (Roxb. cor. 2. p. 2. t. 104.) digynous, pentandrous; style hardly any: stigmas large, fleshy, expanded, acuminated; corolla with a cylindrical tube and reflexed segments; calycine segments ovate-oblong, acutish; epipetalous scales bearded; filaments very short. ⊙. G. Native of Coromandel, where it is called *Sitamaponynvoloa* by the Telingas. Stems rough. Racemes long, numerous, many-flowered. Flowers white. Capsule baccate.

Reflexed-flowered Dodder. Pl. parasitical.

26 C. Chine'nsis (Lam. dict. 2. p. 229. Willd. spec. 1. p. 704.) digynous, pentandrous; stigmas subcapitate; corolla urceolate, with corniculate segments; calyx almost the length of the corolla, with keeled segments; genitals inclosed. ⊙. G. Native of China. Plant greenish-yellow. Flowers in loose, few-flowered fascicles, the whole forming an irregular panicle. Corollas white. Styles twisted.

China Dodder. Fl. July, Oct. Clt. 1803. Pl. parasitical.

27 C. sulca'ta (Roxb. ex Wall, cat. no. 1320.) digynous, pentandrous; stigmas capitate; corolla campanulate, small; calycine segments ovate-oblong, membranous, pellucid, equal, obtuse, ("fleshy, furrowed," ex Roxb.); genitals exserted. ⊙. G. Native of Silhet, Martaban, Bengal. Stems filiform. Flowers crowded, in lateral, few-flowered fascicles, scaly at the base; pedicels almost wanting. Styles nearly equal, exserted. Capsule small.

Furrowed-calyxed Dodder. Pl. parasitical.

28 C. macra'ntha; monogynous, pentandrous; style one, short: stigma acute; corolla tubular, 4-5 times longer than the calyx, 5-lobed at apex: lobes short, acutish, reflexed; epipetalous scales membranous, near the base of the corolla; sepals oblong-roundish, obtuse, membranous. ⊙. G. Native of Nipaul. C. grandiflòra, Wall, cat. no. 1318. Stems rough, black in the dried state. Common peduncles elongated, racemose, 1-2 inches long, many-flowered, those on the younger branches short and few-flowered; flowers pedicellate. Corolla showy. Anthers sessile, in the throat of the corolla. This, along with *C. refléxa* and *C. monógyna*, might form perhaps a distinct genus from the simple style.

Large-flowered Dodder. Pl. parasitical.

29 C. hyali'na (Roth. nov. spec. p. 220.) digynous tetrandrous; peduncles 3-flowered; flowers pedicellate; corolla transparent, 4-cleft; genitals inclosed; stigmas capitate; capsule membranous. ⊙. S. Native of the East Indies. Stems capillary. Corolla one-half longer than the calyx. Epipetalous scales seated on the stamens, fixed to the mouth of the corolla, and alternating with its segments, which are lanceolate. Capsule 2-celled; cells 2-seeded.

Hyaline-flowered Dodder. Pl. parasitical.

30 C. capilla'ris (Wall. cat. no. 1321.) ⊙. S. Native of the East Indies, at Segaen, opposite Ava. This only differ from *C. sulcàta* in the flowers being a little more crowded.

Capillary Dodder. Pl. parasitical.

31 C. capita'ta (Roxb. ex Spreng. syst. 1. p. 864.) flowers disposed in crowded heads; calyx and corolla papillose, pellucid. ⊙. G. Native of the East Indies.

Capitate-flowered Dodder. Pl. parasitical.

† *Doubtful species.*

32 C. fusifórmis (Willd. rel. ex Rœm. et Schultes, syst. 6. p. 205.) peduncles 1-3-flowered; corolla 4-cleft, very minute and remote. ⊙. G. Native of the Cape of Good Hope, on *Stàvia radiàta*.

Fusiform Dodder. Pl. parasitical.

33 C. cymòsa (Willd. l. c.) corollas quinquefid; flowers cymose; cymes bifid. ⊙. S. Native of South America. Humb. et Bonpl. Perhaps the same as *C. umbellàta*.

Cymose-flowered Dodder. Pl. parasitical.

Cult. The species are all parasitical, or rather epiphytical plants; the hardy species grow very well on ivy, or any small shrub. All the species may be grown by sowing the seeds in at the side of any soft wooded plant.

† *It is not known whether the following genus belongs to the present order.*

XXXV. MOUROUCO'A (the name of the genus in Guiana.) Aubl. Guian. 1. p. 142. t. 54. Desr. in Lam. dict. 4. p. 337. Lam. ill. t. 103. Juss. gen. 133. ed. Usteri. p. 148.

Lin. syst. *Pentándria, Monogýnia.* Calyx deeply 5-parted, coloured; segments approximate: outer ones the largest, violaceous. Corolla funnel-shaped; tube short; segments of the limb spreading, roundish. Stamens rising from the base of the lobes, in the upper part of the tube; filaments long, incurved. Stigma thick, roundish, bilamellate. Capsule girded by the calyx, 2-celled, ex Lam., 3-celled, ex Juss., ovate-oblong, coriaceous, fibrous; cells 1-seeded.? Seeds large.—A climbing shrub, with stiff, elliptic, acute, glabrous leaves, and axillary, fleshy, thick peduncles, bearing fascicles of flowers at their tops. Corollas large, flat, blue.

1 M. viola'cea (Aubl. l. c.) ♄. ⌒. S. Native of Guiana, in woods. Convólvulus macrospérmus, Willd. spec. 1. p. 860. Stem branched. Leaves entire, plicate; petioles channelled above.

Violaceous-calyxed Murucoa. Shrub climbing or twining.

Cult. For culture and propagation see *Argyrèia*, p. 257.

Order CLXV. RETZIA'CEÆ (this order contains plants agreeing with *Rétzia* in important characters.) Bartl. ex Choisy, in mem. soc. phys. gen. 6. p. 400.

Calyx bracteate, imbricate, deeply 5-parted. Corolla tubular, cylindrical. Stamens inserted into the tube; anthers subcordate. Stigmas 2, or bifid. Capsule 2-celled; dissepiment placentiferous on both sides; cells many-seeded.—Branched, erect, shrubs. Leaves alternate, or 4 in a whorl. Flowers lateral, sessile towards the extremities of the branches. This order differs from its allies in the cells of the capsule being many-seeded, and in the dissepiment being placentiferous.

Synopsis of the genera.

1 Re'tzia. Corolla villous. Style bifid. Cells of capsule many-seeded.

2 Lonchóstoma. Corolla glabrous.? Styles 2. Cells of psule generally 10-seeded.

I. RE'TZIA (so named by Thunberg, in honour of Anders ohan Retzius, professor of natural history and economy, in the niversity of Lund, in Sweden; author of Observationes Botaicæ, Lips. fol.) Thunb. act. lund. 1. p. 55. nov. gen. 4. Lam. ill. t. 103. Schreb. gen. no. 285. Lin. suppl. 18. Juss. gen. 133. ed. Usteri. p. 149.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, unequal; segments lanceolate. Corolla tubular, contracted under the limb, villous inside and outside, 5-parted at apex; limb short; segments or lobes obtuse, concave, very villous at apex. Anthers subcordate. Stigma bifid, simple. Capsule oblong, acute; cells many-seeded.—An erect, branched shrub. Leaves 4 in a whorl. Flowers bracteate, terminal, crowded.

1 R. spica'ta (Thunb. act. lund. 1. p. 55. t. 1. f. 2. Lam. ill. t. 103. Lin. suppl. 138.) ♄. G. Native of the Cape of Good Hope, on the highest mountains. R. Capénsis, Thunb. prod. p. 34. Branches hairy. Leaves crowded, lanceolate-linear, sessile, blunt, 1-grooved above, with impressed dots, 2-grooved beneath. Flowers lateral towards the extremities of the branches, sessile, crowded, upright, almost concealed among the leaves. Bracteas acute, keeled, hairy, longer than the calyx. Corollas rufescent. This plant bears a very great affinity with *Convólvulus*, and especially with *Convólvulus œnotheroìdes*, which is probably also a species of *Rétzia*.

Spicate-flowered Retzia. Fl. May, June. Clt.? Shrub 4 feet.

2 R.? campanuloìdes (Spreng. syst. 1. p. 589.) glabrous, erect; stem herbaceous, branched; leaves alternate, linear-lanceolate, entire, erect; flowers solitary, terminal, naked. ♃. G. Native of the Cape of Good Hope. Polemònium campanuloìdes, Thunb. prod. p. 35. Lin. suppl. p. 139. Willd. spec. 1. p. 887. Stigma bifid. Said to resemble *Campánula persicifòlia*.

Campanula-like Retzia. Pl. 2 to 3 feet.

3 R. roelloìdes (Spreng. syst. 1. p. 589.) stems herbaceous, villous; leaves alternate, sessile, lanceolate, marginate, scabrous; flowers axillary and terminal, sessile. ♃. G. Native of the Cape of Good Hope. Polemònium roelloìdes, Thunb. prod. 1. p. 35. Lin. suppl. 139. Willd. spec. 1. p. 887.

Roella-like Retzia. Pl. 1 to 3 feet.

Cult. Any light rich soil will answer this shrub, or a mixture of peat, loam, and sand. Cuttings will strike root freely in sand, under a hand-glass.

II. LONCHO'STOMA (from λογχη, *lonche*, a lance; and στομα, *stoma*, a mouth; in reference to the segments of the corolla, which are lanceolate, and attenuated towards the throat of the corolla.) Wikstr. in acad. holm. 1818. t. 10. Spreng. gen. 1. p. 216.

Lin. syst. *Pentándria, Digýnia.* Calyx bracteate, imbricate, 5-parted. Corolla tubular; limb 5-parted; segments lanceolate, attenuated to the throat. Stamens 5, inserted in the tube of the corolla. Styles 2. Capsule 2-celled, 2-valved; dissepiments placentiferous on both sides; cells generally 10-seeded.—Shrubs, natives of the Cape of Good Hope, with alternate leaves. Flowers spicate, terminal.

1 L. obtusiflòrum (Wikstr. l. c.) leaves elliptic, hairy outside; sepals and segments of corolla obtuse: styles subclavate, inclosed. ♄. G. Native of the Cape of Good Hope. Passerìna pentándra, Thunb. prod. 1. p. 76.

Blunt-flowered Lonchostoma. Shrub.

2 L. acutiflòrum (Wikstr. l. c.) leaves ovate, pilose outside; sepals and segments of corolla acute; styles filiform, exserted. ♄. G. Native of the Cape of Good Hope.

Acute-flowered Lonchostoma. Shrub.

Cult. For culture and propagation see *Rétzia* above.

Order CLXVI. BORAGI'NEÆ (this order contains plants agreeing with *Boràgo* in important characters.) Juss. gen. p. 130. ed. Usteri, p. 143. R. Br. prod. p. 492.—Asperifòliæ Nucíferæ, Lehm. asp.

Calyx 5-parted, rarely 4-parted, permanent. Corolla hypogynous, monopetalous, usually regular, 5-cleft, rarely 4-cleft, imbricate in æstivation. Stamens epipetalous, equal in number to the segments of the corolla, and alternating with them, rarely more. Ovarium 4-parted, 4-seeded, or simple, 2-4-celled, with

a definite number of pendulous ovula. Carpels 4, distinct, or joined at bottom; or a berry containing 2-4 pyrenæ. Seeds exalbuminous. Embryo inverted.—Herbs or shrubs. Leaves alternate, exstipulate, usually rough. Flowers generally disposed in secund spikes, but sometimes panicled and corymbose, and sometimes axillary and solitary.

The true *Boragíneæ* are chiefly herbaceous plants, with alternate exstipulate leaves, the surfaces of which are covered with minute asperities, and with flowers arranged in one-sided spikes or racemes; very rarely solitary. The fruit is generally composed of 4 distinct carpels. Some, *Echiums*, and a few more, are shrubs. The genus *Tournefórtia* and *Messerschmídtia* are chiefly composed of shrubs. Some of the plants of this order are mere weeds, quite unworthy of culture; others are eminently beautiful, as many *E'chiums*, *Onósmas*, *Onosmòdiums*, *Sýmphytums Merténsias*, and others. In general they have mucilaginous and emollient qualities, which are especially abundant in the root of *Sýmphytum* and *Cynoglóssum*. Pure nitre has been found in several plants of this order. A red colour is given out by *Anchùsa tinctòria*, *Lithospérmum tinctòrium*, and *Onósma echioìdes*, which is used in dyeing. Several plants of the same order are employed on the same account in America.

Synopsis of the genera.

TRIBE I.

BORAGIE'Æ. Fruit of 4 distinct, 1-celled carpels, which are imperforated at the base. Corolla deeply 5-parted, with pointed segments. Stamens usually exserted. Inflorescence diffuse.

SUBTRIBE I.

BORA'GEÆ. Nuts fixed to the bottom of the calyx, imperforated at the base. Corolla rotate; throat furnished with vaulted processes.

1 BORA'GO. Corolla rotate; throat furnished with emarginate processes or arches. Stamens glabrous; anthers oblong, pointed, fixed by the inner side. Nuts turbinate, fixed to the bottom of the calyx.

2 TRACHYSTE'MON. Corolla rotate; throat furnished with short, blunt, or emarginated processes or arches. Stamens with lengthened, hairy filaments, and incumbent, pointless anthers. Nuts fixed to the bottom of the calyx.

SUBTRIBE II.

RINDE'REÆ. Nuts adnate to the central column. This, with subtribe *Cynoglósseæ* of tribe *Buglósseæ*, might with propriety form a tribe to be called *Cynoglósseæ*, from the carpels being fixed to the central column.

§ 1. *Throat of corolla furnished with vaulted processes.*

3 MA'TTIA. Corolla angular, tubularly funnel-shaped; throat furnished with processes. Stamens exserted, but usually inclosed; anthers sagittate, connivent. Nuts furnished with a membranous, emarginate, orbicular wing, fixed to the centre column longitudinally.

4 SOLENA'NTHUS. Corolla tubular, 5-toothed; throat furnished with 5 arched processes. Stamens exserted. Nuts 4, depressed, echinated, adnate to the central column.

§ 2. *Throat of corolla naked.*

5 RINDE'RA. Corolla funnel-shaped; throat naked. Anthers sessile, between the segments of the corolla. Nuts margined by a broad, striated, stiffish wing, adhering lengthwise to the thick central column.

6 TRICHODE'SMA. Corolla subrotate; throat naked; segments subulate at apex. Anthers fixed together by hairs. Nuts 4, half immersed in as many hollows or pits of a 4-winged, central column, adnate near the apex.

TRIBE II.

SYMPHY'TEÆ. Corolla tubular, truncate; with very short lobes. Stamens inclosed. Carpels or nuts fixed to the bottom of the calyx. Inflorescence usually revolute.

7 SY'MPHYTUM. Corolla tubularly campanulate; throat furnished with subulate or lanceolate processes, which connive into a cone. Nuts 4, 1-celled, ovate, imperforated at the base.

8 COLSMA'NNIA. Corolla cylindrically campanulate; throat naked. Anthers sagittate, distinct. Nuts 4, 1-celled, ovate-triangular, perforated at the base.

9 STOMOTE'CHIUM. Corolla tubularly subcylindrical; throat closed by roundish, fleshy, muricated processes. Anthers oblong. Nuts 4, 1-celled, roundish, perforated at the base.

10 ONÓSMA. Corolla tubularly-campanulate; throat naked. Anthers sagittate, connected by the lobes at the base. Nuts 4, 1-celled, ovate, imperforated at the base.

11 ONOSMÒDIUM. Corolla tubular; throat naked; limb ventricose; segments conniving. Anthers sagittate, distinct. Nuts 4, 1-celled, turgid, shining, imperforated at the base.

12 PULMONA'RIA. Corolla funnel-shaped; throat pilose. Nuts 4, 1-celled, turbinate, imperforated at the base.

13 MERTE'NSIA. Corolla tubularly funnel-shaped; throat naked. Nuts 4, 1-celled, ovate, smooth or wrinkled, imperforated at the base.

14 CERÍNTHE. Corolla tubular; throat naked. Anthers hastate, connected, having the lobes spirally twisted at the base. Nuts 2, 2-celled, or 4, combined by twos, imperforated at the base.

TRIBE III.

LITHOSPE'RMEÆ. Corolla open, tubular; with broad, mostly rounded lobes. Stamens inclosed or exserted. Nuts 4, distinct, fixed to the bottom of the calyx, imperforated at the base, except in *Stríbila*.

15 LITHOSPE'RMUM. Corolla funnel-shaped; throat naked. Anthers oblong, inclosed. Nuts ovate, hard.

16 BA'TSCHIA. Corolla salver-shaped, with a straight tube, longer than the calyx, bearded by a ring of hairs inside at the base; mouth naked. Nuts 4, hard, shining. Stamens exserted or inclosed.

17 MACROME'RIA. Corolla funnel-shaped; lobes acute;

throat naked. Anthers linear-oblong, incumbent. Style a small pruinose dot. Ovaria 4, connate.

18 Móltkia. Corolla cylindrically funnel-shaped; throat naked. Stamens exserted; anthers oblong, incumbent. Nuts hemispheric, concave at the base.

19 Craniospe'rmum. Corolla cylindrical, 5-toothed at apex; throat naked. Stamens exserted. Anthers oblong. Nuts large, difformed.

20 Stríbila. Corolla funnel-shaped, with a slender tube and spreading limb, villous. Stamens length of the limb of the corolla. Style bifid; stigmas 2, capitate. Fruit pyramidal, perforated at the base.

21 E'chium. Corolla funnel-shaped; throat wide, naked; segments of the limb in many species unequal. Nuts turbinate, gigartoid, scabrous.

22 Echiochìlon. Corolla with a slender arched tube, a bilabiate limb, and a naked throat; upper lip 2-lobed; lower lip somewhat 3-lobed. Nuts glabrous, tubercled.

23 Nònea. Calyx at length inflated. Corolla funnel-shaped; tube straight; throat bearded. Stamens inclosed Stigma simple. Nuts with parallel stripes.

24 Loboste'mon. Corolla funnel-shaped; throat furnished with erect processes, which bear the stamens on the back. Nuts turbinate.

25 Lycópsis. Corolla funnel-shaped, 5-lobed; tube incurved; throat furnished with ovate prominent conniving scales. Stamens inclosed. Stigma emarginate. Nuts turbinate, concave at the base.

Tribe IV.

Buglósseæ. Corolla salver-shaped, or funnel-shaped, having the mouth closed with vaulted processes. Nuts 4, 1-celled, fixed to the bottom of the calyx, perforated at the base, except in *Echinospérmum*.

Subtribe I.

Anchu'seæ. Nuts fixed to the bottom of the calyx, perforated at the base.

26 Anchu'sa. Corolla salver-shaped; throat closed by erect obtuse processes. Stamens inclosed. Nuts turbinate, concave, and perforated at the base.

27 Myosòtis. Corolla salver-shaped; throat furnished with short processes. Stamens inclosed. Nuts perforated at the base.

28 Exarrhe'na. Corolla salver-shaped; throat furnished with vaulted processes. Stamens exserted; anthers peltate. Nuts umbilicate at the base.

29 Bothriospe'rmum. Corolla salver-shaped; throat furnished with bifid processes. Anthers nearly sessile, inclosed. Stigma capitate. Nuts reniform, perforated at the base, and umbilicate on the inner side.

Subtribe II.

Cynoglósseæ. Nuts fixed to the central column, imperforated at the base.

30 Echinospe'rmum. Corolla salver-snaped; throat furnished with short scales. Nuts echinated.

31 Roche'lia. Corolla funnel-shaped, 5-lobed; throat furnished with arched scales or processes. Nuts 2, oblique, combined, adnate to the indurated style.

32 Omphalòdes. Corolla rotate; throat closed by short processes. Nuts depressed, having the margin cup-shaped from an inflexed membrane.

33 Cynoglóssum. Corolla salver-shaped; throat furnished with erect processes. Nuts depressed, echinated.

34 Asperu'go. Calyx compressed in the fruit-bearing state, sinuately denticulated. Corolla funnel-shaped; throat closed by processes. Nuts depressed.

Tribe V.

Heliotrópeæ. Corolla salver-shaped or funnel-shaped, having the throat pervious or bearded; limb plicate. Nuts 4, 1-2-celled, combined into a single fruit, closed at the base, without any manifest torus or receptacle.

35 Heliotròpium. Calyx 5-parted. Corolla salver-shaped; throat pervious, in some bearded; limb plicate. Stigma subconical. Nuts 1-celled.

36 Piptoclaìna. Calyx tubular, 5-toothed. Corolla salver-shaped; throat furnished with teeth between the segments of the limb. Nuts 4, or solitary, 1-celled, wrinkled.

37 Tiarídium. Calyx 5-parted. Corolla salver-shaped; tube angular, arched, 5-rayed; segments of the limb undulated. Stigma capitate. Nuts 2-celled, mitre-formed, acuminated.

38 Colde'nia. Corolla funnel-shaped; throat wide, naked; limb flat, with equal spreading segments. Style bifid at apex. Nuts 1-celled, convex outside.

39 Halga'nia. Corolla funnel-shaped; tube short; limb flat; throat naked. Stamens inclosed; anthers fixed by the base, where they are cordate and connivent. Stigma simple, obtuse. Fruit obliquely and tetragonally ovate, composed of 2 2-celled divisions; cells 1-seeded.

40 Preslæ'a. Corolla funnel-shaped; limb having a plica between each of the segments; throat furnished with 5 fascicles of pili, just above the connivent anthers, which are appendiculate at the base, and inclosed. Stigma rising from a conical disk. Fruit divisible into 4 1-seeded parts or nuts.

41 Eu'ploca. Corolla funnel-shaped; limb flat. Stamens inclosed. Stigma annular, bearded at apex. Nuts 4, approximating by pairs, imperforated and angular at the base, fixed to the bottom of the calyx.

42 Tournefórtia. Corolla salver-shaped or subrotate; throat naked. Stamens inclosed. Stigma peltate, somewhat conical. Berry containing 2 2-seeded bony nuts.

43 Messerschmídtia. Corolla salver-shaped, or subrotate; throat naked. Stamens inclosed. Stigma peltate, somewhat conical. Berry containing 4 1-seeded nuts.

44 Cana'la. Corolla tubular, ventricose, 5-toothed, coarctate at the base into a short tube. Stamens inclosed. Nuts 2, stony, roundish, combined; seeds 4 in each cell.

Tribe I.

BORAGIE'Æ (this tribe contains plants agreeing with *Borago*

in the characters given). D. Don in Edinb. phil. journ. July, 1832. Corolla deeply parted, with pointed segments. Stamens exserted. Inflorescence diffuse. Nuts 4, 1-celled, 1-seeded, distinct.

Subtribe I.

Bora'geæ. Nuts fixed to the bottom of the calyx. Corolla rotate; throat furnished with vaulted processes.

I. BORA'GO (altered from *Cor*, the heart, and *ago*, to effect; in reference to cordial qualities of Borago). Tourn. inst. t. 53. Lin. gen. no. 188. Schreb. 248. Juss. gen. p. 131. ed. Usteri. p. 146. Lehm. asper. p. 2. Lam. ill. t. 94. f. 1. Schkuhr, handb. t. 31. Boraginoïdes, Boerh. p. 88. Cynoglossoïdes, Isnard, act. gall. 1718. t. 10.

Lin. Syst. *Pentándria*, *Monogýnia*. Corolla rotate; throat furnished with emarginate vaulted processes. Anthers distinct, oblong or lanceolate, awned, fixed by the inner side, conniving into a cone. Nuts 4, 1-celled, turbinate, fixed to the bottom of the calyx.—Rough plants, with fusiform roots; oblong or lanceolate leaves, and blue, panicled, drooping flowers.

1 B. officina'lis (Lin. spec. 197.) lower leaves obovate, attenuated at the base; segments of the limb of the corolla ovate, acute, spreading. ♂. H. This plant came originally from Aleppo, but is now naturalized in most parts of Europe. It is now to be found in England, on dunghills and heaps of rubbish frequently. Smith, engl. bot. t. 36. St. Hil. pl. fr. 1. t. 58. Sturm, fl. germ. fasc. icon.—Plenck. icon. t. 77.—Blackw. t. 36.—Sabb. hort. 2. t. 20, 21.—Mor. hist. 437. sect. 11. t. 26. f. 1. Plant hispid from pili, glaucous. Upper cauline leaves oblong, sessile, sub-cordate at the base. Corolla blue or purple, and sometimes white. Nuts ovate oblong, obtuse, ribbed on the inner side; ribs denticulated. Borage was formerly in great request, being reckoned one of the four cordial flowers. "Very light, surely," says an ingenious author, "were those sorrows which could be driven away by borage." Yet Borage flowers are at least innocent, which is more than can be said of many other general remedies for care. The whole herb is succulent, and very mucilaginous, having a peculiar faint smell when bruised. The juice affords a true nitre. The plant is now seldom taken inwardly. The young tender leaves may be used as salads, or as a pot herb.

Officinal Borage. Fl. June, Sept. Britain. Pl. 1 to 1½ foot.

2 B. crassifòlia (Vent. hort. cels. p. 100. t. 100.) leaves lanceolate, acute, fleshy; segments of the limb of the corolla unequal, linear-lanceolate, spreading. ♃. H. Native of Persia. Willd. enum. 1. p. 185. Lehm. asp. p. 203. Stems ascending, glabrous, and as if they were articulated or nodose. Leaves glaucous, muricated from hooked prickles on the edges above, but glabrous beneath, except on the nerves. Flowers solitary or racemose, purplish, erect at first.

Thick-leaved Borage. Fl. Ju. July. Clt. 1822. Pl. 1 to 2 feet.

3 B. longifòlia (Desf. fl. atl. 1. p. 162. t. 44.) leaves linear-lanceolate; segments of the limb ovate, acute, spreading. ♃. H. Native of Numidia, in humid places. Willd. spec. 1. p. 777. Lehm. asp. p. 204. Root branched, woody. Stem hispid from yellow retrograde pili. Leaves scabrous above, and downy beneath: cauline ones half stem-clasping. Flowers disposed in a terminal bracteate panicle. Pedicels and calyxes hairy. Segments of the calyx linear, much longer than the corolla. Corolla blue. Nuts oblong, smooth, obtuse.

Long-leaved Borage. Fl. July, Aug. Clt. 1825. Pl. 1 foot.

4 B. laxiflòra (D. C. fl. fr. 6. p. 422.) leaves oblong; segments of the limb of the corolla ovate, bluntish, erectly spreading. ♃ H. Native of Corsica. Horn. hort. hafn. 1. p. 181. Lehm. asp. p. 203. Anchùsa laxiflòra, Poir. suppl. 1. p. 736. D. C. syn. no. 2728. Sims, bot. mag. t. 1798. Stems decumbent, many from the same root, hispid from retrograde bristles. Leaves rough from strigæ; radical ones rosulate; cauline ones half stem-clasping. Flowers on long pedicels, racemose, nutant. Pedicels and calyx pilose. Corolla fine blue. Nuts turbinate, wrinkled.

Loose-flowered Borage. Fl. May, Aug. Clt. 1813. Pl. dec.

Doubtful species.

5 B. macranthe'ra (Russel, beschr. aleppo 2. p. 151.) leaves lanceolate, ciliated; calyxes ciliated, shorter than the tube of the corolla; anthers unequal. ♃. H. Native about Aleppo.

Long-anthered Borage.

6 B.? verrucòsa (Forsk. fl. ægypt. p. 41.) warts of leaves furnished with stiff pungent bristles: calyx prismatic. ♃.? H. Native of Arabia. Anthers terminated by a long bristle. Seeds flat, emarginate, serrated.

Warted-leaved Borage. Pl.

Cult. Plants of the easiest culture, requiring hardly any care. Most of them are very pretty border flowers. They are always increased by seed, which should be sown in the open ground.

II. TRACHYSTE'MON (from τραχυς, *trachys*, rough, and στημων, *stemon*, a stamen.) D. Don, in edinb. phil. journ. July, Oct. 1832. Boràgo species, Lin. and Smith.

Lin. syst. *Pentándria*, *Monogýnia*. Corolla rotate; throat furnished with short, emarginate processes. Anthers distinct, oblong, pointless, incumbent; filaments long, hairy. Nuts 4, 1-celled, fixed to the bottom of the calyx, imperforated at the base.—Rough plants, with tuberous or fusiform roots, and copious drooping blue flowers.

1 T. orienta'lis (D. Don, l. c.) lower leaves cordate; segments of the limb of the corolla revolute, pilose outside at the apex. ♃. H. Native about Constantinople, and in woods about Belgrade. Boràgo orientàlis, Lin. spec. 197. Sabb. hort. 2. t. 22. Smith, fl. græc. t. 175. Ker. bot. reg. 288. Mill. icon 1. t. 68. Boràgo cordifòlia, Mœnch. meth. suppl. p. 275. Kern. abbild. t. 118.—Tourn. itin. 2. t. 13.—Buxb. cent. 5. p. 16. t. 30. Root tuberous, and black outside. Stem hispid from retrograde pili, paniculately branched at top. Leaves hispid, broad; radical ones on long petioles; the uppermost cauline ones ovate-lanceolate, narrowed at the base, and nearly sessile. Flowers copious, on long pedicels, purplish-blue, disposed in conjugate racemes at the ends of the branches, bracteate. Processes in the throat of the corolla, white, short, blunt, emarginate.

Oriental Trachystemon. Fl. March, May. Clt. 1752. Pl. 1 to 2 feet.

2 T. Cre'ticum; lower leaves ovate; segments of the limb of the corolla linear, revolute, glabrous. ♃. H. Native of the islands of Candia and Zante, and on Mount Athos. Boràgo Crética, Willd. spec. 1. p. 778. Desf. cor. Tourn. in ann. mus. 10. p. 428. t. 34. Sibth et Smith, fl. græc. t. 176. Tourn. cor. inst. p. 6. Lehm. asp. p. 200. Root fusiform. Stems beset with stiff hairs. Leaves pilose, with crenately undulated, subciliated edges, 3-4 inches long; superior leaves nearly sessile. Flowers white, or very pale blue, with rose-coloured stamens, and yellow anthers, pedicellate, disposed in loose, terminal, conjugate racemes; processes of the throat subulate. Filaments naked.

Cretan Trachystemon. Fl. Ap. Ju. Clt. 1823. Pl. 1½ foot.

Cult. These are plants of easy culture, but do best in a shady rather dry situation. They are easily increased by dividing at the root, or by seed.

Subtribe II.

Rinde'reæ. Nuts or carpels fixed to the central column. This, with subtribe II. *Cynoglósseæ*, of tribe *Buglósseæ*, might with propriety form a distinct tribe, to be called *Cynoglósseæ*, from the attachment of the carpels.

§ 1. *Throat of corolla furnished with vaulted processes.*

III. MA'TTIA (meaning unknown to us.) Schultes, obs. p. 30. syst. 4. p. X.—Cynoglóssum species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calycine segments linear-lanceolate. Corolla tubularly funnel-shaped; tube pentagonal; segments of the limb linear, lanceolate, or roundish; throat furnished with compressed emarginate conniving processes, which are the length of the tube. Anthers sagittate, inclosed or exserted, connivent. Stigma simple. Nuts 4, 1-seeded, winged by a flat, emarginate, orbicular, diaphanous membrane, concave outside, glabrous, shining, fixed to the central column at the base (top?).—Erect plants, with sessile leaves, and terminal racemes of drooping flowers.

§ 1. *Nuts compressed, smooth. Stamens exserted.*

1 M. umbella'ta (Schultes obs. p. 32.) leaves narrow-lanceolate, downy, canescent; racemes terminal, umbellate; corolla a little longer than the calyx, with oblong obtuse segments; nuts smooth. ♃. H. Native of Siberia and Hungary. Cynoglóssum umbellàtum, Waldst. et Kit. pl. hung. 2. p. 158. t. 148. Horn. hort. hafn. 1. p. 178. Willd. enum. 1. p. 181. Sýmphytum règium, Gmel. syst. 2. p. 320.—Gmel. itin. 3. t. 36. f. 1. Root nearly simple, perpendicular. Stems simple, bluntly angular, hairy. Radical leaves ovate-lanceolate, tapering into the petioles; upper cauline ones sessile. Pedicels and calyxes woolly. Corolla yellow, tinged with red; processes of the throat red or wanting?

FIG. 33.

Umbellate-flowered Mattia. Fl. May, June. Clt. 1822. Pl. 1½ foot.

§ 2. *Nuts compressed. Stamens inclosed.*

2 M. lana'ta (Schultes, obs. p. 31. syst. 4. p. 82.) leaves ovate-lanceolate; villous, canescent, rather scabrous; flowers racemose; corolla twice longer than the calyx, with linear, connivent segments; nuts smooth. ♃. H. Native of Armenia. Cynoglóssum lanàtum, Lam. dict. 2. p. 238. Desf. ann. mus. 10. p. 432. t. 37. Tourn. cor. p. 7. Stems angular, simple, clothed with hoary tomentum, divided into simple floriferous branches at top. Racemes loose, simple, terminal, and in the axils of the superior leaves; pedicels recurved, and are, as well as the calyxes, woolly. Calycine segments linear, acute. Nuts ovate, cordate, clypeate. Corollas reddish, drooping.

Woolly Mattia. Fl. June. Clt. 1800. Pl. 1½ foot.

3 M. glastifòlia; leaves lanceolate, glabrous, beset by a few scattered papillæ beneath, and denticulately scabrous on the edges; flowers racemose; corolla nearly twice as long as the calyx, with roundish segments; nuts muricate in the centre, with membranous edges. ♃. H. Native of Armenia. Cynoglóssum glastifòlium, Willd. spec. i. p. 764. Desf. cor. Tourn. in ann. mus. 10, p. 430. t. 35. Rindèra glastifòlia, Rœm. et Schultes, syst. 4. p. 83. Stem branched at top. Peduncles axillary and terminal, few-flowered, glabrous; pedicels racemose, loose; and are, as well as the edges of the calyxes, papillose. Segments of the calyx lanceolate, obtuse. Corollas blue.

Glastum-leaved Mattia. Pl. 1½ to 2 feet.

4 M. angustifòlia; leaves linear, hispid from pili; flowers racemose; corollas twice as long as the calyx, with rounded segments; nuts smooth, having the marginal membranes denticulated. ♃. H. Native of Armenia. Cynoglóssum angustifòlium, Willd. spec. 1. p. 763. Lehm. asp. p. 171. Cynogl. emarginàtum, Lam. ill. no. 1799. Cynogl. racemòsum, Schreb. in act. bonn. 3. p. 476. Rindèra? emarginàta, Rœm. et Schultes, syst. 4. p. 83. Stems numerous, simple, canescent, pilose, angular. Flowers erect, secund, disposed into 2 terminal bractless racemes. Calyx hoary, with lanceolate bluntish segments. Scales in the throat lanceolate-acute, small. Corollas blue.

Narrow-leaved Mattia. Pl. ½ to 1 foot.

5 M. crista'ta; leaves linear-lanceolate, attenuated at the base, hispid from pili; flowers racemose; corollas a little longer than the calyx, with rounded segments; nuts muricated in the centre, and crestedly rayed along the edges of the wings. ♃. H. Native of Armenia. Cynoglóssum cristàtum, Lam. dict. 2. p. 237. Lehm. asp. 189. Schreb. nov. act. cur. 3. p. 478. exclusive of the synonymes. Omphalòdes cristàta, Schrank, denks. acad. wiss. munch. 1811 and 1812, p. 221. Root perpendicular. Stems hispid, simple, furnished with some racemiferous peduncles at apex. Racemes 2-3 terminal, and some lateral, many-flowered, loose, drooping before florescence. Pedicels secund, and are, as well as the calyxes, hispid, grey. Calycine segments lanceolate, bluntish. Corollas blue. Stamens inclosed, as in the 2 preceding species.

Crested-fruited Mattia. Pl. 1½ foot.

6 M. Colu'mnæ; leaves ovate-lanceolate, stem-clasping, villous; flowers racemose; corollas about equal in height to the calyx, with rounded lobes; nuts muricated in the centre, and denticulately rayed on the edges of the wings. ♃. H. Native near the town of Aversa, in stony dry places. Cynoglóssum Colúmnæ, Biv. stirp. rar. sic. man. 2. Tenore, prod. fl. neap. p. 33. Cynogl. cristàtum, β. Lam. dict. 2. p. 298. Willd. spec. 1. p. 764.—Column. ecphr. 1. p. 177. t. 178.—Morr. hist. 3. p. 449. sect. 11. t. 30. f. 7. Stem angular. Racemes panicled, terminal. Calycine segments ovate-lanceolate, bluntish. Corolla dirty purple, with deeper veins. Scales of the throat ciliated. Stamens inclosed.

Columna's Mattia. Fl. June, July. Clt. 1825. Pl. 1 to 2 feet.

7 M. Magelle'nse; leaves linear-lanceolate: superior ones broader at the base; flowers disposed in compact racemes; corollas about equal in length to the calyx, with rounded lobes; nuts membranous, muricated in the centre and on the margins. ♃. H. Native of Magella. Cynoglóssum Magellénse, Tenore prod. neap. p. 33. Lehm. asp. p. 168. Plant white from villi. Calyx woolly, with linear segments. Said to be nearly allied to *M. lanàta*. Corolla purplish.

Magella Mattia. Pl. 1 foot.

§ 3. *Nuts depressed, with denticulately ray edges. Stamens inclosed. Flowers solitary. This section will probably constitute a new genus.*

8 M. pilòsa; leaves linear, pilose, hoary; flowers solitary, pedicellate, alternating with the leaves; nuts denticulately rayed on the edges. ⊙. H. Native of Peru, in the provinces of Cercada and Chancay, in arid places. Cynoglóssum pilòsum, Ruiz. et Pav. fl. per. 2. p. 6. t. 111. f. *b*. Lehm. asp. p. 167. Plant hoary pilose. Stem slender, divided into loose, nearly simple branches. Leaves 1 to 1½ inch long. Pedicels much shorter than the leaves. Calyx pilose. Corolla tubular, with a flat limb. Nuts ovate, depressed, glabrous, surrounded by a serrated membrane.

Pilose Mattia. Pl. ½ foot.

9 M. lateriflòrum; leaves linear, pilose; flowers solitary, nearly sessile, opposite the leaves; calyxes unequal, a little shorter than the corolla; nuts with deeply-rayed edges. ⊙. H. Native of Chili about Santiago, and of Peru about Lima, in arid fields. Cynoglóssum lateriflòrum, Lam. dict. 2. p. 237. ill.

t. 92. f. 2. Lehm. asp. p. 166. Cynogl. lineàre, Ruiz. et Pav. fl. per. 2. p. 6. Pers. ench. 1. p. 160. Stems filiform, subtrichotomously branched, pilose and hoary as the rest of the plant. Pedicels short, erect when bearing the flower, but reflexed while bearing the fruit. Calycine segments lanceolate, one longer than the rest. Corollas small, white. Nuts 4, depressed, 2 of them smaller, and probably abortive.

Lateral-flowered Mattia. Pl. $\frac{1}{2}$ to 1 foot.

Cult. For culture and propagation see *Boràgo*, p. 309. Plants of the most easy culture.

§ 2. *Throat of corolla naked.*

IV. SOLENA'NTHUS (from *σωλην*, a tube; and *ανθος*, *anthos*, a flower; in reference to the corolla being tubular.) Led. fl. alt. 1. p. 193. fl. ross. alt. ill. t. 26.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx 5-parted. Corolla tubular, 5-toothed, furnished with 5 arched processes in the throat. Stamens exserted. Stigma simple. Nuts 4, depressed, echinated, adnate to the central column, towards the apex, inside. A robust, erect plant, clothed with soft hairs. Radical leaves petiolate, upper cauline ones sessile. Racemes solitary, or twin, many flowered, bractless, at first revolute, at last erect, the whole forming a terminal naked panicle. Corollas purple or blue.

1 S. circina'tus (Led. l. c. p. 194) ♃. H. Native of Altaia, in the eastern regions of the river Irtysch, also in meadows about mounts Arkaul and Dolenkara. Root thick, perpendicular, furnished with fibres. Stem erect, villous, thickness of a small finger. Radical leaves having the petioles 4-5 inches long, semi-cylindrical, channelled above, striately furrowed beneath, with membranous edges beset with adpressed, deflexed, white hairs; the leaves oblong, sub-cordate at the base, unequal, acute or obtuse, entire, beset with adpressed hairs. Scales in the throat of the corolla oblong, obtuse, erect, with villous edges.

Circinate-racemed Solenanthus. Fl. April, May. Pl. $1\frac{1}{2}$ to 2 feet.

Cult. For culture and propagation see *Boràgo*, p. 309.

V. RINDE'RA (named by Pallas after Dr. Rinder, formerly Dean of Medicine in Moscow.) Pall. itin. 1. append. p. 486. t. F. f. 1-2. Lam. ill. t. 92. f. 3. Cynoglóssum species, Pall.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx 5-parted. Corolla with the tube a little longer than the calyx, a deeply 5-cleft limb, a naked throat, and lanceolate-acute, erect segments. Anthers nearly sessile, in the recesses between the segments of the corolla, inclosed, erect, linear, dehiscing at the sides, and subbifid at the base. Style setaceous; stigma glandular, hardly conspicuous, simple. Nuts 4, glabrous, ovate, compressed, clypeate, each surrounded by a broad membrane, (one of which, from its small size, is abortive,) fixed to the central column at the base.—A glabrous plant, with a branched root, ovate-lanceolate leaves, and terminal racemosely corymbose reddish flowers.

This genus differs from *Máttia* in the throat of the corolla being naked, that is, without vaulted processes.

1. R. tetra'spis (Pall. l. c. Led. fl. alt. 1. p. 193.) leaves oblong, or oblong-lanceolate, smoothish; flowers racemosely corymbose; corollas twice as long as the calyx, with linear segments; stamens shorter than the segments of the corolla. ♃. H. Native of Siberia. R. lævigàta, Rœm. et Schultes, syst. 4. p. 83. Cynoglóssum lævigàtum, Lin. syst. p. 157. suppl. 131. Willd. spec. 1. p. 763. Lam. ill. t. 92. f. 3. Gærtn. fruct. 1. p. 324. t. 67. f. 4. Cynogl. Rindèra, Pall. fl. ross. 2. p. 96. t. 88.—Falck, itin. 2. t. 2.—Mor. hist. 3. sect. 11. t. 30. f. 11. Stems simple. Leaves glaucous, green, soft, glabrous, dotted from minute glands, which are only seen through a lens. Pedicels and calyxes hoary. Calycine segments linear-lanceolate, reflexed when in fruit.

Four-pointed fruited Rindera. Fl. June, July. Clt. 1818. Pl. 1 foot.

Cult. See *Boràgo*, p. 309. for culture and propagation. A plant of easy culture, but of no beauty.

VI. TRICHODE'SMA (from *θριξ τριχος*, *thrix trichos*, a hair; and *δεσμος*, *desmos*, a bond; anthers bound by hairs to each other.) R. Br. prod. p. 496. Lehm. asper. 192.—Boràgo species, Lin. Juss. Lam. &c.—Boraginòides, Mœnch. meth. p. 515.—Pollìchia, Medicus, phil. bot. 1. p. 32.—Cynoglossoìdes Isnard. hist. de l'acad. par. 1718. p. 257. f. 10, 11.

Lin. syst. *Pentándria*, *Monogýnia*. Corolla subrotate, with a naked throat; limb 5-parted, having the segments subulate at the apex. Anthers exserted, furnished with 2 rows of hairs on the back, by which they adhere to each other; awns subulate, twisted. Nuts 4, 1-seeded, half immersed in the pits of a 4-winged central column, closed at the base.—Erect, hispid, annual plants, with terminal racemose or solitary pedicellate axillary flowers.

1 T. I'ndicum (R. Br. prod. 496. Lehm. asp. p. 193.) leaves narrow-lanceolate, bluntish, half stem-clasping; pedicels axillary; calycine segments auricled at the base. ⊙. H. Native of the East Indies. Boràgo I'ndica, Lin. spec. ed. 2d. p. 197. Willd. spec. 1. p. 776. Borraginoìdes sagittàta, Mœnch. menth. p. 516. Pollìchia I'ndica, Med. l. c. 1718. p. 257.—Isnard. l. c. t. 10. ed. germ. t. 9.—Pluk. alm. t. 76. f. 3. Stem hairy, gibbous at the parts where the branches rise. Leaves scabrous above, and softish beneath. Pedicels drooping. Calyx hairy. Corollas pale blue or white; with ovate, cordate-acuminated segments, which are twisted at top; throat green, marked by 5 rusty spots.

Indian Trichodesma. Fl. June, Oct. Clt. 1759. Pl. 1 foot.

2 T. Zeyla'nicum (R. Br. l. c. Lehm. asper. p. 194.) leaves lanceolate, acute, on short petioles, attenuated at the base; pedicels axillary; calyxes not auricled. ⊙. H. Native of the East Indies, and the shores of New Holland, within the tropic. Boràgo Zeylánica, Lin. mant. p. 202. Willd. spec. 1. p. 777. Jacq. coll. 3. p. 169. icon. rar. 2. t. 314. Burm. ind. p. 41. t. 14. f. 2.—Pluck. mant. 13. t. 335. f. 4. Stem purplish, canescent, scabrous at bottom, and hispid at top. Leaves scabrous above, from numerous, callous, white dots; soft beneath, without dots, scabrous on the nerves and veins. Pedicels pilose, hoary, longer than the leaves. Calyx hoary, pilose. Limb of corolla white, with a blue star.

Ceylon Trichodesma. Fl. July, Aug. Clt. 1799. Shrub $1\frac{1}{2}$ foot.

3 T. Africa'num (R. Br. l. c. Lehm. asper. p. 195.) leaves ovate-oblong, acute, petiolate, hispid from bristles; flowers racemose; calyxes not auricled. ⊙. H. Native of the Cape of Good Hope. Boràgo Africàna, Lin. spec. ed. 2. p. 197. Willd. spec. 1. p. 777. Horn. hort. hafn. 1. p. 181. Murr. fl. goett. p. 142. Burm. prod. fl. cap. p. 4. Boràgo verrucòsa, Forsk. fl. ægypt. p. 41. Borraginoìdes aculeàta, Mœnch. meth. p. 516. Pollìchia Africàna, Med. bot. beob. 1783. p. 248.—Isnard. hist. de l'acad. par. 1718. p. 257. t. 11.—Sabb. hort. 2. t. 22. Stem trichotomously branched, strigose. Flowers drooping, disposed in axillary and terminal, pedunculate racemes. Calycine segments lanceolate. Corolla fine blue, with a yellow throat; segments ovate, acuminated, spirally twisted at top. Nuts scabrous.

African Trichodesma. Fl. July, Aug. Clt. 1759. Pl. 1 ft.

4 T. lithospermoìdes (Rœm. et Schultes, syst. 4. p. 69.) leaves oblong-lanceolate, nearly sessile, attenuated at the base, with subrevolute edges; flowers axillary, pedicellate; calyxes

not auricled. ⊙. H. Native of the East Indies. Stem downy, dichotomously branched, and strigose like the leaves. Pedicels hispid: upper ones longer than the leaves. Calycine segments unequal, pilose. Corolla dark in the dried state, with subulate segments.

Lithospermum-like Trichodesma. Pl. 1½ foot.

Cult. Plants of the most easy culture. The seeds require to be reared on a hot-bed early in spring; and the plants should be afterwards planted out in the open ground about the end of May, in a warm sheltered situation.

Tribe II.

SYMPHY'TEÆ. (This tribe agrees with *Sýmphytum* in the characters given.) D. Don, in edinb. phil. journ. July, Oct. 1832. Corolla tubular, truncate, with very short lobes. Inflorescence revolute. Stamens inclosed. Nuts fixed to the bottom of the calyx.

VII. SY'MPHYTUM (from *συμφυω, symphyo*, to make unite; and *φυτον, phyton*, a plant; in reference to the healing qualities of the plant.) Tourn. inst. t 56. Lin. gen. 185. Schreb. no. 245. Juss. gen. 131. ed. Usteri. p. 142. Gærtn. fruct. 1. p. 325. t. 67. f. 4. Lehm. asper. p. 3. and 343. Schkuhr, handb. t. 30.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla cylindrically campanulate; throat furnished with 5 subulate, vaulted processes, which connive into a cone. Nuts 4, 1-celled, ovate, fixed to the bottom of the calyx, imperforated at the base.—Rough, herbaceous plants, with broad leaves and terminal, twin racemes of flowers.

§ 1. *Roots tuberous or fleshy.*

1 S. officina'lis (Lin. spec. p. 195.) stem branched, winged at top; leaves ovate-lanceolate, attenuated at the base, decurrent, very scabrous above, and hairy beneath; racemes twin, nutant, with a flower in the fork; style length of corolla; calyx acute, hairy. 4. H. Native throughout Europe and Siberia, frequent in watery places. Smith, engl. bot. t. 817. Oed. fl. dan. t. 664. Curt. fl. lond. fasc. 4. t. 18. Drev. et Hayne, t. 36. Plenck, icon. t. 76. Woodv. med. bot. suppl. 10. t. 215. Gærtn. fruct. 1. p. 325. t. 67. Sabb. hort. 2. t. 30. Blackw. t. 252. St. Hil. pl. fr. 2. t. 104. Lehm. asper. p. 351.—Petiv. brit. t. 29. f. 5.—Mor. hist. 3. sect. 11. t. 29. f. 1. Root fleshy, black outside. Stems angularly winged. Corolla yellowish-white; segments denticulated. The root of *Comfrey* abounds in a pure, tasteless mucilage, like that of *Marsh Mallow*, but according to Lewis more tenacious. Being easily obtained, it therefore may be conveniently substituted for *Marsh Mallow*, in all cases where emollients or demulcents are in use; as in irritations of the throat, intestines, and, above all, the bladder.

Var. β, pàtens (Sibth. oxon. 220.) plant stronger; flowers bluish-purple, red before expansion. 4. H. Not so common in England as the species, but more so on the Continent, and in Scotland. Sýmphytum màjus flòre purpùreo, Tabern. 559. Plenck. icon. 76. We suspect this to be a distinct species, as the habit is very different from that of the species.

Officinal Comfrey. Fl. May, Aug. Britain. Pl. 2 to 3 feet.

2 S. Bohe'micum (Schmidt, boh. no. 211.) leaves ovate-lanceolate, alternate, running into the petioles; racemes twin, erect, revolute at the apex; style exceeding the corolla. 4. H. Native of Bohemia. S. officinàle, *β*. Bohèmicum, D. Don, in Sweet, fl. gard. w. s. t. 304. Stem winged. Flowers red, or reddish purple.

Bohemian Comfrey. Fl. May, July. Clt. 1810. Pl. 1 to 1½ foot.

3 S. tuberòsum (Lin. spec. 195. Jacq. austr. 3. p. 12. t. 63.) stem simple; leaves ovate-oblong, narrowed at the base: lower ones petiolate: floral ones opposite, sessile, hardly decurrent; segments of the limb of corolla very short, obtuse. 4. H. Native of Germany, Austria, France, Spain, and Italy. It has been observed in several parts of Scotland, about the Water of Leith, and at North Marchiston, near Edinburgh. Jacq. fl. austr. t. 225. Smith, engl. bot. t. 1502. Sabb. hort. 2. t. 31. Lehm. asper. 2. p. 345.—Morr. hist. 3. sect. 11. t. 29. f. 2. S. màjus, radice tuberosa. Root whitish, composed of many thick knobs or tubers. Plant not so stiff and hairy as *C. officinàle*. The following description is given by Schimper of *S. tuberòsum* to distinguish it from *S. Zeychèri* and *S. bulbòsum*: Rhizoma oblique, thickened by scales, furnished with short, protuberant, branchlets; stem simple; leaves oblong-ovate, attenuated at the base: lower ones petiolate: upper ones approximating by pairs or opposite: floral ones somewhat decurrent; teeth of calyx linear-lanceolate, shorter than the tube of the corolla; segments of the limb of the corolla very short, reflexed. Style about equal in length to the corolla; processes of the throat inclosed.

Tuberous-rooted Comfrey. Fl. May, Oct. Scotland. Pl. 1 to 2 feet.

4 S. Zeyche'ri (Schimper, in mag. pharm. geiger. Oct. 1829, and Jan. 1830, ex Bull. phil. vol. 21. p. 443.) rhizoma and stolons tuberous; stem almost simple; leaves ovate, acute, running into the marginate petioles: floral ones approximate, or opposite, sessile; calycine segments linear-lanceolate, shorter than the tube of the corolla; corolla funnel-shaped; anthers shorter than the filaments; segments of the limb of the corolla very broad, erect, 3 times as short as the tube; processes of the throat much exserted, exceeding the style. 4. H. Native of Sicily.

Zeycher's Comfrey. Pl. 1 to 2 feet.

5 S. bulbòsum (Schimper, l. c.) rhizoma and stolons tuberous; stem simple; leaves broadly ovate-lanceolate, acute, running into the petioles: floral ones approximating by pairs, or opposite, ovate, rounded at the base, half stem-clasping; calycine teeth lanceolate: tube equalling the corolla; limb of corolla parted to the middle, with ovate, erect segments; anthers as long as the filaments; processes of the throat exserted, exceeding the style. 4. H. Native of Heidelberg, Vallais, Schliecher; Apennines, Meyer. Rchb. icon. t. 209. f. 367. Mert. et Koch. fl. allem. 2. p. 78. Bluff. and Fingash, fl. germ. suppl. 2. p. 598. Schimper, bot. zeit. 1825. no. 2. S. filipéndula, Bischoff, in bot. zeit. 1826. no. 36. S. Clùsii, Gmel. fl. bad. suppl. S. macrolèpis, Gay. in Dierbach, in Greger's journ. S. punctàtum, Gaud. fl. helv.

Bulbous-rooted Comfrey. Pl. 1 to 2 feet.

6 S. corda'tum (Waldst. et Kit. pl. hung. 1. p. 6. t. 7.) stem simple; leaves cordate, acuminated, on long petioles: floral ones ovate-lanceolate, roundish, sessile, nearly opposite; corolla ventricose, with recurved, obtuse segments. 4. H. Native of Hungary, Transylvania, and Western Iberia, in woods. Bieb. fl. cauc. 1. p. 130. Lehm. asp. 2. p. 344. S. Pannónicum, Pers. ench. 1. p. 161. Bess. fl. gal. 1. p. 152. Root tuberous, creeping, brown outside. Stem simple, hairy. Leaves large, hairy. Flowers cream-coloured, disposed in short, terminal, twin racemes.

Cordate-leaved Comfrey. Fl. May, July. Clt. 1813. Pl. 1 to 1½ foot.

§ 1. *Roots fibrous.*

7 S. orienta'le (Lin. spec. 195.) stem branched, hairy; leaves ovate-oblong, acuminated, petiolate, hairy above, and villous beneath: upper ones narrowed at the base: floral ones opposite, sessile; calyx 5-cleft, tubular at the base; segments of corolla ovate, acute. 4. H. Native of the north of Tauria; and

near Constantinople, on the banks of rivulets. Willd. enum. 1. p. 183. Sims, bot. mag. 1912. Lehm. asper. 2. p. 345. Pall. cat. fl. taur. in act. petrop. 1792. p. 306. Bieb. fl. taur. 1. p. 129.—Tourn. itin. 2. p. 243. t. 14. cor. p. 7.—Buxb. cent. 5. t. 68. Plant hairy. Corollas white, size of those of *S. officinàle*. Calycine segments linear, acute.

Oriental Comfrey. Fl. May, July. Clt. 1752. Pl. 2 feet.

8 S. Cauca'sicum (Bieb. fl. cauc. 1. p. 128.) stem branched, hairy; leaves ovate-lanceolate, attenuated at the base, half decurrent, clothed with soft hairs, canescent beneath: upper ones opposite; calyxes obtuse; limb of corolla campanulate. ♃. H. Native of Caucasus, among bushes at the river Terek, between Mosdok and Kisljar. Root branched, black. Plant hairy. Very like *S. officinàle*, but more soft. Stem angular, paniculately branched at apex. Calyx hispid. Corolla constantly blue.

Caucasian Comfrey. Fl. May, July. Clt. 1820. Pl. 2 feet.

9 S. Tau'ricum (Willd. act. scrut. berol. 3. p. 120. t. 6. f. 1. enum. 1. p. 184.) stem branched, hairy; leaves cordate-ovate, bluntish, petiolate, hairy, bullately wrinkled above: floral ones opposite, sessile; calyx 5-parted; lobes of corolla obtuse. ♃. H. Native of the south of Tauria, and Caucasus. Curt. bot. mag. 1787. S. orientàle, Bieb. fl. cauc. 1. p. 129. ?—Tourn. itin. ed. germ. 2. p. 337. t. 35. Jacq. eclog. p. 119. t. 81. Stem branched. Plant hairy. Corolla milk-white.

Var. β, bullàtum (Jacq. eclog. 119. no. 81. Horn. suppl. hort. hafn. p. 13. Ledeb. in Schrad. journ. 4. p. 60.) leaves bullate, unequal at the base; corollas rather swollen. ♃. H. Native of Caucasus. Stems dotted with red. Corolla pale yellow, or cream-coloured.

Taurian Comfrey. Fl. May, July. Clt. 1806. Pl. 1½ to 2 feet.

10 S. aspe'rrimum (Bieb. fl. cauc. 1. p. 129.) stems branched, muricated; leaves ovate, cordate, acuminated, running into the petioles, hairy above, and strigose beneath: upper ones opposite, nearly sessile; calyx muricated, acute; limb of corolla campanulate. ♃. H. Native of Caucasus and Tauria, on the margins of rivulets. Willd. enum. 1. p. 183. Curt. bot. mag. t. 929. S. ásperum, Lepechin, nov. act. petrop. vol. 14. p. 444. S. orientàle folio subrotundo aspero, flore cæruleo, Tourn. cor. p. 7. Root black. Plant tall, and very rough, but beautiful when in blossom. Stem beset with retrograde strigæ. Corollas downy outside, red before expansion, afterwards blue. Leaves broad.

Var. β, hýbridum (Loud. hort. brit. p. 54.) This is a smaller variety, and appears to be a hybrid between *S. orientàle* and *S. aspérrimum*.

Very rough Comfrey. Fl. May, Sept. Clt. 1799. Plant 5 to 7 feet.

† *Species hardly known.*

11 S. echina'tum (Ledeb. cat. hort. dorp. suppl. 1811.) leaves muricated: lower ones cordate: floral ones sessile, nearly opposite; calyx spreading, twice shorter than the tube of the corolla; stem much branched. ♃. H. Native country unknown.

Echinated Comfrey. Pl. 2 feet?

12 S. racemòsum (Stephan, in Willd. herb. ex Rœm, et Schultes, syst. 4. p. 752.) leaves ovate, sessile; racemes very long, erect. ♃. H. Native of Persia.

Racemose-flowered Comfrey. Pl.

What are Symph. læ've, Bess. cat. hort. crem. suppl. 1812? Symph. intermèdium, Fisch. cat. hort. goreinki? and *S. peregrìnum*, Ledeb. ?

Cult. All the species of *Comfrey* are extremely hardy, and will grow in any soil and situation. Some are very handsome border flowers; and are well fitted for woods or shrubberies, as they will grow under the shade of trees or shrubs. They are easily increased by dividing at the root in Spring; or by seeds, but the former mode is preferable.

VIII. COLSMA'NNIA (named after John Colsmann, a professor at Copenhagen; author of Prodromus descriptionis Gratiolæ Hafn. 1793. 8vo.) Lehm. mag. berol. ges. nat. freund. 8. p. 92. t. 4. asper. p. 3. and 356.

Lin. syst. *Pentándria, Monogýnia.* Calyx petaloid, pentagonal, 5-parted. Corolla cylindrically-campanulate, with a naked throat. Anthers sagittate, distinct. Nuts 4, 1-celled, ovate-triangular, fixed to the bottom of the calyx, perforated at the base.—A hairy plant, with yellow, pedicellate flowers, which are disposed in terminal racemes.

1 C. fla'va (Lehm. l. c.) ♃. H. Native of the Levant. Root brown outside. Stems numerous, erect, simple, beset with adpressed, yellowish, soft hairs, like all other parts of the plant. Leaves obovate-lanceolate, bluntish, attenuated at the base, silky: lower ones petiolate. Flowers pedicellate, disposed in terminal racemes, drooping before florescence, secund: lower ones furnished with lanceolate bracteas. Calyx unequal. Corollas yellow, downy outside. Style purplish.

Yellow-flowered Colsmannia. Pl. ½ foot.

Cult. This plant will answer very well as a low border flower: it will grow well in common garden soil; and will be easily propagated by dividing at the root, or by seed. As the plant is rare, some of it should be grown in pots, so that it may be protected in winter.

IX. STOMOTE'CHIUM (from στομοω, *stomoo*, to close the mouth; and εχιον, *Echion* Bugloss. This genus differs from *E'chium* in the mouth of the corolla being closed by vaulted processes.) Lehm. asper. 4. and 395.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-angled, 5-cleft. Corolla tubularly-cylindrical; throat closed by roundish, fleshy, muricated processes. Anthers oblong, inclosed. Nuts 4, 1-celled, roundish, fixed to the bottom of the calyx, perforated at the base.—A shrubby, scabrous plant.

1 S. papillòsum (Lehm. asp. p. 396.) ♄. G. Native of the Cape of Good Hope. Stem and branches angular, smooth below, and roughish above. Leaves alternate, sessile, almost half stem-clasping, linear-lanceolate, obtuse, stiff, with revolute edges, scabrous from papillæ, especially above; papillæ white, hispid in the young state. Flowers contiguous, nearly sessile, secund, small, with an ovate, hispid bractea to each, disposed in spicate racemes, terminating the branches, erect, constituting terminal panicles.

Papillose Stomotechium. Shrub.

Cult. A mixture of loam, sand, and peat, is a good soil for this shrub; and cuttings may be rooted in the same kind of soil under a hand-glass; but the surest way of increasing it, is by layering down the young shoots, having a little nick cut in each shoot so layed. Seeds are sometimes produced, by which the plant may be reared.

X. ONO'SMA (from ονος, *onos*, an ass; and οσμη, *osme*, smell; grateful to the ass.) Lin. gen. no. 187. ed. Schreb. no. 247. Gærtn. fruct. 1. p. 326. t. 67. Juss. gen. 130. ed. Usteri, p. 146. Lehm. asper. p. 4. and 366.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla tubularly-campanulate; throat naked. Anthers sagittate, connected together by the bases of the lobes. Nuts 4, 1-celled,

ovate, stony, fixed to the bottom of the calyx, imperforated at the base.—Small, suffruticose, scabrous, canescent plants, with crowded, lanceolate, or linear leaves; and terminal racemes of large, yellow, secund, usually drooping flowers.

* *Hairs or bristles stellate, rising from tubercles.*

1 O. fruticòsum (Labill. pl. syr. dec. 3. p. 10. t. 6.) stem shrubby, much branched, hoary; leaves obovate-oblong, hispid from bristles; flowers generally solitary, terminal, nutant. ♄. F. Native of Persia, in the province of Djilan; and of the Island of Cyprus, on Mount Santa Cruz. Smith, fl. græc. t. 174. Lehm. in nov. act. hafn. 1808. t. 1. asper. p. 361. Corolla twice as long as the calyx, tubular, sulphur-coloured, an inch long; teeth short, acute, reflexed. Calycine segments hispid, linear-lanceolate. Style purple. Genitals exserted.

Shrubby Onosma. Shrub 1 to 1½ foot.

2 O. angustifòlium (Lehm. asper. p. 361.) strigose; stems simple; leaves linear, canescent: lower ones sheathing: upper ones dilated at the base; flowers nutant. ♃. F. Native of Apulia, among rocks. O. cinèreum, Sieb. fl. exsic.—Sabb. hort. rom. 2. t. 32.—Column. ecphr. t. 183. f. 2. Stems solitary or numerous. Leaves bluntish. Racemes solitary or twin, terminal. Flowers nearly sessile, propped by lanceolate, acuminated bracteas, which are subcordate at the base. Calyx pilose, silky, canescent; with linear, ciliated segments. Corolla yellow, ventricose above; teeth short, reflexed.

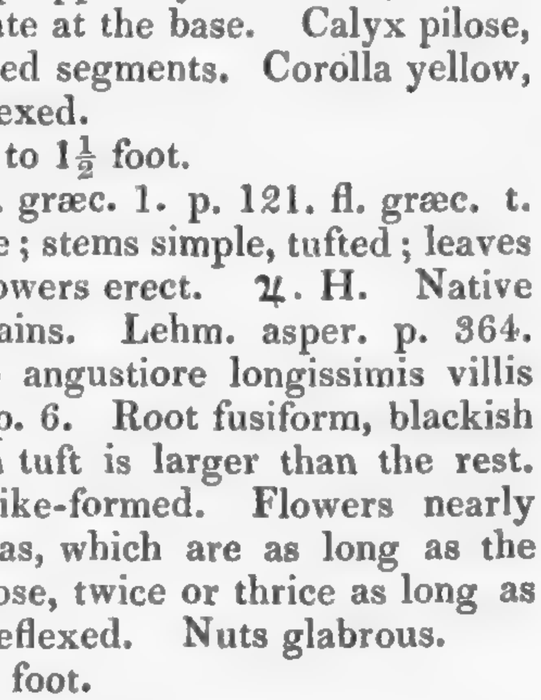
Narrow-leaved Onosma. Pl. ½ to 1½ foot.

3 O. erè'ctum (Smith, prod. fl. græc. 1. p. 121. fl. græc. t. 173.) tubercularly hispid or strigose; stems simple, tufted; leaves linear, a little broader at top; flowers erect. ♃. H. Native of Candia, on the higher mountains. Lehm. asper. p. 364. Sýmphytum Créticum, echii folio angustiore longissimis villis horrido, flore croceo, Tourn. cor. p. 6. Root fusiform, blackish brown. One of the hairs in each tuft is larger than the rest. Racemes terminal, conjugate, spike-formed. Flowers nearly sessile, propped by linear bracteas, which are as long as the calyxes. Corollas yellow, ventricose, twice or thrice as long as the calyxes; teeth obtuse, short, reflexed. Nuts glabrous.

Erect-flowered Onosma. Pl. ½ foot.

4 O. stellula'tum (Bieb. fl. cauc. 1. p. 132.) tubercularly hispid or strigose; stems aggregate; leaves lanceolate, obtuse: lower ones narrowed at the base: superior ones dilated at the base; flowers drooping. ♃. H. Lehm. asper. p. 364. Horn. hort. hafn. 1. p. 180. Stems solitary or many, from the same root. Racemes terminal, conjugate. Flowers pedicellate, propped by ovate-lanceolate bracteas. Calycine segments lanceolate-linear. Corolla citron-coloured, ventricose above; teeth bluntish, reflexed. Stigma capitate, emarginate. Nuts glabrous.

FIG. 34.



Var. α, stellulàtum (Waldst. et Kit. pl. hung. 2. p. 189. t. 173.) leaves broader, flat; the hairs less crowded than in β. Bieb. l. c. ♃. H. Native of Croatia, in the fissures of calcareous rocks; and of Caucasus, in subalpine, grassy, dry places (fig. 34.)

Var. β, Taúricum (Pall. ind. taur. in nov. act. petrop. 1792. p. 306. Bieb. fl. casp. p. 138. no. 11.) leaves narrower, with revolute edges, canescent from hairs. ♃. H. Native of Tauria, among calcareous rocks; Island of Candia and the Peloponnesus. Willd. nov. act. cur. berol. 2. p. 122. Sims, bot. mag. 889. O. montànum, Smith, prod. fl. græc. 1. p. 121. O. cinèreum, Schreber, in nov. act. nat. cur. 3. p. 474. O. orientàlis, Habl. taur. p. 116. Sýmphytum orientàle oleæ folio cinereo, Tourn. cor. p. 7.—Column. ecphr. 1. p. 182. t. 183. O. echioìdes, var. α, Lin. spec. 196. O. echioìdes, var. γ, Bieb. fl. cauc. 1. p. 131.

Starry-haired Onosma. Fl. April, June. Clt. α. 1819. β. 1801. Pl. ½ foot.

5 O. gigante'um (Lam. ill. no. 1840. Pers. ench. 1. p. 162.) tubercularly hispid or strigose; stem branched at top; leaves oblong-lanceolate: floral ones subcordate; calyxes clothed with white hairs; flowers drooping. ♃. F. Native of the Levant. Lehm. asper. p. 365. O. echioìdes, Pall. itin. 2. p. 463?. O. echioìdes, β, altíssima, Bieb. fl. cauc. 1. p. 130. fl. casp. p. 135. Rœm. et Schultes, syst. 4. p. 57. Stem erect, tetragonal. Lower leaves a foot long, attenuated at the base. Racemes terminal, solitary, or conjugate. Flowers distant, pedicellate. Calycine segments linear-lanceolate. Corolla pale yellow. Stamens inclosed. Style purple. Stigma somewhat 2-lobed. Nuts glabrous.

Giant Onosma. Fl. March, June. Clt.? Pl. 3 to 4 feet.

6 O. rígidum (Ledeb. fl. alt. 1. p. 180. fl. ross. alt. ill. t. 238.) tubercularly-hispid, or strigose; stem much branched at the base; leaves lanceolate, acute; flowers erect. ♃. F. Native of the south of Tauria, in dry, stony places, between Jursuph and Nikita. Root woody, brown. Stems many from the same root, tufted, prostrate at the base. One of the hairs in each fascicle is much longer and stiffer than the rest. Racemes terminal, solitary, or twin. Flowers pedicellate, propped by linear-lanceolate bracteas, which are as long as the calyxes. Calycine segments linear-lanceolate, acute. Corolla pale yellow, swollen towards the top; teeth short, bluntish, reflexed. Stamens a little exserted. Stigma 2-lobed. Nuts glabrous. Nearly allied to *O. gigantèum*; but differs in the smaller stature, in the want of subcordate leaves, and in the flowers being erect.

Rigid-haired Onosma. Fl. Aug. Pl. ½ to 1 foot.

* * *Hairs or bristles solitary, not stellate, as in the preceding division.*

7 O. echioìdes (Lin. spec. 196.) tubercularly hispid or strigose; hairs or strigæ erect; stem much branched; leaves spatulate-lanceolate: floral ones, or bracteas, ovate-cordate; nuts glabrous, shining. ♃. H. Native of the south of Europe and Iberia, in gravelly, arid, stony places. All. pedem. 1. p. 51. Vill. dauph. 2. p. 453. Gærtn. fruct. 1. p. 326. t. 67. Desf. fl. atl. 1. p. 161. Sibth. et Smith, fl. græc. t. 172. Jacq. austr. 3. t. 295. Bieb. fl. cauc. 1. p. 131. Sut. fl. helv. 1. p. 107. Laper. abr. p. 89. D. C. syn. fl. fr. no. 2721. Baumg. fl. trans. 1. p. 127. O. echioìdes, β, Lin. spec. 197. Cerínthe echioìdes, Scop. fl. carn. ed. 2d. vol. 1. p. 129. Lin. spec. ed. 1. vol. 1. p. 137. Hort. cliff. p. 48. no. 1.—Plenck, icon. t. 81.—Gmel. sib. 4. p. 76. no. 18. t. 40.—Sabb. hort. rom. 2. t. 32.—Mor. hist. 3. sect. 11. t. 27. f. 1.—Anchùsa lùtea, Dalech. hist. 1102. Sým-

FIG. 35.

phytum echii folio ampliore, radice rubrâ, flore luteo, Tourn. inst. p. 138. Root brownish-red, woody. Stems numerous, diffuse. Radical leaves crowded, tapering into the petioles; cauline ones sessile, broader. Racemes terminal, conjugate. Flowers drooping, pedicellate. Calyx very hispid, with linear-lanceolate, equal segments. Corolla pale yellow, swollen above; teeth recurved, acute. Anthers a little exserted. Stigma obtuse, emarginate. (fig. 35.)

Var. β, *arenàrium* (Lehm. asper. p. 367.) flowers oblique; corolla cylindrically clavate: lower leaves lanceolate, obtuse; fruit erect; stamens very smooth. 4. H. Native of Hungary, in sandy places. O. arenàrium, Waldst. et Kit. hung. 3. p. 308. t. 279. Schultes, fl. austr. no. 764.

Var. γ; branches shorter; leaves narrower. Bieb. l. c. 4. H. Native of Caucasus, in the Caspian desert; and at the lower Volga.

Var. δ; plant dwarf, branched; hairs of the stem and leaves whitish; corollas pale. Bieb. l. c. 4. H. Native of the south of Tauria, on stony hills.

Bugloss-like Onosma. Fl. May, June. Clt. 1683. β. 1804. Pl. 1 to 1½ foot.

8 O. echina'tum (Desf. fl. atl. 1. p. 161. t. 43.) tubercularly hispid or strigose; hairs or strigæ spreading; stem branched at top; leaves narrow-lanceolate: floral ones linear-lanceolate; nuts tubercularly wrinkled. ♂. H. Native of Barbary, in sandy deserts near Cafza. Lehm. asper. p. 368. Plant hispid from numerous white, pungent hairs. Radical leaves running into the petioles at the base: cauline ones sessile. Racemes terminal. Flowers pedicellate. Calycine segments linear-lanceolate, bluntish. Corolla yellow, a little longer than the calyx, tubularly campanulate; teeth reflexed.

Echinated Onosma. Pl. ½ to 1 foot.

9 O. setòsum (Led. fl. alt. 1. p. 181. fl. ross. alt. ill. t. 196.) tubercularly hispid; bristles or strigæ spreading; stem branched at top; leaves glabrous beneath, except the midrib: lower ones dilated at top: floral ones, or bracteas, ovate; nuts reticulately wrinkled. 4. H. Native in the plains about the Caspian Sea; and near Astrachan. Root simple, perpendicular, covered with violaceous bark. Superior cauline leaves lanceolate. Racemes terminal, solitary, or conjugate. Flowers pedicellate, drooping, at first approximate. Calycine segments lanceolate, acute. Corolla yellow, widened a little at apex; teeth short, reflexed. Anthers nearly inclosed.

Bristly Onosma. Pl. 1 foot.

10 O. tinctòrium (Bieb. fl. casp. append. p. 136. fl. cauc. 1. p. 132.) tubercularly-hispid, or strigose; hairs or strigæ spreading; stem much branched; leaves lanceolate: superior ones dilated at the base; filaments very short. 4. H. Native of Tauria, in pastures in the vicinity of the Bosphorus. Lehm. asper. 370. Root simple, blackish, covered with copious red pigment, which stains paper a violet-colour. Leaves with revolute edges; radical ones very long, narrow-lanceolate, obtuse, narrowed towards the base: cauline ones sessile. Racemes terminal, and from the axils of the upper leaves, pedunculate. Flowers on short pedicels, propped by ovate bracteas. Calyx very pilose, hoary at length, hispid: with linear-lanceolate segments. Corolla yellow; teeth bluntish, erectly spreading. Stigma capitate. Nuts glabrous, shining, marbled.

Var. α; corollas at first white, then citron-coloured. Bieb. l. c. 4. H.

Var. β; corollas at first white, then violaceous. 4. H. Native of Caucasus, in plains at the river Terek; and in fields at the river Don.

Dyer's Onosma. Fl. April, July. Clt. 1826. Pl. ½ to 1 foot.

11 O. rupe'stre (Bieb. fl. cauc. 1. p. 132.) tubercularly hispid, or strigose; hairs or strigæ spreading; stems very simple, livid; leaves linear-lanceolate, bluntish, glabrous beneath, except the midrib. 4. H. Native of Iberia, on rocks about Tiflis. Lehm. asper. p. 370. O. tenuifòlium, Willd. spec. 1. p. 775. Stems aggregate, ascending. Leaves rather revolute on the edges. Radical leaves 3-6 inches long, attenuated at the base: cauline ones sessile: upper ones linear, dilated at the base. Racemes terminal, conjugate, or ternate. Flowers pedicellate, bracteate. Calycine segments linear. Corolla somewhat ventricose; teeth ovate, acutish, erectly spreading, at length reflexed. Stamens inclosed; anthers longer than the filaments. Nuts glabrous, shining, marbled.

Rock Onosma. Fl. April, June. Clt. 1819. Pl. ½ to 1½ foot.

12 O. saxa'tile (Pall. itin. 3. append. no. 72. t. F. f. 1. Lehm. asper. p. 371.) tubercularly-hispid, or strigose; bristles or strigæ spreading; leaves narrow-lanceolate, obtuse; racemes very long; tube of corolla filiform, very long; limb wide. 4. H. Native of Siberia, in rocky, arid places. Anchùsa saxátilis, Lam. ill. no. 1822. Root perpendicular, simple. Flowers on short pedicels, propped by bracteas. Calycine segments linear, connivent. Corolla salver-shaped, downy outside; limb small, funnel-shaped, 5-cleft: lobes roundish. Nuts ovate, gyrose.

Rock Onosma. Pl. 1 foot?.

13 O. divarica'tum (Lehm. asper. p. 372.) hispid or strigose; hairs or strigæ spreading, pellucid; stem branched; branches divaricate; leaves lanceolate, attenuated at both ends; racemes leafy. ⊙. H. Native in sandy places, towards the Caspian Sea. O. orientàlis, Pall. itin. 2. append. no. 100. in a note. Root perpendicular. Leaves sessile, strigosely ciliated; radical ones opposite. Flowers pedicellate, distant, bracteate. Calycine segments linear-subulate. Corolla having the tube cylindrical, almost as long as the calyxes, thickened under the limb, clothed with fine villi; limb short, 5-cleft: lobes obtuse. Stamens inclosed. Nuts ovate, subtrigonal, wrinkled.

Divaricate Onosma. Fl. April, June. Clt. 1818. Pl. ½ to 1 foot.

14 O. micra'nthos (Pall. itin. 2. append. no. 100. t. L.) stem branched, divaricate; leaves all on long petioles, hoary and hispid beneath, naked above; racemes terminal, compound, bractless. ⊙. H. Native of Siberia, at the Irtysch; also between the Jaik and Volga, in sandy places. Lam. ill. no. 1840. Willd. spec. 1. p. 775. Lehm. asper. p. 373. Ledeb. fl. alt. 1. p. 182. Root simple, perpendicular, yellow. Stems nearly glabrous. Leaves ovate-oblong. Panicles subdichotomous. Corolla small, purplish, contracted and 5-toothed at the mouth. Anthers inclosed. Nuts naked, oblong-linear, triquetrous, hispid. This species differs from all others in the leaves being on long petioles; in the racemes being terminal, compound, and bractless.

Small-flowered Onosma. Pl. ½ to 1 foot.

15 O. rostella'tum (Lehm. asper. p. 374.) hispid or strigose; leaves lanceolate, attenuated at both ends, hispid from pili or strigæ; flowers erect; corollas cylindrical, deeply 5-cleft: with subulate, conniving segments; stamens exserted. 4. H. Native of the Levant, where it was gathered by Tournefort. Stem erect, branched at top. Leaves sessile, strigosely ciliated on the margins. Racemes terminal, 2-3-flowered, somewhat capitate. Flowers on short pedicels, bracteate. Calycine segments linear-subulate. Corolla tubular, cylindrical, 5-cleft, length of calyxes.

Beaked Onosma. Pl. ½ foot?.

16 O. Syrìacum (Labill. pl. rar. syr. dec. 3. p. 8. t. 5. β. f. 5.) pilose; leaves ovate-lanceolate, denticulated, pilose, or strigose; racemes many-flowered; corollas cylindrical, 5-toothed: teeth reflexed; anthers exserted. ♃. H. Native of Syria, near Tripoli. Lehm. asper. p. 375. Leaves sessile, glandularly denticulated, ciliated. Flowers longer than the pedicels. Calycine segments linear, acute. Corolla blue, 5-cleft; segments acute. Nuts small, muricated, ex Labill.

Var. β; leaves narrow-lanceolate.

Syrian Onosma. Pl. 1 to 1½ foot.

17 O. orienta'le (Lin. spec. 196.) leaves lanceolate: superior ones ovate, hispid from pili or strigæ; racemes few-flowered; corolla cylindrical, drooping, 5-toothed: teeth erect; anthers inclosed. ♃. H. Native of the Levant. Lehm. asper. p. 376. nov. act. soc. reg. hafn. l. c. t. 2. Willd. spec. 1. p. 773. O. frutéscens, Lam. ill. no. 1837. Cerínthe orientàlis, Lin. amœn. 4. p. 267. no. 16. Sýmphytum orientàle quartum, echii folio minore, flore nunc albo, nunc flavescente, Tourn. cor. p. 6. Stems many, rising from a short, woody stipe. Lower leaves sessile: upper ones half stem-clasping. Racemes terminal, twin, 2-3-flowered. Flowers on short pedicels, propped by lanceolate bracteas. Calyx hispid; segments lanceolate, acute, spreading. Corolla yellow, twice as long as the calyx; teeth lanceolate, acute, spreading. Style purplish; stigma subcapitate.

Eastern Onosma. Fl. May, June. Clt. 1752. Pl. ½ foot.

18 O. simplici'ssimum (Lin. spec. 196. mant. 333.) stems much branched at the base; sterile branches prostrate: floriferous ones erect; leaves linear, acutish, strigose, silky, and canescent beneath; corolla clavate or ventricose: teeth reflexed. ♃. H. Native of Siberia, Iberia, and the plains of the river Don. Bieb. fl. cauc. 1. p. 133. fl. casp. append. p. 137. Lehm. asper. 377. Curt. bot. mag. 2248. Ledeb. fl. alt. 1. p. 183. Pall. ind. fl. taur. in nov. act. petrop. 1792. p. 306. O. Sibíricum, Lam. ill. no. 1836. O. símplex, Gærtn. fruct. 1. p. 325. Branches simple. Leaves crowded, sessile, half stem-clasping. Racemes twin, terminal. Flowers on short pedicels, propped each by an erect, cordate bractea. Corolla ventricose, inflated above, pale yellow, contracted at the mouth. Stamens inclosed. Stigma capitate, somewhat 2-lobed.

Very simple-stemmed Onosma. Fl. April, June. Clt. 1768. Pl. ½ to 1 foot.

19 O. Gmelìni (Ledeb. fl. alt. 1. p. 184. fl. ross. alt. ill. t. 280.) tubercularly hispid or strigose; hairs or strigæ spreading; stems simple, ascending; cauline leaves spatulate-lanceolate, rounded at apex: floral ones, or bracteas, ovate-lanceolate, acute; corolla twice as long as the calyx; anthers exserted. ♃. H. Native of Siberia, frequent among rocks between Butakowa and Tscheremschamka; and from Buchtarminsk, even to the lake called Noor Saisan.—Gmel. sib. 4. p. 76. no. 18. t. 40. Stems many, from the same root. Racemes terminal, twin, rarely 3. Calycine segments linear-lanceolate, acute, very hispid. Corolla pale sulphur-coloured, a little contracted at top; teeth ovate, acute, reflexed. Nuts wrinkled.

Gmelin's Onosma. Pl. ½ to 1½ foot.

20 O. polyphy'llum (Ledeb. fl. alt. 1. p. 182. fl. ross. alt. ill. t. 24. Spreng. syst. 1. p. 550.) silky; hairs prostrate or adpressed; stems tufted; floriferous branches simple, erect; leaves crowded, oblong-linear, nerveless, with revolute margins; flowers drooping; corolla clavate, with a 5-toothed mouth. ♃. H. Native of the South of Tauria, among calcareous rocks. Leaves erect, 2-3 inches long, linear, or lanceolate-linear, acute, attenuated towards the base, silky on both surfaces: lower ones crowded: superior ones more remote, broadest at the base. Racemes terminal, conjugate, many-flowered. Flowers pedicellate, bracteate. Calyx about the length of the bracteas, with linear segments. Corolla sulphur-coloured; teeth ovate, acutish, reflexed. Tips of anthers exserted. Stigma 2-lobed. Nuts ovate, beaked, glabrous, shining.

Many-leaved Onosma. Pl. ½ to 1 foot.

21 O. trine'rvium (Lehm. asper. 378.) stem quite simple, leafy; leaves linear-lanceolate, very long, acute, 3-nerved, hispid above, and clothed with incumbent hairs beneath. ♃. S. Native of tropical America. Stem hispid from pili, divided into racemes at top. Leaves sessile. Racemes terminal, bracteate; bracteas linear-lanceolate, longer than the calyxes. Calycine segments linear-lanceolate. Corolla pilose outside, pale yellow, with a 5-toothed mouth. Anthers pilose, inclosed. Style purplish; stigma capitate. Nuts ovate, obtuse, glabrous, shining.

Three-nerved-leaved Onosma. Clt. 1824. Pl. 1 foot.

22 O. seríceum (Bieb. fl. cauc. 1. p. 133.) stems branched; leaves petiolate, oblong-lanceolate, acute, canescent, clothed with silky hairs: hairs prostrate or adpressed; corollas twice as long as the calyx. ♃. H. Native of Iberia, on rocky mountains in the vicinity of Tiflis. Willd. spec. 1. p. 774. Lehm. asper. p. 379. Stem woody at the base, clothed with white down. Leaves silky: radical and lower cauline ones petiolate: superior ones sessile, spatulately-lanceolate. Racemes terminal, and from the axils of the superior leaves, clothed with silky villi, bracteate. Flowers pedicellate. Calycine segments lanceolate, acute, of which 2 are often combined, almost to the apex. Corolla twice as long as the calyx, wide at top, villous outside; teeth reflexed. Anthers inclosed, connected at the base. Style purplish; stigma subcapitate. Nuts not seen.

Silky Onosma. Fl. June, July. Clt. 1752. Pl. ½ to 1 foot.

23 O. tricerospe'rmum (Lag. nov. gen. et spec. p. 10.) strigose; flowers drooping, longer than the calyx; nuts 3-horned. ♃. H. Native of Spain, very common about Madrid, Pedro, Munnoz, Tobosa, Albacele, and elsewhere; in New Castile; also in Murcio, by way sides, and in waste places, where it is called *Ojo de Lobo*. This species differs from all others in the 3-horned nuts.

Three-horned-fruited Onosma. Fl. April, June. Clt. 1824. Pl. ½ foot.

24 O. macroce'phala (D. Don, prod. fl. nep. p. 99.) very hispid from strigæ; leaves lanceolate, acute, soft beneath, 3-nerved: stem ascending, simple; racemes aggregate, terminal; calycine segments linear-plumose, longer than the corolla; genitals inclosed. ♃. F. Native of Sirinagur, where it is called *Lalgiri* by the natives. O. bracteàtum, Wall. fl. ind. 2. p. 13. Leaves soft and silky beneath, but hispid above. Racemes short, glomerate. Bracteas ovate, cuspidate, equal in length to the calyxes. Corolla tubular, yellow, silky outside.

Large-headed Onosma. Pl. 2 to 3 feet.

25 O. Emòdi (Wall. fl. ind. 2. p. 11.) procumbent, strigose; bristles or strigæ spreading; leaves lanceolate, triple-nerved, less hairy beneath; racemes terminal, solitary; bracteas linear, not half so long as the flowers; calyx 5-cornered, with ovate segments; corolla ventricose, 5-keeled, contracted towards the mouth; anthers longer than the filaments, inclosed; style exserted: stigma annular. ♃. F. Native of Nipaul, in Gosaingsthan, where it is called by the natives *Maharanga*. Root branched, covered with deep purple bark. Stem slender, divided into simple branches at top. Leaves sessile, varying in size, mostly lanceolate, 3-5 inches long. Racemes 2 inches long. Corolla pale bluish, the base inverted over the ovarium; segments ovate, acute. Filaments inserted in as many villous protuberances. Nuts dotted and tubercled, keeled on the inner

side, ending in a compressed, short beak. The root is used as a material for dyeing blue, and is imported from Gosainsthan; probably also from Thibet as a drug, under the native name *Maharanga*, meaning in Sanscrit a strong, intense colour.

Emodi Onosma. Fl. Aug. Dec. Pl. 1 to 2 feet.

26 O. vestìtum (Wall. cat. no. 937.) stems simple, erect, densely clothed with spreading, yellowish hair; leaves lanceolate, acute, clothed with soft, silky pili: radical ones crowded; racemes terminal, and from the axils of the upper leaves, subcorymbose; pedicels as long as the flowers, and are, as well as the calyxes, densely clothed with pili; corolla swollen, with a contracted, 5-toothed mouth, twice as long as the calyx; anthers inclosed. ♃. H. Native of Nipaul, in Gosaìnsthan. Stems many, from the same root. Calycine segments linear-lanceolate. Corolla apparently purple, with reflexed teeth.

Clothed Onosma. Pl. 1½ foot.

27 O. hi'spidum (Wall. cat. no. 938.) hispid from long strigose pili; leaves long-lanceolate, bluntish, sessile: upper ones elliptic or ovate-lanceolate; racemes terminal, and from the axils of the upper leaves; corolla twice as long as the calyx, tubular, widened towards the top. ♃. H. Native of Kamaon. Stems simple, many from the same root. Calyx, pedicels, and bracteas very hispid. Calycine segments linear-lanceolate. Corolla yellow or purplish ?. Style exserted.

Hispid Onosma. Pl. 1½ to 2 feet.

28 O. bi'color (Wall. cat. no. 939.) hispid from white, strigose pili; stem branched at top; leaves elliptic-lanceolate, tapering to both ends: radical ones subspatulate, 3-nerved; racemes terminal, solitary, or twin; bracteas and calycine segments ovate-acuminated; flowers nearly sessile; corolla swollen, contracted at the mouth, half as long as the calyx? two-coloured. ☉. H. Native of the East Indies. Radical leaves rosulate.

Two-coloured-flowered Onosma. Pl. 1 foot.

Cult. All the species of this genus are extremely handsome when in blossom. Most of them being natives of rocks or sandy deserts, they answer well to be grown on rockwork, or on wall tops, in which situations the seeds should be sown, where the species will afterwards maintain themselves if allowed to scatter their seeds. In common they are short-lived and apt to rot. They do, however, very well in pots, among other alpine plants; and cuttings of them may be rooted under a hand-glass.

XI. ONOSMO'DIUM (so called from its similarity to *Onósma*.) Michx. fl. bor. amer. 1. p. 132. Pursh. fl. amer. sept. 1. p. 132. Púrshia, Lehm. asp. p. 4. and p. 382. Lithospérmum species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla tubularly campanulate, with a naked throat; limb ventricose; segments conniving. Stamens inclosed; anthers sagittate, distinct. Style exserted. Nuts 4, 1-celled, turgid, shining, fixed to the bottom of the calyx, imperforated at the base. —Hispid, herbaceous plants, with terminal, drooping racemes, of white or cream-coloured flowers.

1 O. hi'spidum (Michx. fl. amer. bor. 1. p. 133.) hispid; leaves obovate-lanceolate, acute; segments of corolla subulate, acute. ♃. H. Native from New York to Carolina, on dry limestone rocks. Pursh, fl. 1. p. 132. Lithospérmum Virgínicum, Lin. spec. p. 190. Willd. spec. 1. p. 752. Lam. ill. p. 397. no. 1783. Mill. dict. no. 2. Púrshia híspida, Lehm. asper. p. 382.—Mor. hist. 3. p. 447. sect. 11. t. 28. f. 3. Leaves dotted from papillæ. Racemes short, revolute. Flowers yellowish-white, similar to those of *Sýmphytum.*

Hispid Onosmodium. Fl. June, Aug. Clt. 1759. Pl. 1 foot.

2 O. mólle (Michx. l. c. t. 15. Pursh, l. c.) plant clothed with white villi; leaves oblong-ovate, somewhat triple-nerved; segments of corolla suboval, obtuse. ♃. H. Native of the western counties, from Pennsylvania to Tennessee. Lithospérmum Caroliniànum, Lam. ill. 1. p. 397. Púrshia móllis, Lehm. asp. 383. Lithospérmum mólle, Muhl. cat. pl. amer. p. 19. Leaves approximate, acutish. Racemes short, terminal, nodding. Calycine segments acute. Corollas white.

Soft Onosmodium. Fl. June, Aug. Clt. 1812. Pl. 1 foot.

3 O. sca'brum (Rœm. et Schultes, syst. 4. p. 57.) leaves elliptic, somewhat triple-nerved, scabrous, obtuse; hairs adpressed, somewhat tubercular at the base; segments of corolla acuminately subulate, acute. ♃. H. Native of Virginia?: and on hills in the prairies of the Red River, and on the uplands of the Arkansas, frequent. Flowers axillary at the tops of the stems, on short pedicels. Calycine segments linear-lanceolate, acute, one-half shorter than the corolla. Corollas testaceous in the dried state, smaller than those of *O. híspidum.*

Scabrous Onosmodium. Pl. 1 foot.

4 O. strigòsum; stem nearly simple, erect; leaves lanceolate, 3-nerved, hispid from strigæ; corolla tubularly clavate, clothed with strigose down: lobes acute. ♃. F. Native of Mexico, in meadows near Pascuaro. Onósma strigòsum, H. B. et Kunth, nov. gen. 3. p. 93. Stem very hispid. Leaves acute, 2 inches long, and ½ an inch broad. Racemes terminal, twin, leafy, nearly 2 inches long. Calyx hispid, with lanceolate, linear, acuminated segments. Corolla white, a little longer than the calyx. Very nearly allied to *Onosmòdium mólle.*

Strigose Onosmodium. Pl. 1 foot.

Cult. See *Onósma* p. 316, for culture and propagation.

XII. PULMONA'RIA (so named from its being supposed to be a good remedy in disorders of the lungs (pulmones); or, according to some, from the spots on the leaves resembling those on some diseased lungs.) Tourn. inst. t. 55. Lin. gen. no. 184. Juss. gen. p. 130. Schreb. gen. no. 244. Lehm. asper. p. 3. 275.—Cerinthoìdes, Bœrh.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft, prismatically pentagonal, but campanulate while in fruit. Corolla funnel-shaped, with a pervious pilose throat. Nuts 4, 1-celled, turbinate, fixed to the bottom of the calyx, imperforated at the base.—Herbaceous plants with spotted leaves, and terminal corymbose racemes of flowers. Radical leaves petiolate; cauline ones sessile.

1 P. officina'lis (Lin. spec. 194.) calyx length of the tube of the corolla; leaves scabrous; radical ones ovate-cordate, cauline ones ovate-oblong, sessile. ♃. H. Native throughout Europe and Caucasus, in shady woods. Found by Mr. Goodyer in a wood by Holbury-House, in the New Forest, Hampshire; and in Flintshire, on the ruins of the monastery of Maes Glas. Smith eng. bot. t. 118. Oed. fl. dan. t. 482. Drev. et Hayne, t. 14. Plenck. off. t. 73. Woodv. med. bot. 2. t. 212. Svensk, bot. 3. t. 135. Blackw. t. 376. Sabb. hort. 2. t. 26. Ludw. eat. t. 45. P. altera, Matth. 1040. Cam. epit. t. 784. P. maculòsa, Lob. obs. 317 icon. 586. P. latifòlia maculàta, Park. par. 251.—Mor. hist. 3. sect. 11. t. 29. f. 8. P. Italorum ad Buglossum accedens, Tourn. inst. p. 136. Root thick, black. Leaves spotted with white, scabrous from strigæ. Flowers terminal. Calyx hairy, brownish-green, with lanceolate acute segments. Corollas red before expansion, then violaceous. The leaves, which are the part recommended in medicine, have no peculiar smell; but in their recent state manifest a slightly astringent and mucilaginous taste; hence they are supposed to be demulcent and pectoral, and have been used in hemoptoes, tickling coughs, and catarrhal defluxions upon the lungs. The name of *Pulmonària* seems, however, to have arisen rather from

the speckled leaves of some species, than from any intrinsic quality which experience has discovered to be useful in pulmonary complaints. Most plants of the order are more mucilaginous than this, which, according to Linnæus, when burnt, affords frequently one-seventh of its weight in ashes.

Var. β, albiflòra; flowers white. ♃. H. Native of Europe. P. vulgaris latifòlia flore albo, Bauh. pin. 259. Tourn. inst. p. 136.

Var. γ, immaculàta; leaves without spots, green. ♃. H. P. non maculosofolio, Clus. hist. 2. 169. 2. Bauh. pin. 260. Knor del. rom. 2. t. p. 2. Knip. cent. 1. no. 72.

Officinal Lungwort. Fl. May. Britain. Pl. 1 foot.

2 P. angustifòlia (Lin. spec. 194. fl. suec. no. 164.) calyxes length of the tube of the corolla; leaves oblong-lanceolate, or lanceolate, clothed with soft down-like hairs, cauline ones half stem-clasping. ♃. H. Native of Portugal, Hungary, Switzerland, Denmark, Sweden, and Siberia, but more rare than *P. officinàlis;* in England, in the same places as mentioned for *P. officinàlis.* Oed. fl. dan. t. 483. Smith eng. bot. t. 1628. St. Hil. livr. 40. t. 7. Lehm. asper. p. 275.—Bocc. mus. 110. t. 86.—Park. par. 248. 3. t. 251. f. 2.—Gmel. sib. 4. p. 73. no. 6.—Mor. hist. 3. sect. 11. t. 29. f. 15.—Clus. hist. 2. p. 169. icon. Stem hairy. Racemes twin, capitate. Calyx inflated, while bearing the fruit with lanceolate-acute segments. This is very nearly allied to *P. officinàlis*, and is only distinguished by the narrower spotless leaves. Corolla violaceous before expansion, and blueish-purple afterwards. There is also a variety with white flowers.

Var. γ, oblongàta (Lehm. asper. 275.) leaves a little shorter, broader, and blunter. ♃. H. Native of Europe. P. oblongàta. Schreb. in litt. P. angustifòlia, Baumg. fl. trans. 1. p. 124, Schultes, fl. austr. ed. 2nd. no 757. Lap. fl. pyr. p. 88. Gmel. fl. bad. 1. p. 424. Willd. enum. p. 105. Vill. dauph. 2. p. 451. All. ped. no. 175. D. C. syn. fl. gall. no. 2720. Sut. fl. helv. 1. p. 105. Roth. tent. fl. germ. 2. p. 212. Poll. pal. 1. p. 186.—Hall, helv. no. 596.

Narrow-leaved Lungwort. Fl. Apr. May. Britain. Pl. 1 foot.

3 P. mollis (Wulf. ex Horn. hafn. 1. p. 719. D. C. fl. fr. suppl. p. 420.) calyxes rather longer than the tube of the corolla; leaves ovate-oblong, half stem-clasping, clothed with downy tomentum: radical ones oblong-lanceolate. ♃. H. Native of Germany, Transylvania, Siberia, and the Pyrenees, in shady places. Poir. suppl. 4. p. 621. exclusive of P. angustifòlia, Pall. Baumg. fl. trans. 1. p. 125. Sims. bot. mag. 2422. Lehm. asper. p. 176. D. C. fl. fr. 6. p. 420. Rchb. icon. cent. 6. p. 4. t. 503. f. 696. P. angustifòlia, Besser, galic. 1. p. 150. exclusive of the synonymes. P. officinàlis, Patrin mss. P. officinàlis, γ, Lin. P. II. non maculoso folio Clus. hist. 2. p. 169. Knor. del. 2. t. p. 2. An intermediate plant between *P. officinàlis* and *P. angustifòlia*, covered all over with soft hairs. Peduncles shorter than the floral leaves. The recesses between the lobes of the corolla are wider than in *P. officinàlis.* Colour of flower the same as in the two preceding.

Soft Lungwort. Fl. April, May. Clt. 1805. Pl. ¾ foot.

4 P. grandiflòra (D. C. cat. hort. monsp. 1813, p. 135. icon. ined. t. 64.) calyxes length of the tube of the corolla; stamens inclosed within the tube; leaves spotted with white, downy, lower ones oblong-spatulate, superior ones ovate-cordate. ♃. H. Native country unknown; but probably of some part of Europe. P. maculàta, Diet. gart. lex. 7. p. 657. P. angustifòlia, hort. belg. P. angustifòlia, Poir. dict. 5. p. 735. ?—Mor. hist. 3. sect. 11. t. 29. f. 9. ? Flowers reddish before expansion, afterwards bluish-purple.

Great-flowered Lung-wort. Fl. April, June. Clt. 1819. Pl. 1 foot.

5 P. pube'scens (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 744.) calyxes length of the tube of the corolla; leaves mucronate, veiny-nerved, glabrous above, clothed with downy tomentum beneath; radical ones ovate-petiolate: cauline ones ovate-sessile, or cordate, half stem-clasping. ♃. H. Native of Curil Islands, where it was collected by Steller and Pallas. Peduncles naked, terminal, bearing a fascicle of flowers at the apex. Calyx hairy, with lanceolate segments.

Downy Lung-wort. Fl. Apr. June. Clt. 1821. Pl. ½ to 1 foot.

6 P. azu`rea (Besser, fl. galic, 1. p. 250. Lehm. asp. 274.) calyx hardly so long as the tube of the corolla; leaves hispid from pili: radical ones oblong-lanceolate, acuminated, tapering into the petioles: cauline ones narrow-lanceolate, sessile; limb of corolla campanulate. ♃. H. Native of Galicia, Austria, and Hungary. P. angustàta, Schrad. Bessèra azùrea, Schultes, obs. bot. p. 27. oestr. fl. 2. ed. 1st, p. 735.—Mor. hist. 3. sect. 11. t. 29. f. 5. ? Pulm. III. Austrìaca, Clus. clxix. P. Clùsii, Baumg. fl. trans. 1. p. 123. Calyx campanulate; segments unequal, acute, keeled at the base; hence it is prismatically pentagonal. Corolla tubularly campanulate; tube red, cylindrical, somewhat tetragonal at the base, attenuated in the middle; segments of the limb roundish, spreading, blue. Flowers disposed in a corymbose terminal raceme; floriferous peduncles pendulous. Bracteas similar to the cauline leaves.

Azure-blue Lung-wort. Fl. Apr. Ju. Clt. 1823. Pl. 1 foot.

7 P. tuberòsa (Schrank, cat. hort. mon. 1814.) perhaps only a slight variety of P. officinàlis. ♃. H. Native country unknown.

Tuberous-rooted Lung-wort. Fl. April, May. Clt. 1824. Pl. ¾ foot.

Cult. All the species of *Pulmonària* are very pretty plants when in blossom; and being early flowerers they are rather desirable for borders. They are of the most easy culture, and will grow in any common garden soil, and are readily increased by division. Most of the species grow well under the drip of trees, and all do best in shady situations.

XIII. MERTE'NSIA (named after Prof. Mertens, of Bremen, author of a work on marine Algæ.) Roth. cat. 1. p. 34. Pers. ench. 1. p. 161.—Pulmonària species of Lin. and others.—Lithospérmum species of Lehm.

Lin. syst. *Pentándria, Monogýnia.* Calyx short, 5-parted. Corolla funnel-shaped; throat pervious, naked, or furnished with small, fleshy processes. Anthers oblong, inclosed. Nuts 4, 1-celled, ovate, smooth or wrinkled, imperforated at the base, fixed to the bottom of the calyx.—Elegant, trailing or erect, smooth glaucous plants. Racemes panicled or subcorymbose. Flowers blue, drooping. Radical leaves increasing after florescence, petiolate; cauline ones sessile.

1 M. panicula`ta; stem erect; leaves nerved, scabrous, acuminated: lower ones ovate-cordate: superior ones ovate-oblong; flowers panicled; calyx hispid from pili. ♃. H. Native of Hudson's Bay. Pulmonària paniculàta, Ait. hort. kew, 4. p. 181. Pursh. fl. amer. sept. 1. p. 131. Lithospérmum paniculàtum, Lehm. asp. p. 289. Peduncles glabrous, terminal, and axillary; at first sub-umbellate, then racemose. Lower leaves large. Corollas blue. Nuts ovate, trigonal, wrinkled, white, longer than the calyx. There is also a variety of this with white flowers.

Panicled-flowered Mertensia. Fl. May, June. Clt. 1778. Pl. 1½ foot.

2 M. Dahu`rica; stem erect; leaves obsoletely nerved, rather scabrous; radical ones ovate, obtuse: cauline ones lanceolate, acuminated; calyxes blunt, rather villous. ♃. H. Native of Dahuria. Pulmonària Dahùrica, Fisch. hort. gorenski. Sims. bot. mag. 1743. P. amœ`na, Stev. in litt. Lithospérmum Dahùricum, Lehm. asper. p. 296. P. grácilis, Willd. herb. ex

Rœm. and Shultes syst. 4. p. 747. Radical leaves sub-cordate, cauline ones half stem-clasping. Flowers in terminal, solitary, or conjugate racemes, blue or lilac. Peduncles from the axils of the upper leaves downy, pilose.

Dahurian Mertensia. Fl. May. Clt. 1812. Pl. 1 to 1½ feet.

3 M. pulmonarioìdes (Roth. catal. 1. p. 34.) stems erect; leaves nerved, quite glabrous: radical ones obovate-elliptic: cauline ones ovate-lanceolate, bluntish; racemes subcorymbose, many-flowered; calyxes glabrous. ♃. H. Native from Pennsylvania to Carolina, on the gravelly shores of rivers. Pulmonària Virgínica, Lin. spec. p. 194. Michx. fl. bor. amer. 1. p. 131. Pursh, fl. 1. p. 130. Horn. hort. hafn. 1. p. 179. Curt. bot. mag. 160. Mill. icon. 2. t. 212. Trew. pl. sel. t. 42. Lithospérmum púlchrum, Lehm. asper. p. 290.—Plukn. alm. t. 227. f. 6. Stem glabrous. Leaves glaucous-green, bluntish. Peduncles terminal, and from the axils of the upper leaves. Calyx small, of a greenish purple colour, as well as the peduncles and pedicels: with lanceolate, blunt, spreading segments. Corollas beautiful blue; tube villous inside at the base. There is also a white-flowered variety of this.

Lungwort-like Mertensia. Fl. March, May. Clt. 1699. Pl. 1 to 1½ foot.

4 M. margina'ta; small, glabrous, erect; leaves hispid on the margins: those on the lower part of the stem oblong-spatulate, or oblong-ovate: upper ones ovate, acute, half stem-clasping, all glabrous, glaucous, and rather fleshy; fascicles or racemes pedicellate, a little longer than the leaves, 4-5-8 or more flowered; calyx 5-parted, smooth, acute, having the segments rather hispid on the margins, about half the length of the tube of the corolla. ♃. H. Native of Louisiana; and on arid hills near the confluence of the Teeton river, Missouri. Pulmonària lanceolàta, Pursh, fl. amer. sept. 2. p. 729. Pulm. marginàta, Nutt. gen. amer. 1. p. 115. Lithospérmum marginàtum, Spreng. syst. 1. p. 541. Stem a little branched. Radical leaves petiolate; lower stem leaves sessile. Flowers subpanicled; fascicles axillary and terminal. Corolla funnel-shaped, blue, much like those of *M. Virgínica*. Leaves perfectly glabrous, except on the margins.

Marginate-leaved Mertensia. Fl. June, July. Clt. 1813. Pl. 1 foot.

5 M. Drummóndii; stems glabrous, ascending; radical leaves ovate-lanceolate: cauline ones sessile, oblong-lanceolate, callous, subdenticulated, glaucous; panicles terminal, crowded; calyx glabrous, with lanceolate, acutish, somewhat denticulated segments. ♃. H. Native of North-west America. Lithospérmum Drummóndii, Lehm. pug. 1. p. 26. Stems numerous, from the same root, ½ a foot high. Peduncles much shorter than the leaves. Corolla 3 times longer than the calyx, almost half an inch long, blue; segments rounded.

Drummond's Mertensia. Pl. ½ foot.

6 M. corymbòsa; stem erect, pilose; leaves ovate, acute, smoothish, pilose beneath and on the margins; flowers racemosely corymbose; calycine segments lanceolate-linear, elongated, acute. ♃. H. Native of North-west America. Lithospérmum corymbòsum, Lehm. pug. 2. p. 27. Stems many from the same root, fistular. Calyx hairy. Corolla funnel-shaped, blue, ½ an inch long; tube pilose inside; segments roundish.

Corymbose-flowered Mertensia. Pl. ½ to 1 foot.

7 M. Sibírica; plant glaucescent; stems erect; leaves rather fleshy, glabrous: radical ones cordate, roundish-obtuse, or broad-elliptic: cauline ones ovate, acute; calyxes glabrous; pedicels longer than the flowers. ♃. H. Native of Siberia, in woods at the river Lena; and of Kamtschatka. Pulmonària Sibírica, Lin. spec. p. 194. Willd. spec. 1. p. 770. Lithospérmum Sibíricum, Lehm. asper. p. 293. Led. fl. alt. 1. p. 177. fl. ross. alt. ill. t. 207.—Gmel. sib. 4. p. 75. no. 15. t. 39. bad. Root blackish. Stems simple, glabrous. Leaves glaucous green, like the rest of the plant: superior cauline ones sessile; all nerved: uppermost ones almost opposite. Flowers terminal, pedicellate, disposed in elongated, conjugate racemes, with a flower in the fork. Calyx small, with linear, lanceolate, acute, rather unequal segments. Corolla purplish blue; tube 3-4 times longer than the calyx, and a little longer than the limb. Style a little exserted.

Siberian Mertensia. Fl. May, July. Clt. 1801. Pl. ½ to 1½ foot.

8 M. Palla'sii; quite glabrous, pale green; stem erect, weak; leaves membranous: radical ones subcordate-ovate, bluntish: superior cauline ones ovate, acute; pedicels shorter than the flowers; tube of corolla one and a half longer than the limb, and 3 times longer than the calyx; style shorter than the corolla. ♃. H. Native of the Altaian mountains. Pulmonària bracteàta, Willd. herb. ex Schultes, syst. 4. p. 747. Lithospérmum Pallásii, Ledeb. fl. alt. 1. p. 176. fl. ross. alt. ill. t. 23. Stems simple, striately angular. Racemes usually twin, with a flower in the fork. Corolla funnel-shaped, fine blue, showy. Habit more slender than in *M. Sibírica*. Leaves pale green, not glaucous, membranous, not rather fleshy, broader and more numerous. Flowers larger. Calycine segments narrower. Corollas azure blue, not purplish blue; filaments longer and less dilated at apex; and the style longer than the corolla, not shorter.

Pallas's Mertensia. Fl. June. Pl. 1 to 1½ foot.

9 M. denticula'ta; stems erect; leaves nerved, almost glabrous, acute, with denticulately scabrous edges; radical leaves ovate: cauline ones oblong; calycine segments oblong, with denticulated margins. ♃. H. Native of North America; also of Siberia. Pulmonària Sibírica, Pursh, fl. amer. sept. 2. p. 729. exclusive of the synonymes. Lithospérmum denticulàtum, Lehm. asper. p. 294. Stems many from the same root, glabrous. Leaves pale green, beset with callous dots above. Petioles stem-clasping at the base; cauline leaves half stem-clasping. Peduncles terminal, corymbose, many-flowered, elongating after florescence. Calyx short. Corolla blue, like those of *M. Sibírica*.

Denticulated Mertensia. Fl. May, June. Clt. 1800. Pl. ½ to 1 foot.

10 M. simplicíssima; stem erect, quite simple; leaves ovate-oblong, acuminated, rather undulated, glabrous; calycine segments rough, rugose, undulated. ♃. H. Native of Eastern Siberia. Pulmonària simplicíssima, Ledeb. obs. bot. in act. nov. acad. sc. petro. 5. p. 518. no. 5. Lithospérmum simplicíssimum, Lehm. asper. p. 295. Stem glabrous. Leaves approximating by pairs, or tern. Peduncles terminal, and from the axils of the upper leaves, solitary, at length elongated; the lower ones sometimes 2-flowered, with one of the flowers sessile, and the other pedicellate. Calycine segments lanceolate-linear, acuminated. Corolla blue? twice as long as the calyx, smaller than any other species of the genus; tube a little narrower than the limb, ex Ledeb. l. c.

Very simple-stemmed Mertensia. Pl. ¾ to 1½ foot.

11 M. villósula; stem erect; leaves cordate-ovate, acuminated, nerved, almost glabrous above, but silky beneath from incumbent pili, and villous on the margins; calyxes villous. ♃. H. Native of the Carpathian mountains. Lithospérmum villósulum, Lehm. asper. p. 288. Stems smoothish. Lower leaves on long petioles, 7-nerved; upper ones sessile, ovate, and more acuminated, 5-nerved. Racemes terminal, bifid. Pedicels nutant, and are, as well as the peduncles, villous. Calycine segments lanceolate, acuminated, ciliated with longer villi on the margins. Tube of corolla a little longer than the calyx, constricted under the limb.

Villous Mertensia. Pl. ½ to 1 foot.

12 M. pilòsa ; stems erect, more or less rough from strigæ, like the upper surfaces of the leaves, but the under surfaces of the leaves, and margins, and bases of the stems are beset with longer, softer, strigose pili ; radical leaves on long petioles, subcordate-ovate, acute, membranous : cauline leaves sessile, narrower ; racemes cymose, panicled, terminal, twin. ♃. H. Native of America, in Eschscholz Bay, beyond Beering's Straits. Stems simple or branched, many from the same root. Radical leaves 3½ inches long, and 2 broad. Pedicels drooping. Calycine segments narrow-lanceolate, acuminated. Corolla 1 to 1½ inch long, pale blue, glabrous outside, but pilose inside ; tube slender ; limb campanulate ; throat furnished with minute, arched, glandular, fleshy processes. Nuts granular, wrinkled. Small fleshy processes of the throat have been observed in this, *M. denticulàta*, *M. marítima*, and *M. Dahùrica*.

Pilose Mertensia. Pl. 1½ to 2 feet.

13 M. parviflòra ; plant quite glabrous, glaucous ; stems procumbent, much branched ; leaves oval-spatulate, abruptly acuminated, fleshy ; peduncles lateral, 1-flowered ; corolla hardly twice as long as the calyx. ♃. H. Native of New England and Canada, on the sea shore. Pulmonària parviflòra, Michx. fl. amer. bor. 1. p. 133. Pursh, fl. 1. p. 131. Pulmonària marítima of all American authors. Flowers small, blue.

Small-flowered Mertensia. Fl. July. Clt. 1827. Pl. procumbent.

14 M. maritíma (Link. handb. erk. der. gew. 1. p. 58.) plant glabrous, glaucous ; stems procumbent, branched ; leaves ovate, bluntish, fleshy ; calyx glabrous. ♃. H. Native of the north of Europe, on the sea shore ; as of Britain, Norway Iceland, Greenland, Lapland, &c. Pulmonària marítima, Lin. spec. 195. Willd. spec. 1. p. 770. Smith, engl. bot. 368. Curt. fl. lond. fasc. 6. t. 18. Oed. fl. dan. t. 25. Light. fl. scot. 134. t. 7. Wahl. fl. lapp. p. 57.—Dill. hort. elth. 75. t. 65. f. 75.—Mor. hist. 3. sect. 11. t. 28. f. 12.—Plukn. phyt. t. 172. f. 3. —Pet. brit. t. 29. f. 3. Root fusiform, woody, with capillary fibres. Leaves ovate or oblong, acutish ; upper ones half stem-clasping. Flowers erect, disposed in terminal, corymbose racemes. Calycine segments oval, acutish. Corolla blue, twice or thrice as long as the calyx ; limb subcampanulate. This plant is a great ornament to the sandy sea coasts in Scotland and the north of England. The plant is by some called the Oyster plant, from the similarity of its taste to that of oysters.

Sea Mertensia. Fl. July. Britain. Pl. procumbent.

Cult. All the species of *Merténsia* are elegant, hardy border plants, much admired by gardeners for their brilliant blue flowers, which are of a reddish hue before expansion. The first twelve species do best in a peat border, but they will also grow in common garden soil ; these are best fitted for the front of flower borders. The last two species, being natives of the sea coast, require, when cultivated, to be grown in pots, in a mixture of sand and peat, or sand altogether, and placed among other alpine plants ; but to keep them in vigour, even in this situation, they require to be refreshed occasionally with salted water.

XIV. CERI'NTHE (from *κηρος*, *keros*, wax ; and *ανθος*, *anthos*, a flower ; bees are supposed to obtain wax largely from this flower.) Tourn. inst. t. 50. Lin. gen. no. 189. Schreb. gen. no. 246. Juss. gen. p. 130. ed Usteri. p. 145. Lam. ill. no. 262. t. 93. Gærtn. fruct. 1. no. 413. t. 67. f. 1. Schkuhr, handb. t. 30. Lehm. asper. p. 386.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx of 5 unequal sepals. Corolla tubular, with a naked throat. Anthers hastate, spirally twisted at the base of the lobes, where they are connected. Nuts 2, 2-celled, imperforated at the base, fixed to the bottom of the calyx.—Glabrous glaucous plants, with terminal, leafy racemes of tubularly campanulate, drooping, variegated flowers.

§ 1. *Corolla 5-toothed : teeth reflexed, or spreading.*

1 C. ma'jor (Lin. spec. 195.) stem branched ; leaves cordate-ovate, denticulately ciliated ; corollas ventricose at top, 5-toothed : teeth very short, acuminated, reflexed. ⊙. H. Native of the south of Europe, Barbary, and Siberia. Scop. fl. carn. ed. 2d. 1. p. 128. All. ped. 1. no. 176. Desf. fl. atl. 1. p. 160. Suter, fl. helv. 1. p. 106. Horn. hafn. 1. p. 180. Curt. bot. mag. t. 333. Sturm, fl. germ. 1. fasc. 12. icon. C. glàbra, Mill. fig. t. 91. D. C. syn. fl. fr. no. 2702. C. glaúca, Mœnch. meth. p. 520.—Hall. helv. no. 602.—Lob. icon 397. f. 2.—Mor. hist. 3. sect. 11. t. 29. f. 1.—Ger. emac. 538. f. 1—2.—Park. par. 521. f. 1. Stem glabrous. Lower leaves tongue-shaped, emarginate, attenuated at the base ; superior ones blunt ; the floral ones sometimes purplish-green, all fleshy, glaucous, and stem-clasping, glabrous above, densely beset with white dots, rough beneath. Pedicels shorter than the floral leaves. Corolla yellow at bottom and purple at top. This is one of the most common herbs all over Italy : hence Virgil's expression of "*Cerinthæ ignobile gramen.*" There is abundance of honey juice in the tube of the corolla, for which reason it is much resorted to by bees ; the plant is therefore peculiarly proper to be planted near Apiaries.

Greater Honeywort. Fl. July, Aug. Clt. 1596. Pl. 1 foot.

2 C. a'spera (Roth. catal. 1. p. 33.) stem branched ; leaves oblong, denticulately ciliated, rough beneath ; corolla cylindrical, 5-toothed : teeth short, acuminated, reflexed. ⊙. H. Native of Portugal, Spain, France, Italy, Transylvania, and the Islands of the Archipelago. Smith, fl. græc. t. 170. Lapey. abr. p. 88. Baumg. fl. trans. 1. p. 127. St. Hil. pl. fr. 3. t. 235. Hoffm. et Link. fl. port. 1. p. 196. D. C. syn. fl. fr. no. 2701. Lehm. asper. p. 388. C. màjor, *β*, Lin. spec. p. 196. Tratt. arch. p. 85. t. 63. C. màjor, Mill. dict. no. 1. —Mor. hist. 3. sect. 11. t. 29. f. 2.—Bauh. hist. 3. p. 602. icone. C. màjor, var. *α*, Lam. dict. no. 1. Stem glabrous, sometimes spotted. Lower leaves tongue-shaped, all obtuse and glaucous beneath, and stem-clasping and rough from white warts above ; floral ones cordate-ovate. Pedicels much shorter than the bracteas, which are sometimes coloured beneath. Corolla twice as long as the calyx, yellow, with a brownish purple tube.

Rough Honeywort. Fl. July, Aug. Clt. 1633. Pl. 1 to 2 feet.

3 C. retórta (Smith, prod. fl. græc. 1. p. 121. fl. græc. t. 171.) stem erect, branched at top ; corollas retorted, clavately cylindrical, with a constricted 5-toothed mouth : teeth spreading, acute. ⊙. H. Native of the Peloponnesus ; and of Caria, in cultivated parts of mountains. Leaves stem-clasping, somewhat spatulate, emarginate at top, with a short mucrone, beset with white warts on both surfaces, all quite entire and glaucous ; floral ones more oblong, purple beneath while young. Margins of the sepals denticulately ciliated, as in the two preceding. Corolla not above half the size of those of the preceding, with a yellow tube and a violaceous limb.

Retorted-flowered Honeywort. Fl. July, Aug. Clt. 1825. Pl. 1½ foot.

4 C. purpu'rea (Vis. in bot. zeit. 1829. p. 8.) stem erect, branched at top ; leaves stem-clasping, obtuse, glaucous, thickish, smooth, entire, spotted with white : lower leaves spatulate, attenuated at the base : superior ones cordate ; corollas conically clavate, ventricose under the throat ; limb constricted : teeth bluntly triangular, reflexed, very short. ⊙. H. Native of Dalmatia, in the woods of Boraca. Nearly allied to *C re-*

torta, Smith. The floral part of the plant is purple, fading to purplish or blue.

Purple-topped Honeywort. Pl. 1 foot.

5 C. alpi'na (Kit. in Schultes, fl. austr. ed. 2. vol. 1. p. 353. no. 751.) stem erect, hairy?; leaves ovate-lanceolate, quite entire; corollas 5-toothed: teeth bluntish, erectly spreading. ⊙. H. Native of Hungary, on the higher alps; and of the Carpathian mountains.—Mor. hist. 3. sect. 11. t. 129. f. 7.? This species differs from *C. mìnor*, in the leaves being much narrower and longer; in the calycine segments being linear-lanceolate; and in the bracteas and floral leaves being much longer and closely imbricated. Corolla yellow at bottom and violaceous at top.

Alpine Honeywort. Pl. 1 foot.

§ 2. *Corolla 5-cleft, with conniving segments.*

6 C. mi'nor (Lin. spec. 196.) stem solitary, branched; leaves cordate-ovate, quite entire, glabrous; corollas 5-cleft, with conniving segments. ♂. H. Native of Middle and South Europe, and Barbary, in fields. Scop. fl. carn. ed. 2d. 1. p. 128. All. pedem. no. 177. Vill. dauph. 2. p. 448. Roth. fl. germ. 2. p. 210. Desf. fl. atl. 1. p. 160. Jacq. fl. austr. 2. t. 124. Smith, prod. fl. græc. 1. p. 120. Lapeyr. abr. p. 88. Baumg. fl. trans. 1. p. 428. C. acùta, Mœnch. meth. p. 520.—Mor. hist. 3. sect. 11. t. 29. f. 5.—Clus. hist. 2. p. 162. icone. Root branched. Stem glabrous. Radical leaves obovate, tapering into the petioles: cauline ones all stem-clasping: lower ones of these spatulate, all glabrous and pale green, but densely beset with minute white warts above. Bracteas distinct, acutish, much longer than the pedicels, denticulately ciliated on the margins, like the sepals. Corolla ventricose, 5-cleft almost to the middle, yellow; segments lanceolate-linear.

Smaller Honeywort. Fl. June, Oct. Clt. 1570. Pl. 1 to 1½ foot.

7 C. macula'ta (Lin. spec. ed. 1. p. 137. All. ped. 1. p. 178. Bieb. fl. cauc. 1. p. 134.) stems many from the same root; leaves cordate-ovate, quite entire, glabrous; corollas 5-cleft, 5-spotted, with connivent segments. ♃. H. Native of Piedmont, Hungary, Tauria, and Caucasus. Lehm. asper. p. 393. C. mìnor, β, maculàta, Lin. spec. ed. 2d. p. 196. Willd. spec. 1. p. 772. Horn. hort. hafn. 1. p. 180. C. quinquemaculàta, Wahl. fl. carp. p. 50. no. 171. Root branched. Stems many, branched, purplish at bottom. Radical leaves oblong: cauline ones stem-clasping, emarginate, all obtuse, and glaucous. Bracteas or floral leaves acutish, finely and denticulately ciliated, like the sepals. Pedicels one-half shorter than the bracteas, pilosely hispid. Calyx and corolla like that of *C. mìnor*; but differs in the corolla being marked by 5 dark purple spots on the tube, and sometimes these spots are so close as to form a purple circle.

Spotted-flowered Honeywort. Fl. June, Oct. Clt. 1804. Pl. 1 to 1½ foot.

Cult. The seeds of all the species only require to be sown in the open ground. The *C. maculàta* is perennial, and requires to be planted in a sheltered dry situation, or the roots, which are fleshy, will be apt to rot.

Tribe III.

LITHOSPE'RMEÆ (this tribe contains plants agreeing with the genus *Lithospérmum*, in the characters indicated below.) D. Don, in edinb. phil. journ. july, oct. 1832. Corolla open, tubular, with broad, mostly rounded segments. Stamens inclosed or exserted. Nuts 4, distinct, fixed to the bottom of the calyx, imperforated at the base, except in *Stríbila*.

XV. LITHOSPE'RMUM (from λιθος, *lithos*, a stone; and σπερμα, *sperma*, a seed; in reference to the hard seeds or nuts.) Tourn. inst. t. 55. Lin. gen. no. 181. Schreb. gen. no. 241. Lam. ill. no. 255. t. 91. Gærtn. fruct. 1. no. 420. t. 67. f. 8. Schkuhr, handb. t. 29. Trev. entw. des embryo, t. 4. f. 61—67. Lehm. asper. p. 282. sect. 2. and 3. Buglossoìdes, Mœnch. meth. p. 418.—Arnèbia, Forsk. fl. ægypt. p. 62.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped, with a naked pervious throat. Anthers oblong, inclosed. Nuts 4, 1-celled, fixed to the bottom of the calyx, imperforated at the base.—Rough plants, with usually narrow leaves, and terminal white or blue flowers. Radical leaves not increasing after the plants have done flowering.

Sect. I. Leioca'ryon (from λειος, *leios*, smooth; and καρυον, *karyon*, a nut; the nuts or carpels are smooth and even.) Nuts hard, stony, glabrous, shining, in most of the species hispid, and beset with impressed dots.

§ 1. *Corolla blue, or purplish blue.*

1 L. graminifòlium (Viv. fragm. fl. ital. fasc. 1. p. 3. t. 5. ann. bot. 1. p. 163.) stems herbaceous, erect; leaves long-linear, scabrous above, but hoary and silky beneath, with revolute edges; flowers terminal, somewhat corymbose. ♃. H. Native of Italy, on the alps at Etruria, and Carrara, at the foot of the mountains. Lehm. asper. p. 297. Pulmonària suffruticòsa, Lin. spec. 1. p. 1667. Willd. spec. 1. p. 769. Lois. not. p. 37. journ. bot. 2. p. 261. Lithospérmum angustifòlium umbellàtum, C. Bauh. pin. p. 238. 517. Plukn. phyt. t. 42. f. 7.—Bocc. sic. p. 77. t. 41. f. 2. B. C.—Mor. hist. 3. sect. 11. t. 31. f. 6. bad. Plant forming a dense tuft. Stems numerous, simple, pubescently tomentose. Leaves sessile, approximate, green above: lower ones drooping: superior ones erectly spreading, all acuminated, 3-6 inches long. Flowers sessile, secund, forming 3-4 short spikes, which constitute a terminal corymb. Calyx hispid; segments rather unequal, acute. Corolla blue, tubular. Stigma subcapitate. Nuts ovate, shining. Bracteas linear, longer than the calyx.

Grassy-leaved Gromwell. Fl. May, June. Clt. 1825. Pl. ½ to ¾ foot.

2 L. purpu'reo-cœru'leum (Lin. spec. p. 190.) stems herbaceous: sterile ones creeping: floriferous ones erect; leaves lanceolate, acute, attenuated at the base, scabrous; flowers axillary and at the sides of the leaves, disposed in terminal, short, twin racemes, which are elongated at length. ♃. H. Native of Middle and South Europe; and of Caucasus, in woody mountain places; in England, as in Somersetshire, near Taunton; near Denbigh, in Wales; in chalky soil in several parts of Kent, in hedges. Scop. fl. carn. ed. 2. 1. p. 122. All. pedem. 1. no. 186. Vill. dauph. 2. p. 451. Jacq. fl. austr. 1. p. 11. t. 14. Roth. tent. fl. germ. 2. p. 214. Sut. fl. helv. 1. p. 103. Smith, engl. bot. t. 117. Gmel. fl. bad. 1. p. 415. Smith, prod. fl. græc. 1. p. 114. L. violàceum, Lam. fl. fr. 2. p. 271.—Hall. helv. no. 596.—Mor. hist. 3. sect. 11. t. 31. f. 2.—Sabb. hort. rom. 2. t. 28.—Lob. icon. 458. f. 1.—Bocc. sic. 75. t. 40. and 41.—Plukn. phyt. t. 76. f. 2. Root blackish. Stems pilose, scabrous. Leaves on short petioles, or sessile, dark green, with revolute margins, 1½ inch long. Calyx hairy, scabrous, with linear segments. Corolla showy, at first red, afterwards purple. Nuts hispid, smooth, shiny, whitish. There is a variety of this with white flowers.

Purple-blue-flowered Gromwell. Fl. May. England. Pl. 1 foot.

3 L. prostra'tum (Lois. fl. gall. 1. p. 105. t. 4.) stems suffruticose, prostrate; leaves lanceolate-linear, hispid; tube of corolla 3 times longer than the calyx, densely villous inside above. ♄. H. Native of France, in dry places, and by way

sides about Bayonne. Lapeyr. abr. p. 86. Lehm. asper. p. 300. Stems pilose, branched; branches canescent from dense pili. Leaves sessile. Flowers axillary, distant, sessile, disposed in terminal leafy spikes on the older branches. Calyx densely pilose, canescent, with subulate segments. Corolla bluish purple, size of those of *L. purpùreo-cærùleum*, downy outside. Stigma emarginate.

Prostrate Gromwell. Fl. May, June. Clt. 1825. Shrub prostrate.

4 L. FRUTICÒSUM (Lin. spec. 190.) stem shrubby, erect, much branched; leaves linear, bluntish, with revolute edges, strigosely hispid, hoary beneath; tube of corolla twice as long as the calyx. ♄. H. Native of the south of Europe; and at Algiers. Desf. fl. atl. 1. p. 155. Smith, prod. fl. græc. 1. p. 114. Lapeyr. abr. p. 86. D. C. syn. fl. fr. no. 2717. Lehm. asper. p. 301. Lois. fl. gall. 1. p. 105. Hoffm. et Link, fl. port. 1. p. 170. t. 21. L. fruticòsum, β, rosmarinifòlium, Pers. syn. 1. p. 158.—Barrel. icon. 1168. obs. 143.—Garid. aix. p. 68. t. 15.—Alp. exot. p. 69. t. 68. Branches hairy, scabrous. Leaves sessile, deep green above. Flowers distant, axillary, disposed in 5-6-flowered, terminal, leafy racemes. Calyx pilose, with linear segments. Corolla of a violet blue colour. Anthers beyond the throat. Stigma obtuse. Nuts ovate, hispid, shining, brown when ripe.

Var. β, *màjor* (Lehm. asper. p. 302.) corolla 3 times as long as the calyx; stamens about equal in length to the corolla. ♄. H. Native of Naples, in Goat's Island; and the Islands in the Grecian Archipelago, on the mountains. L. rosmarinifòlium, Tenore. syn. fl. neap. p. 33. no. 20. Lindl. bot. reg. 1736. L. fruticòsum, Smith, fl. græc. t. 161. This variety differs from the species in the larger form, longer and broader, more crowded leaves, and in the corollas being much larger.

Shrubby Gromwell. Fl. May, June. Clt. 1683. Shrub 1 to 1½ foot.

5 L. CILIA'TUM (Forsk. desc. p. 39. Vahl. symb. 1. p. 14.) stem suffruticose, erect, branched, muricately hispid above; leaves cordate-ovate, hoary, with callous, setosely ciliated edges. ♄. F. Native on the banks of canals near Cairo. Willd. spec. 1. p. 755. Lehm. asper. p. 314. Branches dichotomous, white. Leaves thick, half stem-clasping. Calycine segments lanceolate. Corolla violaceous, longer than the calyx. Nuts small, black. Spikes lateral, half an inch long.

Ciliated-leaved Gromwell. Shrub ½ to 1 foot.

6 L. CALLÒSUM (Vahl. symb. 1. p. 14.) stem suffruticose, branched, hispid; leaves lanceolate-linear, obtuse, callosely warted, strigose, very hispid; bracteas setosely ciliated. ♄. F. Native about Cairo, in deserts. Willd. spec. 1. p. 754. Lehm. asper. p. 315. L. angustifòlium, Forsk. descr. p. 39. icon. vol. 2. t. 16. f. 2. Stem covered with white bark, villous below, and hispid above. Leaves sessile, canescent while young. Flowers disposed in terminal racemes. Calyx hispid, with linear, ciliated segments. Corolla twice as long as the calyx; tube villous, red; limb violaceous, white in the middle, fading to blue; segments ovate, acutish. Nuts ovate, acute.

Var. β, *niveum* (Poir. suppl. 2. p. 836.) stems very white, with deciduous bark; leaves small, ovate-lanceolate. ♄. F.

Callous-tubercled Gromwell. Shrub ½ to 1 foot.

7 L. ARNE'BIA (Lehm. asper. p. 316. Rœm. et Schultes, syst. 4. p. 45.) stems herbaceous; leaves linear-lanceolate, obtuse, pilosely hispid; spikes solitary, terminal, secund; bracteas lanceolate. ⊙. H. Native of Egypt. Arnèbia tinctòria, Forsk. descr. p. 62—63. L. tinctòrium, Vahl, symb. 2. p. 33. t. 28. Willd. spec. 1. p. 752. but not of Lin. L. tetrastígma, Lam. ill. no. 1790. Pers. ench. 1. p. 158. Root fusiform, red. Stems simple, pilosely hispid, as well as the whole plant: lateral ones decumbent: middle ones erect. Leaves sessile: radical ones 2 inches long: cauline ones 1 inch. Calycine segments linear, bluntish. Corolla longer than the calyx, blue, with a filiform tube. Nuts obcordately triangular, smooth, shining. *Segaret el arneb* is the Arabic name of the plant.

Arnebia Gromwell. Pl. ½ foot.

8 L. MI'NIMUM (Moris, elench. sard. ex Linnæa, 5. p. 93.) hispid; stem erect, a little branched; leaves oblong-linear: lower ones spatulate; tube of corolla hairy, almost twice as long as the calyx. ⊙. H. Native of Sardinia, in arid pastures by the sea side. Corolla blue, with a yellow throat.

Least Gromwell. Fl. March, April. Pl. ½ foot.

§ 2. *Flowers white or pale yellow.*

9 L. AGGREGA'TUM (Ruiz. et Pav. fl. per. 2. p. 4.) stem herbaceous, prostrate, branched; leaves opposite, ovate, obtuse, wrinkled. ⊙. H. Native of Peru, on the hills of Tarma and Huanuco. Lehm. asper. p. 313. Plant downy. Root fusiform. Leaves on short petioles. Flowers aggregate, nearly sessile, secund, small, white. Nuts 2, ovate, smooth.

Aggregate-flowered Gromwell. Pl. prostrate.

10 L. LINEA'TUM (Lehm. asper. p. 312.) stem herbaceous, erect, branched; lower leaves obovate, obtuse: superior ones broad-lanceolate, hairy, subciliated, lined; tube of corolla twice as long as the calyx. ♃. H. Native country unknown. Stem woody at the base, branched, scabrous, hairy. Lower leaves 3-4 inches long, all lined above, with a rudiment of a branch in nearly the axils of all. Racemes terminal, leafy, at first nutant. Calyx hairy, with unequal linear segments. Corolla pale yellow; tube downy; throat furnished with 5 obtuse, glandular protuberances. Stigma capitate. Nuts hispid, shining, beset with impressed dots and lines.

Lined-fruited Gromwell. Fl. July, Aug. Clt. 1826. Pl. 1 to 1½ foot.

11 L. OFFICINA'LE (Lin. spec. p. 189. fl. suec. ed. 2d. p. 159.) stems herbaceous, terete, erect, much branched; leaves broad-lanceolate, acute, veiny, very scabrous; tube of corolla length of calyx. ♃. H. Native of Europe, Asia, and North America, on way sides, among bushes; also in waste places, in dry, gravelly, or chalky soil. In Britain it is found but sparingly in some woods. Smith, engl. bot. t. 134. Oed. fl. dan. t. 1084. Bieb. fl. cauc. 1. p. 121. Sturm, fl. germ. fasc. 5. icone. Lehm. asper. p. 310. Svensk, bot. t. 177. Hayne, term. bot. t. 21. f. 3. Woodv. med. bot. p. 134. t. 213.—Plenck. icon. t. 75.—Sabb. hort. rom. 2. t. 29.—Ludw. ect. 147.—Lob. stirp. t. 542. f. 2.—Hall. helv. no. 595. Root fibrous. Stem setosely scabrous. Leaves sessile, deep green above, and paler beneath. Flowers on short pedicels, solitary, axillary, disposed in leafy elongated racemes during florescence. Calyx hairy, with linear-lanceolate segments. Corolla pale yellow; throat furnished with 5 erect gibbæ. Nuts hispid, shining, white, hard; whence they have been celebrated in ancient times as a cure for the stone, without the least shadow of reason.

Var. β, *latifòlium* (Lehm. asper. p. 311.) seeds turgid, ovate, shining, beset with pitted dots all over; fructiferous calyx spreading, exceeding the corolla; leaves ovate-oblong, nerved. ♃. H. Native from Virginia to Kentucky, in shady woods. L. latifòlium, Michx. fl. bor. amer. 1. p. 130. Pursh, fl. amer. sept. 1. p. 131. L. officinàle, β, màjus, Willd. spec. 1. p. 751.—Sabb. hort. rom. 2. t. 29. Flowers pale yellow.

Officinal Gromwell, or Grey Mill or Millet. Fl. May, Aug. Britain. Pl. 1½ to 2 feet.

12 L. SCA'BRUM (Thunb. in Schrad. journ. 1806. p. 44. prod. fl. cap. p. 34.) stem herbaceous, angular, strict, branched; leaves narrow-lanceolate, with revolute margins, scabrous from papillæ above, rather hairy beneath; tube of corolla hardly longer than

the calyx. 4. G. Native of the Cape of Good Hope. Willd. spec. 1. p. 753. Lehm. asper. p. 309. Stem and branches hairy. Leaves sessile, bluntish, 1½ to 2 inches long. Racemes usually bifid, terminating the stem and branches; bracteas lanceolate. Corolla salver-shaped, white; throat marked by 5 obtuse gibbosities. Stigma obtuse. Nuts half ovate, acuminated, shining, white. Habit of *L. officinàlis*.

Scabrous Gromwell. Pl. 1 to 1½ foot.

13 L. ANGUSTIFÒLIUM (Michx. fl. bor. amer. 1. p. 130.) Pursh, fl. amer. sept. 1. p. 137.) stems herbaceous, procumbent; leaves linear, clothed with adpressed pubescence; flowers as if they were lateral; nuts beset with impressed dots. ⊙. H. Native of shady woods, on the banks of the river Ohio. Lehm. asper. p. 309. Flowers white. Nuts turgidly ovate, shining.

Narrow-leaved Gromwell. Fl. July, Aug. Pl. 1 foot.

14 L. STRÍCTUM (Lehm. asper. p. 303.) stem herbaceous, very simple, thick; leaves linear, acute, adpressed to the stem, strigose above, and almost glabrous beneath; spikes terminal, solitary; tube of corolla twice as long as the calyx. ⊙. H. Native of tropical America. Stem terete, canescent at top. Lower leaves ½ inch long, very blunt: upper ones 1½ inch long. Flowers on short pedicels from the axils of linear bracteas. Calyx pilose, with linear-lanceolate segments. Corolla villous outside, pale yellow. Anthers sagittate. Nuts ovate, turgid.

Straight Gromwell. Pl. 1 to 1½ foot.

15 L. CUNEIFÒLIUM (Ruiz. et Pav. fl. per. 2. p. 5. no. 4.) stems herbaceous, prostrate, hoary; leaves cuneiform, hoary; flowers sessile, axillary, solitary. ⊙. H. Native of Peru, on arid hills. Pers. ench. 1. p. 158. Lehm. asper. p. 307. Root fusiform, fibry. Stems numerous. Leaves sessile. Corolla white. Nuts ovate, acuminated, shining.

Wedge-leaved Gromwell. Pl. prostrate.

16 L. MICRA'NTHUM (Viv. fl. libyc. p. 10. t. 1. f. 4.) hispid from strigæ; leaves linear-lanceolate; flowers disposed in short, terminal, secund spikes, the whole forming a kind of cyme; hairs on the calyx spinescent when bearing the fruit; tube of corolla filiform. ⊙. H. Native of Libya, in the great Syrtus. Root simple. Stem a finger in height. Calycine segments linear, acute. Corolla yellowish green, longer than the calyx, with a naked throat. Nuts ovate, acute, convex on the back.

Small-flowered Gromwell. Pl. ½ foot.

SECT. II. DEINOSPE'RMUM (from δεινος, *deinos*, rough; and σπερμα, *sperma*, a seed; the nuts are rough.) Nuts very hard, wrinkled, callosely dotted, rough, or muricated.

§ 1. *Flowers white or yellow.*

17 L. A'PULUM (Vahl. symb. 2. p. 33.) stems herbaceous; leaves linear-lanceolate, acute, pilose; spikes terminal, secund; bracteas lanceolate; nuts muricated. ⊙. H. Native of Portugal, south of France, Italy, Samos, and other islands of the Archipelago; in the kingdom of Tunis, near Caffan; as well as of North America, in Virginia, Ohio, and Mississippi, in dry woods. Willd. spec. 1. p. 752. Sibth. et Smith, fl. græc. t. 158. Hoffm. et Link. fl. port. 1. p. 169. Pursh, fl. amer. sept. 1. p. 131. Lehm. asper. p. 317. Myosòtis A'pula, Lin. spec. 189. All. pedem. no. 192. Desf. fl. atl. 1. p. 158. Lapeyr. abr. p. 83. Myosòtis lùtea, Lam. fl. gal. 2. p. 282.—Mor. hist. 3. sect. 11. t. 28. f. 8.—Column. ecph. 1. p. 185. f. 1.—Plukn. phyt. t. 16. f. 5.—Lob. icon. t. 587. f. 1.—Buglóssum lùteum ánnuum mínimum, Tourn. inst. p. 134. Root branched. Stems rarely more than one from the same root, pilose. Leaves sessile, deep green, an inch long. Spikes 3-5 together, terminal, many-flowered. Calyx very hairy. Corolla yellow, longer than the calyx. Nuts gibbous on both sides, beaked, marked with 4 elevated submuricated lines.

Apulian Gromwell. Fl. June, July. Clt. 1768. Pl. ½ foot.

18 L. PU'MILUM (Lehm. asper. p. 319.) stems herbaceous, ascending, branched; leaves imbricate, linear, obtuse, strigosely pilose; flowers solitary, sessile, interfoliaceous; segments of the limb of corolla acute; nuts rugose. 4. H. Native of North America. Habit of *Anchùsa cæspitòsa*, but smaller. Root thick, with filiform fibres. Stems many, 2-3 inches long. Leaves crowded, an inch long, and more. Calyx pilose, with ciliated segments. Corolla yellow?; tube a little longer than the calyx.

Dwarf Gromwell. Pl. ¼ foot.

19 L. MYOSOTOÌDES (Lehm. asper. p. 319.) stems herbaceous, procumbent, filiform; leaves linear-lanceolate, pilose; flowers solitary, lateral; tube of corolla longer than the calyx; limb obtuse; nuts rugose. ⊙. H. Native of Chili, in sandy places about Conception; and at Santiago. L. tinctòrium, Ruiz. et Pav. fl. per. 2. p. 4. t. 114. L. tíngens, Rœm. et Schultes, syst. 4. p. 44. Plant pilose. Root slender, fusiform. Stems numerous; middle ones erect. Flowers on short pedicels. Calyx closed in the fructiferous state. Corolla white, exceeding the calyx.—This plant tinges paper in which it has been pressed of a violet colour.

Mouse-ear-like Gromwell. Pl. procumbent.

20 L. ARVE'NSE (Lin. spec. 190. fl. suec. no. 160. ed. 2d.) stems herbaceous, erect, branched; leaves lanceolate, narrowed at the base, acutish, hairy, subciliated; calyxes a little shorter than the corolla, spreading in the fructiferous state; nuts wrinkled, scabrous. ⊙. H. Native of Europe, Asia, Africa, and North America, in cultivated fields, and sterile or waste places; plentiful in some parts of Britain. Oed. fl. dan. t. 456. Smith, engl. bot. t. 123. Bieb. fl. cauc. 1. p. 121.—Hall. helv. no. 594.—Mor. hist. 3. sect. 11. t. 31. f. 7.—Riv. mon. tab. 9. f. 1. Root perpendicular, branched, red outside. Stem scabrous from adpressed hairs. Leaves sessile, scabrous, 1½ inch long. Flowers nearly sessile, solitary, disposed in leafy racemose spikes. Calyx hispid or pilose. Corolla white, pilose outside, with a violaceous ring inside. Nuts scabrous, black.

Var. β; flowers blue. ⊙. H. Native of Iberia. Bieb. fl. cauc. 1. p. 121.

Var. γ; flowers purplish. ⊙. H. Native of France. L. arvénse, β, D. C. fl. fr. no. 2713.

Corn-field Gromwell, or Bastard Alkanet. Fl. May, June. Britain. Pl. ½ to 1½ foot.

21 L. PLEBE'IUM (Cham. in Linnæa, 4. p. 446.) stem erect or prostrate, trichotomous at the nodi, clothed with spreading pili; leaves opposite; spikes elongated, leafy; leaves linear, or linear-lanceolate, obtuse, nearly naked above and strigose beneath, irregularly ciliated with twin pili; calyx densely pilose; nuts rugose, glabrous. ⊙. H. Native of Unalaschka and the Aleutian Islands, on the sea shore. Stems rarely solitary and erect; but generally many from the same root, and trailing. Flowers nearly sessile. The largest leaves are 3 inches long and 4 lines broad. Calyx 5-cleft or 5-parted, with lanceolate acutish segments. Corolla salver-shaped, hardly exceeding the calyx, glabrous, white or pale yellow.

Plebeian Gromwell. Pl. ½ to ¾ foot.

22 L. RUDERA'LE (Dougl. mss. ex Lehm. pug. 2. p. 28.) stem herbaceous, erect, hairy; leaves linear, acuminated, strigose; spikes leafy; corolla villous: tube length of calyx. ⊙. H. Native of North-west America. Stem angular, furrowed, branched at top. Leaves scattered, crowded, sessile. Calyx

hairy, with unequal linear segments. Corolla yellow. Flowers almost sessile. Stigma simple.

Rubbish Gromwell. Pl. 1 foot.

23 L. SCHREBERIA'NUM (Spreng. syst. 1. p. 546.) stems nearly simple; leaves all ovate, hispid: radical ones petiolate: cauline ones sessile; calyx hairy, equal in length to the tube of the corolla. ♃. H. Native of Kamtschatka. Pulmonària pùmila, Schrank.

Schreber's Gromwell. Pl. dwarf.

24 L. CRASSIFÒLIUM (Lehm. asper. p. 324.) stems herbaceous, ascending, hoary; leaves lanceolate-spatulate, obtuse, canescent from incumbent hairs; floral leaves cordate, acute, nearly glabrous; corolla a little longer than the calyx; nuts rugose. ♃. F. Native of the Levant. Stems numerous. Radical leaves petiolate: cauline ones sessile. Flowers disposed in terminal, leafy, conjugate spikes. Corolla glabrous, the colour not known.

Thick-leaved Gromwell. Pl. ½ ascending.

25 L. ORIENTA'LE (Lin. syst. ed. 12. vol. 2. p. 145.) stems ascending, herbaceous, branched from the base; leaves oblong-lanceolate, bluntish, repand, pilose: floral ones ovate-lanceolate; corollas longer than the calyxes, which droop in the fructiferous state; nuts tubercular. ♃. H. Native of the Grecian Islands; and in sandy places of Cafsa. Vahl, symb. 1. p. 14. Willd. spec. 1. p. 753. exclusive of the syn. of Forsk. Desf. fl. atl. 1. p. 153. Curt. bot. mag. t. 515. Sibth. et Smith, fl. græc. t. 160. Anchùsa orientàlis, Lin. spec. ed. 1st. p. 133. ed. 2d. p. 191.—Dill. hort. elth. 1. p. 60. t. 52. f. 60.—Buxb. cent. 3. t. 29. Root fusiform, black outside. Plant pilosely hispid. Leaves soft, pale green. Flowers golden yellow, on short pedicels, disposed in long, leafy, terminal racemes. Corolla with a cylindrical tube, which is contracted in the middle, longer than the calyx; limb short, recurvedly convex, with roundish segments, and rather elevated recesses. Nuts incurvedly gibbous, rather reniform, brown, shining. Habit of *Lycópsis lùtea*.

Eastern Gromwell. Fl. June, July. Clt. 1713. Pl. ascending.

26 L. DECU'MBENS (Vent. cels. t. 37.) stem herbaceous, decumbent; leaves lanceolate, acute, strigose; calyx pentagonal at the base, with subulate, erect segments; tube of corolla much longer than the calyx; nuts tubercular. ⊙. H. Native of the Levant, near Bagdad. Lehm. asper. p. 326. Root fusiform, fibry. Stems hispid, dichotomously branched; branches ending in very long spike-formed racemes. Flowers nearly sessile, shorter than the bracteas. Calyx hispid. Corolla yellow, downy outside; segments rounded, erectly spreading. Nuts pyramidal, angular, acute, truncate at the base.

Decumbent Gromwell. Pl. decumbent.

27 L. CORNU'TUM (Ledeb. fl. alt. 1. p. 175. fl. ross. alt. ill. t. 25.) hairy; stem herbaceous, erect; leaves oblong, callous, ciliated; calyxes, when bearing the fruit, furnished with 5 horns at the base: segments lanceolate-linear, erect; tube of corolla one half longer than the calyx; nuts tubercled. ⊙. H. Native of Siberia, in dry places; at the river Irtysch; between the river Kurtschum and the lake called Noor-Saisan; as well as on the Arkaul and Dolenkara mountains. Stems simple. Plant strigose. Racemes erect, bracteate. Calyx hairy. Corolla yellow, pilose outside. Stigmas 4, capitate. Calyx structure of that of *L. decúmbens*.

Horned-calyxed Gromwell. Fl. May. Plant ¼ to ¾ foot.

28 L. MURICA'TUM (Ruiz. et Pav. fl. per. 2. p. 4. no. 2. Lehm. asper. p. 327.) stems herbaceous, prostrate; leaves lanceolate-linear, obtuse, downy: lower ones opposite; calyx equal in length to the corolla, expanded while in fruit; nuts muricated. ⊙. H. Native of Chili, in waste places, and on walls. Plant downy. Stems many. Flowers lateral and terminal, sessile. Corolla white.

Muricated-seeded Gromwell. Pl. prostrate.

29 L. HÍSPIDUM (Ruiz. et Pav. fl. per. 2. p. 5. no. 5.) stems herbaceous, ascending, strigosely hispid; leaves linear-lanceolate, acute, revolute at apex, strigosely hispid; calyx setosely hispid, length of the tube of the corolla; nuts granular. ⊙. H. Native of Peru, in stony places. Lehm. asper. p. 328. Plant hispid, whitish. Root fusiform, fibry. Stems numerous, rather angular, branched. Leaves sessile, an inch long. Spikes long; flowers nearly sessile, secund: superior ones more crowded and bractless. Corolla yellow. Nuts ovate, acute.

Hispid Gromwell. Pl. 1 foot, ascending.

30 L. CALYCÌNUM (Moris, in acad. del Torino, vol. 37. p. 98. t. 22.) hispid from bristles; stem herbaceous, erect, branched; leaves lanceolate: superior ones dilated at the base, sessile, undulated: spikes dense, secund, bractless, revolute at apex; calyx equal in length to the corolla, expanded in the fruit-bearing state; nuts wrinkled from tubercles. ♃. F. Native of Chili. Root fusiform, fibrous at bottom. Calyx hispid, like the rest of the plant. Corolla yellow, funnel-shaped. Nuts ovate, gibbous outside, conniving at top. Perhaps the same as *L. hispidum*.

Large-calyxed Gromwell. Pl. 1 foot.

31 L. RAMÒSUM (Willd. herb. ex Lehm. asper. 328.) stem herbaceous, erect, much branched; leaves linear-lanceolate, bluntish, strigose, with ciliated, hispid margins; calyx hispid, length of the tube of the corolla; nuts granular. ⊙. H. Native of Mexico. Stem hairy, canescent. Leaves ½ an inch or more long. Spikes lateral, and at the tops of the branches, all lateral, conjugate, sometimes solitary, leafy. Flowers sessile, distant, opposite the bracteas, or from the axils of the bracteas. Corolla white, downy under the limb. Nuts ovate, subtrigonal, acuminated, granular outside.

Branched Gromwell. Pl. 1 foot.

32 L. PAPILLÒSUM (Thunb. in Schrad. journ. 1806. p. 44—45. prod. fl. cap. p. 34.) stem herbaceous, assurgent, nearly simple; leaves oblong-lanceolate, papillose, hairy, with revolute margins; calyxes hairy, length of the tube of the corolla, spreading in the fructiferous state; nuts wrinkled. ⊙. ? H. Native of the Cape of Good Hope. Lehm. asper. p. 329. Stem bearing 2 flowering branches at top, hispid. Leaves sessile, strigose, canescent. Racemes bracteate: bracteas longer than the flowers. Calycine segments obtuse, concave, lanceolate. Flowers distant. Corolla white; tube a little longer than the calyx. Nuts ovate.

Papillose Gromwell. Pl. ½ foot.

33 L. LYCOPSOÌDES (Lehm. pug. 2. p. 28.) stems herbaceous, procumbent, branched, hairy; leaves ovate-lanceolate, denticulated, setosely ciliated, hairy on both surfaces; flowers scattered, lateral and axillary; nuts ovate-trigonal, emarginate, convex and wrinkled on the back. ⊙. ? H. Native of North-west America. Stems terete, di-trichotomous. Flowers on short pedicels. Calyx very hispid, drooping when in fruit, somewhat inflated; segments lanceolate. Corolla yellow, glabrous; limb small, erect.

Lycopsis-like Gromwell. Pl. 1 foot ?

34 L. TENUIFLÒRUM (Lin. fil. suppl. p. 130.) stem herbaceous, erect, branched; leaves lanceolate, obtuse, hairy, scabrous: lower ones opposite; calyxes shorter than the filiform tube of the corolla, conniving when bearing the fruit. ⊙. H. Native of Egypt, and the island of Cyprus. Lehm. asper. p. 320. Jacq. icon. rar. 2. p. 10. t. 313. Sibth. et Smith, fl. græc. t. 159. Horn. hort. hafn. 1. p. 175. Buglossoìdes ramosíssima,

Mœnch. meth. p. 418. Habit of *L. arvénse*, but much smaller. Stem downy, scabrous. Leaves 1 to 1½ inch long: floral ones length of calyxes. Flowers on short pedicels, secund, disposed in terminal, leafy racemes. Calycine segments ciliated. Corolla downy outside, inflated at the base, and constricted in the middle, white, suffused with red? Nuts brown, incurved, tubercled.

Thin-flowered Gromwell. Fl. May, June. Clt. 1796. Pl. ½ to 1 foot.

35 L. TENE'LLUM (Nutt. in amer. phil. trans. n. s. 5. p. 188.) leaves linear, acute, strigose; flowers remote, pedicellate; calyx foliaceous, with unequal segments; nuts glabrous, convex. ⊙. H. Native of North America, in arid places in the prairies of the Red River. Stem about a span high, clothed with adpressed whitish strigæ. Flowers scattered, small, white. Corolla funnel-shaped. Nuts 4, convex outside, connivent, and rather pilose and angular. Perhaps this plant is not precisely a *Lithospérmum;* bearing, indeed, some affinity to *Cynoglóssum*, and by no means according with the usual character of the fruit of this genus.

Slender Gromwell. Pl. ½ to 1 foot.

§ 2. *Flowers blue or purple.*

36 L. TINCTÒRIUM (Lin. spec. ed. 1st. p. 132. mat. med. p. 58.) stems herbaceous, procumbent; leaves lanceolate, obtuse, pilosely hispid: floral ones subcordate; calyxes hairy, a little shorter than the tube of the corolla; nuts tubercled. ♃. H. Native of Spain; south of France; Italy, and Hungary, in sandy, sterile places; and in deserts about Alexandria. D. C. syn. fl. fr. no. 2716. Andr. bot. rep. t. 576. Regnau, bot. 1. t. 34. Lehm. asper. p. 330. Anchùsa tinctòria, Horn. hort. hafn. 1. p. 176. Willd. enum. 1. p. 178. exclusive of the synonymes. Lapeyr. abr. p. 86. L. tuberculàta, Forsk. descr. p. 41. L. procumbens, seminibus rugosis, Sauv. monsp. p. 63. Anchùsa puniceis floribus, Bauh. pin. p. 255. Anchùsa monspelìaca, Bauh. hist. 3. p. 584. Root rather woody, twisted, of many branches, tinges paper of a violet colour. Stems many, dividing into 2 branches at top, hispid, as well as the leaves. Upper leaves half stem-clasping; lower ones petiolate, subspatulate-lanceolate. Flowers sessile, disposed in simple or conjugate, terminal, leafy spikes. Corolla fine blue, with a white throat. Anthers sessile, in the middle of the tube.

Dyer's Gromwell, or Bugloss. Fl. June, Aug. Clt. 1596. Pl. procumbent.

37 L. DISPE'RMUM (Lin. spec. 191. dec. 1. t. 7.) stem herbaceous, erect, branched; leaves linear-lanceolate, obtuse, pilose; calyx beset with spreading hairs: segments linear, spreading, but incurved in the fructiferous state; nuts covered with callous dots. ⊙. H. Native of Siberia, at the Volga; in Tauria, and of Caucasus; also of Thessaly, on Mount Ossa. Willd. spec. 1. p. 755. Smith, prod. fl. græc. 1. p. 115. Bieb. fl. taur. 1. p. 122. Pers. ench. 1. p. 158. L. incúrvum, Pers. l. c. L. retórtum, Pall. itin. 3. append. no. 722. t. L. l. f. 2. Lam. dict. 3. p. 30. Willd. spec. 1. p. 755. Messerschmídtia cancellàta, Asso, synop. fl. arrag. no. 162. t. 1. f. 7. Willd. spec. 1. p. 790.—Quer. hisp. 4. p. 145. t. 25. Root simple, perpendicular. Plant pilose. Stem canescent. Lower leaves petiolate, spatulate: upper ones sessile, lanceolate. Flowers secund, on short pedicels, disposed in leafy terminal racemes. Corolla pale purple. Tube of corolla a little longer than the calyx, pale; limb blue. Nuts usually 2, rarely solitary, or 3, ovate-trigonal.

Two-seeded Gromwell. Fl. June, July. Clt. 1799. Pl. 1 foot.

38 L. INCA'NUM (Forst. prod. p. 12. no. 63.) stem shrubby, decumbent; leaves linear-lanceolate, clothed with silky pili, canescent; calyxes unequal, shorter than the tube of the corolla; nuts rough. ♄. G. Native of the island of Teautea, and Savage Island. Plant silky and canescent. Stem and branches pilose. Leaves an inch long. Spikes terminal, pedunculate, compound, ½ to 1 inch long, coarctate, bracteate, secund, pilose; flowers on very short pedicels. Corolla pilose outside, colour unknown. Nuts ovate.

Hoary Gromwell. Shrub ½ to 1 foot.

39 L. HISPÍDULUM (Smith, prod. fl. græc. 1. p. 114. fl. græc. t. 162.) stem shrubby, depressed, diffuse; leaves obovate, obtuse, hispid; tube of corolla inflated above, twice as long as the calyx; nuts tubercled, scabrous. ♄. F. Native of Rhode Island. Stems tufted; branches hoary and silky. Leaves generally ¼ an inch, scabrous. Flowers axillary at the tops of the branches, twice as long as the leaves, blue. Corolla glabrous. Stigma obtuse. Nuts ovate.

Hispid Gromwell. Shrub diffuse, tufted.

40 L. VILLÒSUM (Wall. cat. no. 941.) plant clothed with long white hairs all over, which rise from white warts, most conspicuous on the bracteas and calyxes; leaves narrow-lanceolate: the radical ones crowded; racemes terminal, and from the axils of the upper leaves, bracteate, very hairy. ♃. F. Native of the Carnatic, near Hurdwar and Dorhora. Anchùsa polýgama, Ham. herb. Plant tufted; stems many from the same root. Corolla salver-shaped, with a long tube. Nuts rugose?

Villous Gromwell. Pl. 1 foot?

41 L. FLEXUÒSUM (Lehm. asper. p. 333.) stem shrubby, decumbent, flexuous; leaves ovate, scabrous above, hispid beneath; calyxes length of the tube of the corolla, spreading and incurved in the fructiferous state; nuts callously muricated. ♄. G. Native of the Cape of Good Hope. Cynoglóssum muricàtum, Thunb. in Schrad. journ. 1806. p. 49. prod. p. 34. Willd. spec. 1. p. 762. Stem branched, hispid. Flowers on short pedicels, disposed in terminal, leafy racemes; bracteas lanceolate. Calyx hispid. Corolla blue. Anthers in the middle of the tube, beneath the throat. Nuts 2, ovate, triangular.

Muricated Gromwell. Shrub decumbent.

42 L. OLEIFÒLIUM (Lapeyr. abr. suppl. p. 28.) shrubby, diffuse; leaves elliptic-oblong, green above, shining, and beset with short adpressed hairs, but silky and silvery beneath; branches hoary. ♄. F. Native of the Eastern Pyrenees, among rocks on the banks of the river Caumella, below St. Aniol. Lower leaves opposite, 1½ inch long, and ½ inch broad. Flowers axillary. Calycine segments clothed with silky down, obtuse. Corolla thrice as long as the calyx, blue; tube downy. Nuts 2, downy, cinereous, trichotomous, somewhat rostrate, glabrous.

Olive-leaved Gromwell. Shrub ½ to 1 foot.

† *Species not sufficiently known.*

43 L. DIFFU'SUM (Lag. gen. et spec. nov. diagn. p. 10.) stem suffruticose, diffuse; leaves substrigose, linear, broadest at the base, with revolute edges; corolla 3 times longer than the calyx. ♄. F. Native of Spain, among bushes near Arvas, Pajares, and elsewhere.

Diffuse Gromwell. Shrub diffuse.

44 L. ÆGYPTÌACUM (Mikan ex Schrank, obs. bot. in act. acad. reg. sc. mon. 1813. § 14. p. 73.

Egyptian Gromwell. Pl.?

Cult. For the culture and propagation of the perennial, herbaceous species, see *Boràgo*, p. 309; for those of the annual species, see *Anchùsa*, p. 343; and for those of the shrubby kinds, see *Onósma*, p. 317.

XVI. BA'TSCHIA (named by Michaux after G. J. G.

Batsch, a German professor of botany.) Gmel. in Lin. syst. 2. p. 315. Michx. fl. bor. amer. 1. p. 133. t. 14. Pursh. fl. amer. sept. 1. p. 122. R. Br. in append. Frankl. journ. p. 732. Anónymos, Walt. fl. car. p. 91. Lithospérmum species, Lehm.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft. Corolla salver-shaped; tube longer than the calyx, bearded by a ring of hairs inside at the base; mouth naked. Anthers inclosed. Nuts 4, 1-celled, ovate, smooth, shining, fixed to the bottom of the calyx, imperforated at the base.—Plants with the habit of *Lithospérmum.* Flowers yellow or fulvous, almost fastigiate in short bracteate spikes. Leaves narrow, without collateral nerves.

1 B. longiflòra (Pursh. fl. amer. sept. 1. p. 132.) plant clothed with silky villi; erect; leaves approximate, long, and linear: with revolute margins; corolla with an elongated and somewhat pentagonal tube, and crenately cut segments; calycine segments long, linear. ♃. H. Native on the banks of the Missouri and Mississippi. Lithospérmum incìsum, Lehm. asper. p. 303. Lith. angustifòlium, Muhl. Lith. longiflòrum, Spreng. syst. 1. p. 544. Flowers sulphur-yellow, disposed in fastigiate fascicles.

Long-flowered Puccoon. Fl. July. Clt. 1812. Pl. ½ foot.

2 B. decu'mbens (Nutt. gen. amer. 1. p. 114.) hirsutely villous; stems decumbent; segments of the calyx and leaves linear; flowers scattered; lobes of corolla fimbriately crenate, shorter than the tube. ♃. H. Native of North America, around the Mandan village. Lithospérmum Mandanénse, Spreng. syst. 1. p. 544. Nearly allied to *B. longiflòra.* In both these species the orifice of the corolla is nearly closed by 5 arched protuberances. All the species afford a crimson lac from the root.

Decumbent Puccoon. Pl. decumbent.

3 B. Gmelìni (Michx. fl. amer. bor. 1. p. 130. Pursh. fl. 1. p. 132.) plant hairy; stems erect, simple; leaves linear-lanceolate, obtuse: floral ones ovate-lanceolate, obtuse; tube of corolla shorter than the calyx; calycine segments long-lanceolate, acute, unequal. ♃. H. Native of Lower Carolina, in dry sunny woods: and in woods of the Arkansas and Red River. Anónymos Caroliniénsis, Walt. fl. carol. p. 91. B. Caroliniénsis, Pers. ench. 1. p. 159. Anchùsa hírta, Muhl. cat. p. 19. Lithospérmum hírtum, Lehm. asper. p. 304. Leaves 2-3 inches long. Flowers yellow, pilose outside. Nuts ovate, turgid, glabrous, shining.

Gmelin's Puccoon. Fl. May, July. Clt. 1812. Pl. ½ foot.

4 B. cane'scens (Michx. fl. amer. bor. 1. p. 130. t. 14 Pursh, fl. 1. p. 132.) plant clothed with white villi; stem erect, nearly simple; leaves oblong, obtuse, emarginate at apex, at length rather scabrous; tube of corolla twice as long as the calyx; calyxes very short, linear, acute. ♃. H. Native of Virginia, Carolina, Tenessee, on dry sunny hills, in a sandy soil. Anchùsa canéscens, Muhl. cat. p. 19. Anchùsa Virginiàna, Lin. syst. p. 191. Lithospérmum canéscens, Lehm. asper. p. 305. Anchusa floribus sparsis, caule glabro, Gronov. virg. p. 24. Anchusa lùtea minor quam alii Puccoon vocant, Gronov. virg. p. 19.—Mor. hist. 3. p. 447. sect. 11. t. 28. f. 4. Stems divided into two leafy racemes at top. Flowers nearly sessile. Corolla fulvous. Nuts similar to those of *Lithosp. officinàle.* The root is covered with a red substance, which is the true Puccoon of the Indians, and paints a beautiful red.

Canescent Puccoon. Fl. Ju. July. Clt. 1826. Pl. 1 to 2 feet.

5 B. conspícua (R. Br. in Richards. append. to Frankl. journ. p. 732.) stem beset with loose hairs; leaves oblong, obtuse, clothed with adpressed pili: floral ones secund, becoming gradually smaller to the top of the spikes; lobes of corolla entire. ♃. H. Native of North-west America, on the banks of the Saskatchawan. Lithospérmum conspícuum, Spreng. syst. 1. p. 548. Stems many from the same root, di-trichotomous at top. Spikes divaricate. Calyx hairy; segments subulate, three times shorter than the corolla. Corolla of an orange-yellow colour, pilose outside.

Conspicuous Puccoon. Pl. 1½ foot.

6 B. seríсea (Rœm. et Schultes, syst. 4. p. 743.) stem suffruticose, erect, trichotomously branched, villous at top; leaves oblong-lanceolate, obtuse, silky above, but somewhat villous beneath, canescent; tube of corolla twice as long as the calyx. ♃. H. Native of Virginia. Lithospérmum seríceum, Lehm. asper. 206. Anchùsa Virgínica, Lin. spec. 191. Gron. virg. p. 24. Willd. spec. 1. p. 7580.—Mor. hist. 3. p. 447. sect. 11. t. 28. f. 4. Stem divided at top into 3-6 floriferous branches. Leaves 2 inches long. Flowers pedicellate from the axils of the floral leaves. Calyx villous, with unequal linear segments. Corolla yellow, downy outside. Nuts ovate, glabrous.

Silky Puccoon. Fl. May, July. Clt. 1825. Pl. 1 foot.

7 B. dísticha; stem herbaceous, erect, branched at top; leaves clothed with adpressed pili: lower ones spatulate, obtuse: superior ones oblong-lanceolate, acute: floral ones ovate, in 2 rows; tube of corolla length of calyx. ♃. S. Native of Cuba. Lithospérmum dístichum, Orteg. dec. p. 8. Jacq. fragm. t. 48. f. 3. Willd. enum. 1. p. 177. Lehm. asper. p. 308. Stems numerous, strigose or pilose, divided into 3-6 leafy spikes at top. Flowers axillary, distich, on short pedicels, shorter than the floral leaves. Calyx pilose, with lanceolate-acute segments. Corolla white; throat yellow, marked by 5 obtuse gibbosities. Nuts small, ovate, turgid, hard, shining, white.

Distich-leaved Puccoon. Fl. May, June. Clt. 1806. Pl. ½ to 1 foot.

Cult. The species grow well in common garden soil, but best in a peat border. They are increased by dividing at the root, or by seed.

XVII. MACROME'RIA (from μακρος, *macros*, long, and μερις, *meris*, a part; the flowers are by far the largest of the whole family, of which it may justly be reckoned the most showy genus). D. Don, in edinb. phil. journ. July, Oct., 1832.

Lin. syst. *Pentándria, Monogýnia.* Calyx deeply 5-parted, rather unequal. Corolla funnel-shaped, much longer than the calyx; limb 5-lobed: lobes erect, acutish. Stamens nearly equal, with capillary glabrous filaments, and linear-oblong, incumbent, versatile anthers; cells of anthers parallel, dehiscing lengthwise. Style capillary, glabrous; stigma a pruinose dot. Ovaria 4, connate.—Perennial Mexican herbs. Stems erect, very simple. Leaves alternate, sessile, lanceolate, nerved. Racemes few-flowered bracteate. Calycine segments linear. Corolla white? 2-3 inches long; tube attenuated at the base; throat dilated; lobes of limb oblong; imbricate in æstivation. The long filaments distinguish this genus from *Lithospérmum* and *Bátschia*, to which it otherwise comes nearest in affinity.

1 M. longiflòra (D. Don, l. c.) leaves lanceolate, acuminated, smoothish; genitals inclosed. ♃. F. Native of Mexico. Lithospérmum longiflòrum, Sesse et Mocino, mss. in herb. Lamb.

Long-flowered Macromeria. Pl.

2 M. exse'rta (D. Don, l. c.) leaves lanceolate, mucronate, scabrous; genitals exserted; stem hispid. ♃. H. Native of Mexico. E'chium species, Sesse et Mocino, mss. in herb. Lamb.

Exserted-stamened Macromeria. Pl.

Cult. For culture and propagation see *Bátschia* above.

XVIII. MO'LTKIA (named by Dr. Lehmann in honour of Count Gadske Moltke, a Danish prince, founder of a Museum of Natural History at Copenhagen). Lehm. in act. soc. nat. scrut. hal. 3. p. 3. asper. p. 339.

Lyn. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla cylindrical, somewhat funnel-shaped; with a naked throat. Stamens exserted; anthers oblong, incumbent. Nuts 4, 1-celled, large, difformed, imperforated at the base, fixed to the bottom of the calyx.—Strigose, canescent, herbaceous plants, with lateral and terminal secund bracteate spikes of flowers; terminal spikes conjugate, lateral, solitary.

1 M. puncta'ta (Lehm. l. c. p. 5. asper. 339.) leaves obovate-lanceolate, obtuse, clothed with strigose pili; corolla a little longer than the calyx; nuts beset with adpressed dots. ♃. H. Native of Galatia. Stems simple, many from the same root. The whole plant canescent from strigose pili. Spikes 3-4 inches long. Bracteas lanceolate. Calyx strigose, with linear segments.

Dotted-seeded Moltkia. Pl. ½ to 1 foot.

2 M. cœru'lea (Lehm. l. c. p. 6. asper. p. 340.) leaves oblong-lanceolate, acute, rather silky; corolla much longer than the calyx; nuts wrinkled. ♃. H. Native of Armenia. Onósma cœrùlea, Willd. spec. 1. p. 775. Pers. ench. 1. p. 162. Sýmphytum orientàle angustifòlium flore cœruleo, Tourn. cor. p. 7. Plant canescent, and rather silky from incumbent pili. Stem shrubby at the base, ascending. Leaves an inch long. Spikes 4-6 inches long; bracteas lanceolate. Corollas bluish-purple. Calyx pilose, with linear-lanceolate segments.

Blue-flowered Moltkia. Pl. ½ to 1 foot.

Cult. For culture and propagation see *Onósma*, p. 317. Elegant plants, well worth the gardener's care.

XIX. CRANIOSPE'RMUM (from κρανιον, *kranion*, the cranium; and σπερμα, *sperma*, a seed; in reference to the form of the nuts). Lehm. asper. p. 336.

Lin. syst. *Pentándria, Monogýnia.* Calyx oblong, 5-parted. Corolla cylindrical with a 5-toothed mouth, and a naked throat. Stamens much longer than the corolla; anthers oblong. Nuts 4, 1-celled, hemispherical, concave at the base, fixed to the bottom of the calyx.—Plant densely villous, or strigose. Roots fusiform. Stems many from the same root, simple, erect, rather tufted. Radical leaves oblong-lanceolate, obtuse, petiolate as well as the lower cauline ones: the upper cauline ones sessile and acutish, all canescent while young. Flowers on short pedicels, disposed in short, terminal, sub-capitate, leafy racemes. Calyx villously hispid, nutant in the fructiferous state. Corolla glabrous, rose-coloured.

1 C. subvillòsum (Lehm. l. c. p. 337.) ♃. H. Native of Siberia, in gravelly places, by Lake Baikal.

Subvillous Craniospermum. Pl. 1 to 1½ foot.

Cult. For culture and propagation see *Onósma*, p. 317.

XX. STRO'BILA (from στροβιλος, *strobilos*, a top; in reference to the form of the fruit.) Dióclea, Spreng, syst. 1. p. 502-556, but not of D. C. Anchùsa species, Sieber.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped, villous, with a slender tube and spreading limb. Stamens equal in length to the limb. Style bifid; stigmas 2, capitate. Fruit pyramidal, perforated at the base.—Plant much branched, strigose, very hispid. Leaves lanceolate. Spikes leafy. Corolla cream-coloured, thrice as long as the calyx.

1 D. hispidíssima (Spreng, syst. 1. p. 556.) ♃. ? H. Native of Egypt, near Abugyr. Anchùsa aspérrima, Delile, fl. ægypt. vol. 2. Anchùsa hispidíssima, Sieb.

Very hispid Stríbila. Pl. 1 to 2 feet.

Cult. See *Anchùsa*, p. 343, for culture and propagation.

XXI. E'CHIUM (εχιον of Dioscorides. εχιειον of Nicander; from εχις, *echis*, a viper; being supposed to cure the bite of the viper, or to have seeds resembling a viper's head; the genus is, therefore, called *Viper's Bugloss* in English, and *Viperine* in French.) Pliny. Tourn. inst. t. 54. Lin. gen. no. 191. Schreb. gen. 251. Juss. gen. p. 130. ed. Usteri. p. 145. Lam. ill. no. 255. t. 94. Gærtn. fruct. 1. no. 419. t. 67. f. 7. Schkuhr, handb. t. 32.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped or campanulate; throat wide, naked; segments of the limb unequal in many of the species. Stamens exserted. Style bifid at top, hairy at the base. Nuts 4, 1-celled, turbinate, gigartoid, scabrous, imperforated at the base, fixed to the bottom of the calyx.—Rough, shrubby, or herbaceous plants. Leaves lanceolate, or oblong-lanceolate. Spikes of flowers compound, unilateral, recurved at top, usually forming pyramidal panicles; spikelets, bracteate. Corolla blue, violaceous, or white.

§ 1. *Shrubs. Stamens in all exserted. Natives of the Canary Islands.*

1 E. aculea'tum (D. C. cat. hort. monsp. 1813. p. 106. Lehm. asper. p. 405.) stem branched, whitish; leaves sessile, linear, very narrow, silky, but the ribs and margins are spinulose; panicles short, subglomerate; spikelets simple. ♄. G. Native of the Canary Islands. Poir. dict. 8. p. 664. Young branches beset with prickles, which rise from tubercles. Leaves 2-3 inches long and 2 lines broad, canescent. Calyx spinulose; segments linear, unequal. Corolla white; limb rather unequal, obtuse.

Prickly Viper's Bugloss. Fl. May, July. Clt. 1815. Shrub 4 to 6 feet.

2 E. gigante'um (Lin. fil. suppl. 131.) stem branched, hoary at top: leaves petiolate, lanceolate, attenuated at the base; clothed with silky pubescence: having the ribs and margins hispidly scabrous; panicles thyrsoid, strigose; spikelets bifid. ♄. G. Native of Teneriffe, among rocks. Jacq. fil. eclog. p. 93. t. 63. Cav. pl. ciud. Brouss. in ann. cienc. nat. 1801. no. 7. D. C. pl. hort. monsp. 1813. p. 106. Vent. malm. t. 71. Willd. spec. 1. p. 782. Lehm. asper. p. 406. Leaves bluntish, 3-5 inches long, and about ½ an inch broad, tapering at the base into half stem-clasping petioles. Calycine segments linear, lanceolate, mucronate, unequal. Corolla white, fading to purplish; segments obtuse, nearly equal.

Giant Viper's Bugloss. Fl. July, Nov. Clt. 1779. Shrub 6 to 10 feet.

3 E. mo'lle (Poir. dict. 8. p. 668.) stem branched, white; leaves subpetiolate, narrow-lanceolate, clothed with silvery pubescence; panicles ovate; spikelets pedunculate, simple. ♄. G. Native of the Canary Islands. Lag. gen. et spec. nov. diagn. p. 10. D. C. cat. hort. monsp. 1813. p. 106. Lehm. asper. p. 408. Leaves acute, 3-6 inches long, and 6-8 lines broad, attenuated into somewhat clasping petioles at the base. Calyx cinereous, from silky down and hairs; segments nearly equal, lanceolate. Corolla nearly regular, white?; segments blunt.

Soft Viper's Bugloss. Fl. June, July. Clt. 1820. Shrub 4 to 6 feet.

4 E. densiflòrum (D. C. cat. monsp. 1813. p. 108. icon. hort. monsp. ined. t. 22. exclusive of the synonymes) stem branched; branches hoary; leaves lanceolate, nerved, clothed with silky hoary down; panicles spike-formed, dense; spikelets sessile, simple. ♄. G. Native of Teneriffe, or Madeira. Lehm. asper. p. 408. E. stríctum, Lam. ex Desf. tabl. de l'ecole bot. 1815. Poir. suppl. 5. p. 486. Flowers from lilac to pale blue, with white lines, approximating into a dense, cylindrical or oblong-ovate panicle.

Dense-flowered Viper's Bugloss. Fl. June, July. Clt. 1820. Shrub 2 to 4 feet.

5 E. candi'cans (Lin. fil. suppl. p. 131.) stem branched, subtomentose above; leaves lanceolate, feather-veined, clothed with silky silvery canescent down; panicles terminal, conical; spikelets pedunculate, simple. ♄. G. Native of Madeira, on high rocks. Jacq. coll. 1. p. 44. icon. rar. 1. t. 30. Ait. hort. kew. ed. 1. vol. 1. p. 186. Willd. spec. 1. p. 782. Lehm. asper. p. 409. Ker. bot. reg. t. 44. Leaves tapering to both ends. Calyx hairy; segments nearly equal, oblong, acute. Corolla campanulate, blue, pilose at top outside.

Whitish Viper's Bugloss. Fl. May, June. Clt. 1777. Shrub 2 to 4 feet.

6 E. cynoglossoìdes (Hort. par. ex Poir. suppl. 5. p. 487. Rœm et Schultes, syst. 4. p. 17.) stem branched, downy; leaves lanceolate, clothed with silk-grey down; panicle very large, composed of elongated racemes or spikes. ♄. G. Native of the Canary Islands. This species is very nearly related to *E. candìcans*, but differs in the size of the panicle, and in the down being cinereous. Leaves 5-6 inches long, and 2 broad, attenuated into the petioles at the base. Panicles pilose. Calycine segments acute. Corolla blue; limb obtuse.

Hound's-tongue-like Viper's Bugloss. Fl. May, June. Clt. 1818. Shrub 2 to 4 feet.

7 E. fastuòsum (Jacq. fil. eclog. no. 41. p. 61. t. 41. Lehm. asper. p. 410.) stem branched, rather villous above; leaves oblong-lanceolate, acuminated, veiny, beset with soft hairs, ciliated; panicle thyrsoid, ovate, large, dense; spikelets pedunculate, simple. ♄. G. Native of the Canary Islands. *E. candìcans.* D. C. cat. hort. monsp. 1813. p. 107. Leaves pale green, clothed with soft white hairs. Calyx hairy; segments narrow-lanceolate, acute. Corolla campanulate, deep blue.

Proud Viper's Bugloss. Fl. April, Aug. Clt. 1779. Shrub 2 to 4 feet.

8 E. macrophy'llum (Lehm. asper. p. 412.) stem erect; leaves oblong-lanceolate, obliquely acuminated, veiny, very soft, nearly glabrous, rather silky, silvery on both surfaces. ♄. S. Native of the Canary Islands?. Leaves crowded at the tops of the stem and branches, from a span to a foot long, and $1\frac{1}{2}$ to 2 inches broad; almost as silvery as those of *Protèa argéntea*, glaucous, green. Flowers unknown.

Long-leaved Viper's Bugloss. Fl. June, July. Clt. 1823. Shrub 2 to 4 feet.

9 E. foliòsum (Lehm. asper. p. 412.) stem branched, hoary and pilose above; leaves oblong-lanceolate, clothed with soft hairs; panicles leafy; peduncles one-half shorter than the leaves; spikelets nearly simple. ♄. G. Native of the Canary Islands?. Leaves pale green, 5-6 inches long, and 1 or $1\frac{1}{2}$ broad: floral ones 2-3 inches long. Lower spikelets bifid: upper ones simple. Peduncles and calyxes hairy. Segments of calyx unequal, lanceolate, acuminated. Corolla campanulate, white; segments unequal, obtuse.

Leafy Viper's Bugloss. Fl. May, June. Clt. 1815. Shrub 2 to 4 feet.

10 E. linea'tum (Jacq. fil. eclog. p. 62. t. 42.) stem branched, clothed with white pubescence above; leaves ovate-lanceolate, hairy, glaucous-green; spikelets of panicles pedunculate, bifid. ♄. G. Native of the Canary Islands?. Lehm. asper. p. 413. Lower leaves 3 inches long; tapering into the stem-clasping petioles: upper ones gradually shorter. Flowers disposed in a leafy raceme, formed from axillary spikelets. Calyx hairy; segments ovate-lanceolate, acute, marked each with a paler nerve outside. Corolla campanulate, bluish white, fading to purple, nearly equal, elegantly marked inside with 5 blue nerves. Stamens with white filaments and blue anthers.

Lined-flowered Viper's Bugloss. Fl. May, June. Clt. 1815. Shrub $1\frac{1}{2}$ to 2 feet.

11 E. símplex (D. C. cat. hort. monsp. 1813. p. 108. icon. hort. monsp. ined. t. 21.) stem simple; leaves large, ovate-lanceolate, silky on both surfaces; panicle long, spike-formed; spikelets bifid; stigma simple. ♂?. ♄. G. Native of Teneriffe. Lehm. asper. p. 415. Stem woody, but nevertheless biennial; hardly a foot high, and leafy at top the first year, but in the second year it lengthens out into a very long, cylindrical, regular panicle, which is leafy at the base. Flowers white.

Simple-stemmed Viper's Bugloss. Fl. June, July. Clt. 1820. Shrub 1 to 3 feet.

12 E. stríctum (Lin. fil. suppl. p. 131.) stem branched, hispid from retrograde pili, or bristles; leaves oblong-lanceolate, very scabrous, hairy; spikelets of panicle bifid: when young capitate. ♄. G. Native of Teneriffe among rocks. Lam. ill. p. 414. no. 1868. Jacq. schœnbr. 1. p. 15. t. 35. Willd. spec. 1. p. 783. Ait. hort. kew, ed. 1st. vol. 1. p. 186. D. C. cat. hort. monsp. 1813. p. 108. Horn. hort. hafn. 1. p. 182. Leaves 2-4 inches long, and $\frac{1}{2}$ inch broad, callosely dotted above, paler and less dotted beneath. Peduncles axillary and terminal, very hispid; lower ones 3-4 inches long, becoming gradually shorter to the top. Calycine segments lanceolate. Corolla blue, rarely white, sub-campanulate, nearly regular; segments acutish: the 2 superior ones broadest. Anthers blue.

Strict Viper's Bugloss. Fl. May. Dec. Clt. 1779. Shrub 2 to 3 feet.

13 E. brachya'nthum (Horn. hort. hafn. 1. p. 182. Lehm. asper. p. 417.) stem branched; branches hairy; leaves lanceolate, veiny, hairy; spikelets of panicles bifid; corollas nearly equal, one half shorter than the calyx. ♄. G. Native of Madeira among rocks. Panicle terminal, ovate, hispid. Calycine segments narrow-lanceolate, acuminated, unequal. Corolla subcampanulate, white, becoming reddish-violet as they fade, pilose at top outside; segments roundish.

Short-flowered Viper's Bugloss. Fl. June, July. Clt. 1819. Shrub 3-5 feet.

14 E. bífrons (D. C. cat. hort. monsp. 1813. p. 107. icon. pl. monsp. ined. t. 19.) stem shrubby, branched; branches pubescent at top; leaves oblong-lanceolate, downy, attenuated at both ends; panicles ovate; spikelets usually simple. ♄. G. Native of the Canary Islands. Lehm. asper. p. 418. This very distinct species is difficult to characterize: the calyxes in the terminal panicles are equal in length to the corollas, but those in all the lateral panicles are not one half the length of the corolla, hence the specific name. Corolla white, fading to red.

Two-faced Viper's Bugloss. Fl. May, June. Clt. 1820. Shrub 2 to 3 feet.

15 E. vire'scens (D. C. cat. hort. monsp. 1813. p. 107. exclusive of the syn. of Jacq Lehm. asper. p. 471.) stem shrubby, branched; branches clothed with soft hairs; leaves lanceolate, green, hairy; panicle spike-formed; spikelets pedunculate, lower ones bifid, superior ones simple. ♄. G Native of Teneriffe among rocks. Flowers pale blue, with white lines.

Greenish Viper's Bugloss. Fl. June, July. Clt. 1820. Shrub 2 to 3 feet.

16 E. ambíguum (D. C. cat. hort. monsp. 1813. p. 107. icon pl. monsp. ined. t. 20.) stem shrubby, branched; branches hispid from bristles; leaves oblong-lanceolate, attenuated at both ends, hispid; panicle oblong-ovate; spikelets bifid; calycine lobes equal in length to the corolla. ♄. G. Native of the Canary Islands. E. candìcans, Lam. ill. no. 1866. t. 94. f. 2, exclusive of the synonymes. A humble shrub, one-half smaller than *E. bífrons*, and all the species belonging to the present section. Flowers small, from white to flesh-colour.

Ambiguous Viper's Bugloss. Fl. May, June. Clt. 1820. Shrub 1 to 2 feet.

17 E. nervòsum (Ait. hort. kew, ed. 2d. 1810, vol. 1. p. 300.)

stem shrubby; leaves lanceolate, nerved, and are, as well as the branches, silky; calycine segments linear, bluntish; racemes or panicles ovate; style hairy. ♄. G. Native of Madeira. Flowers blue or purple?

Nerved-leaved Viper's Bugloss. Fl. June, August. Clt. 1777. Shrub.

§. 2. CAPE'NSES. *Shrubby plants, natives of the Cape of Good Hope. Flowers solitary, axillary or spicate. Stamens exserted or inclosed.*

18 E. FORMÒSUM (Pers. ench. 1. p. 163. Lehm. asper. p. 418.) stem branched above, glabrous; leaves narrow-lanceolate, very scabrous above; racemes subcymose; corollas tubular, very long. ♄. G. Native of the Cape of Good Hope. E. tubíferum, Poir. dict. 8. p. 663. E. grandiflòrum, Desf. arb. 1. p. 177. Vent. malm. p. 97. t. 97. Andr. bot. rep. t. 20. Ker. bot. reg. 124. Kerner, semp. 5. t. 205. Leaves clasping the stem at the base, grass-green, 3-4 inches long, with spinulosely denticulated margins. Bracteas subcordate at the base. Calyx hairy, sub-bilabiate; segments unequal. Corolla equal, red, 1½ inch long. Stamens equal in length to the corolla. Stigma emarginate.

Beautiful Viper's Bugloss. Fl. June, July. Clt. 1787. Shrub 2 to 3 feet.

19 E. SCA'BRUM (Lehm. asper. p. 419.) stem hairy above; leaves elliptic-lanceolate, scabrous, hispid; spikelets terminal, bipartite; bracteas falcate, hispid. ♄. G. Native of the Cape of Good Hope. Stem much branched at top; branches scabrous; branchlets hairy. Leaves beset with adpressed strigæ, 1 to 1½ inches long. Calycine segments acute, lanceolate, rather unequal, hairy. Corolla irregular, large, blue. Stamens length of corolla.

Scabrous Viper's Bugloss. Fl. May, July. Clt. 1820. Shrub 2 to 3 feet.

20 E. FRUTICÒSUM (Lin. spec. p. 199.) stem tomentose; leaves lanceolate-spatulate, acutish, clothed with silky villi; spikelets crowded, corymbose. ♄. G. Native of the Cape of Good Hope. Berg. pl. cap. p. 39. Willd. spec. 1. p. 781. Ait. hort. kew, ed. 1st, vol. 1. p. 186. Ker, bot. reg. 86. E. Africànum, Pers. ench. 1. p. 163.—Comm. hort. 2. p. 107. t. 54. Stem branched. Spikelets usually bipartite, hairy. Calycine segments acute, nearly equal. Corolla purple, with rather unequal segments. Stamens a little longer than the corolla.

Var. β, màjus (Thunb. fl. cap. prod. p. 33.) stem, as well as the leaves, which are oblong, silky; spikelets alternate, pedunculate. ♄. G. Native of the Cape of Good Hope. Leaves more spatulate, bluntish, and twice the size of those of the species.

Shrubby Viper's Bugloss. Fl. May, June. Clt. 1759. Shrub 2 to 3 feet.

21 E. ARGE'NTEUM (Lin. mant. p. 202. Lehm. asper. p. 421.) stem branched; leaves lanceolate, acute, reflexed at the apex, clothed with silky pili: margins of the floral ones setosely prickly; spikes terminal, simple, leafy. ♄. G. Native of the Cape of Good Hope. Berg. cap. p. 40. Lam. ill. p. 413. no. 1862. Andr. bot. rep. 154. Thunb. prod. fl. cap. p. 33. Willd. spec. 1. p. 783. E. fruticòsum, Jacq. schœnbr. 1. t. 34. Branches hoary, from copious adpressed pili, hispid above from stiff bristles. Lower leaves 1½ inch long. Calyx hispid, with unequal segments; the two lateral ones larger, and keeled. Corolla blue, campanulately tubular; segments unequal, obtuse. Stamens unequal; the 2 lower ones longer than the corolla, the rest inclosed. Plant canescent.

Var. β, fèrox (Lehm. asper. p. 422.) stem shrubby; branches and leaves prickly; flowers spicate; corollas nearly equal. ♄. G. Native of the Cape of Good Hope. E. fèrox, Pers. ench. 1. p. 163. E. ferocíssimum, Andr. bot. rep. t. 39. E. argénteum, Roth. bot. abh. p. 25.

Silvery Viper's Bugloss. Fl. June, July. Clt. 1789, β. 1794. Shrub 3 to 6 feet.

22 E. GLAUCOPHY'LLUM (Jacq. coll. 2. p. 325. icon. rar. 2. p. 10. t. 312.) stem branched; leaves lanceolate, glabrous, with callosely scabrous edges, glaucous; spikelets bipartite, bracteate. ♄. G. Native of the Cape of Good Hope. Lehm. asper. p. 423. Andr. bot. rep. t. 165. E. lævigàtum, Lam. ill. p. 413. no. 1863. but not of Thunb. E. glàbrum, Thunb. in Schrad. journ. bot. 1803. p. 38. prod. fl. cap. p. 33. Stem quite glabrous. Leaves sessile, acute, 1½ inch long, scabrous from white callous dots on the edges. Spikelets panicled, terminal, and from the axils of the leaves. Calyx glabrous, with lanceolate segments, which are edged with callous dots. Corolla violaceous; limb almost regular. Stamens unequal, longer than the corolla.

Glaucous-leaved Viper's Bugloss. Fl. July. Clt. 1792. Shrub 2 to 3 feet.

23 E. LÆVIGA'TUM (Lin. spec. p. 199. Thunb. prod. p. 33.) stem simple, glabrous; leaves ovate-lanceolate, glabrous, spinulosely ciliated on the margins; spikes terminal, compound; spikelets simple, very short. ♄. G. Native of the Cape of Good Hope. Lehm. asper. p. 424. Willd. spec. 1. p. 785. exclusive of the syn. of Jacq. Leaves ciliated with distant white bristly strigæ, and with callous dots along the midrib beneath. Calycine segments strigose along the margins and middle nerves. Corolla funnel-shaped; limb nearly equal, obtuse. Stamens much exserted, declinate, unequal. Stigma simple. Corollas blue.

Smooth Viper's Bugloss. Fl. June, July. Clt. 1774. Shrub 1 to 2 feet.

24 E. PANICULA'TUM (Thunb. in Schrad. journ. 1806. p. 41. prod. p. 33.) stem branched; branches elongated, angular, and downy above; leaves lanceolate, hispid, spinulosely ciliated; spikelets panicled. ♄. G. Native of the Cape of Good Hope. Willd. spec. 1. p. 784. Lehm. asper. p. 425. Branchlets subfastigiate, hispid, and compressedly angular. Leaves about an inch long, with diaphanous ciliæ, which rise from papillæ. Panicle terminal. Calyx 5-angled; segments acute, having the angles and edges hispidly ciliated. Corolla white, regular; limb bluntish. Stamens unequal, twice as long as the corolla.

Panicled-flowered Viper's Bugloss. Fl. May, July. Clt. 1815. Shrub 2-3 feet.

25 E. SWA'RTZII (Lehm. asper. p. 426.) stem branched at top, glabrous; leaves linear-lanceolate, glabrous, furnished with callous dots on the margins, but when young hispidly ciliated; spikelets terminal, bifid or trifid. ♄. G. Native of the Cape of Good Hope. E. angustifòlium, Swartz in litt. Branchlets scabrous. Leaves sessile. Bracteoles hispid. Calyx hispid, with unequal lanceolate segments. Corolla irregular, blue, rather large. Stamens exserted.

Swartz's Viper's Bugloss. Shrub 2 to 3 feet.

26 E. GLA'BRUM (Vahl. symb. 3. p. 22.) stem branched; leaves narrow-lanceolate, somewhat falcate, glabrous above, but beset with callous dots beneath: uppermost leaves, as well as the calyxes pilose, or strigose; spikelets alternate. ♄. G. Native of the Cape of Good Hope. Lehm. asper. p. 427. Andr. bot. rep. t. 165. E. falcàtum, Lam. ill. p. 413. no. 1864. E. Vàhlii, Rœm. et Schultes, syst. 4. p. 14. Branches purplish, beset with adpressed villi. Leaves an inch long. Spikelets erect, 2 inches long, leafy, from the axils of the upper leaves. Calyx pilose, with lanceolate unequal segments. Corolla irre-

gular, white. Stamens unequal, the 2 lower ones longer than the corolla, the rest shorter. Stigma sub-capitate, somewhat 2-lobed.

Glabrous Viper's Bugloss. Fl. May, June. Clt. 1791. Shrub 1 to 2 feet.

27 E. trigònum (Thunb. in Schrad. journ. bot. 1806. p. 42. prod. p. 33.) stem branched, villously hispid above; leaves oblong-lanceolate, obtuse, canaliculate, very numerous, strigosely pilose; stamens inclosed. ♄. G. Native of the Cape of Good Hope. Lehm. asper. p. 428. Willd. spec. 1. p. 784. Leaves somewhat imbricated, keeled below, very soft and canescent while young. Spikelets terminal, few-flowered. Calyx hoary, villous, with lanceolate obtuse segments. Corolla large, pilose outside, with an obtuse limb. Stamens unequal, about the length of the corolla. Stigma simple.

Trigonal Viper's Bugloss. Shrub.

28 E. verrucòsum (Swartz, in litt. ex Lehm. asper. p. 429.) stem branched; leaves linear-lanceolate, incumbent, much crowded, hispid, but papillosely setose beneath; spikelets panicled. ♄. G. Native of the Cape of Good Hope. Branches hoary and hairy. Leaves numerous, an inch long. Spikelets forming a terminal crowded panicle. Calyx hairy and hoary, with linear acute segments. Corolla white, rather irregular. Genitals exserted.

Warted Viper's Bugloss. Fl. June, July. Clt. 1822. Shrub.

29 E. capita'tum (Lin. mant. p. 42.) stem branched, pilose; leaves lanceolate, hispid; flowers equal, disposed in capitate corymbs; calyxes hoary. ♄. G. Native of the Cape of Good Hope. Thunb. prod. p. 33. Lam. ill. p. 414. no. 1869. Willd. spec. 1. p. 785. Lehm. asper. p. 430. E. híspidum, Burm. cap. p. 4. Leaves numerous, 1 to 1½ inch long. Peduncles terminal and axillary, pilose; lower ones the longest. Bracteas hispid. Calyx pilose, with linear equal segments. Corolla red, equal, funnel-shaped, small, with ovate segments. Stamens twice as long as the corolla. Style bifid at apex.

Capitate-flowered Viper's Bugloss. Fl. June, July. Clt. 1819. Shrub 2 to 3 feet.

30 E. sphæroce'phalum (Vahl. symb. 3. p. 22. Lehm. asper. p. 431.) stem branched, glabrous; leaves lanceolate, sub-imbricated, convex and strigose beneath; heads of flowers terminal, solitary. ♄. G. Native of the Cape of Good Hope. E. capitàtum, var. sphærocéphalum, Lam. ill. 1. p. 414. no. 1865. Rœm. et Schultes, syst. 4. p. 13. Branches angular, and hispid at top. Leaves sessile, half stem-clasping, obtuse, hardly a nail in length, pilose above and on the margins, but strigose beneath. Bracteas ciliated. Calyx pilose, with linear segments. Corolla equal, a little longer than the calyx. Stamens fleshy, much longer than the corolla.

Round-headed Viper's Bugloss. Shrub.

31 E. rosmarinifòlium (Vahl. symb. 3. p. 22.) stem pilose; leaves petiolate, linear, with revolute edges, pilose, and canescent beneath; spikelets terminal, simple. ♄. G. Native of the Cape of Good Hope. Lehm. asper. p. 432. Branches tomentose below, and clothed with white villi above. Peduncles and calyxes pilose. Calycine segments linear, unequal. Corolla nearly regular; tube pilose from the middle to the limb. Genitals inclosed.

Rosemary-leaved Viper's Bugloss. Shrub.

32 E. strigòsum (Swartz, in litt. ex Lehm. asper. p. 432.) stem hoary, villous: leaves lanceolate, obtuse, keeled, strigose on both surfaces; spikelets terminal, bipartite. ♄. G. Native of the Cape of Good Hope. Leaves an inch long; when young, hoary. Bracteas and calyxes hispid. Calycine segments lanceolate, nearly equal. Corolla large, violaceous; limb rather unequal. Stamens exserted.

Strigose Viper's Bugloss. Fl. June, July. Clt. 1821. Shrub 1 to 2 feet.

33 E. trichótomum (Thunb. in Schrad journ. bot. 1806. p. 39. prod. p. 33.) stem glabrous at bottom, somewhat trichotomously branched; leaves linear, very numerous, hoary, villous; spikelets terminal, bipartite, divaricate. ♄. G. Native of the Cape of Good Hope. Lehm. asper. p. 433. Willd. spec. 1. p. 784. Stem purplish. Branches glabrous: when young simple, or tripartite, bifid at apex, villous and hoary. Leaves alternate, opposite, and 3 in a whorl, ½ an inch long, keeled. Flowers on short pedicels; bracteas ovate, acute. Calyx hoary, very villous, with linear acute segments. Corolla white: limb irregular. Stamens much exserted.

Trichotomous-branched Viper's Bugloss. Shrub 2 to 3 feet.

34 E. híspidum (Thunb. l. c. p. 40. prod. p. 33.) stem glabrous, branched; branches and leaves hispid; leaves lanceolate; spikelets terminal, rather compound. ♄. G. Native of the Cape of Good Hope. Willd. spec. 1. p. 784. Lehm. asper. p. 433. Leaves sessile, an inch long, bluntish. Spikelets terminal, many-flowered. Bracteas linear-lanceolate, hispid. Calyx hispid, with erect, acute segments. Corolla white, regular. Stamens about as long as the corolla, or a little longer.

Hispid Viper's Bugloss. Fl. May, June. Clt. 1818. Shrub 1 to 2 feet.

35 E. lu'cidum (Lehm. sem. hort. hamb. 1827.) stem shrubby, branched; leaves narrow-lanceolate, quite glabrous, shining, ciliated at the base; spikes terminal, aggregate, thyrsoid, very villous. ♄. G. Native of the Cape of Good Hope. Stem suffruticose, branched from the base. Leaves sessile, bluntish. Corolla funnel-shaped, hardly longer than the calyx, pilose outside, unequal; segments obtuse, longer than the calyx. Stamens unequal, inclosed. Stigma simple. Nuts papillose.

Shining Viper's Bugloss. Shrub.

36 E. lasiophy'llum (Link. enum. 1. p. 170.) stem beset with adpressed hairs; leaves lanceolate, apiculated, silky; spikelets short; corollas nearly equal; stamens about equal in length to the corolla, but the style is longer. ♄. G. Native of the Cape of Good Hope? E. longifòlium, Hort. but not of Delile. Leaves hoary and soft from incumbent hairs. Spikes few-flowered, not curved. Calycine segments linear-lanceolate, about equal in length to the corolla. Corolla pilose outside, white, with a rounded limb. Filaments glabrous.

Woolly-leaved Viper's Bugloss. Fl. June, July. Clt. 1819. Shrub 2 to 3 feet.

§. 3. *Stems herbaceous; but in a few of the species they are woody at the base.*

37 E. cauda'tum (Thunb. in Schrad. journ. 1806. p. 43. prod. p. 33. Lin. fil. suppl. p. 132.) stem simple, villous, woody at the base; lower leaves oblong-lanceolate, superior ones lanceolate, all hispid or strigose; spike terminal, ovate-oblong, compound; stamens unequal, exserted. ♃. G. Native of the Cape of Good Hope, in sandy places. Willd. spec. 1. p. 786. Lehm. asper. p. 436. Stem purplish. Radical leaves an inch broad, petiolate; lower cauline ones sessile, 2-3 inches long. Spike 2-3 inches long. Calycine segments linear, beset with silky pili on the margins and back. Corolla small, red, irregular.

Tailed Viper's Bugloss. Fl. May, June. Clt. 1818. Plant 1 to 2 feet.

38 E. spica'tum (Thunb. l. c. p. 41, 42. prod. p. 33.) stems herbaceous, simple, pilose; leaves lanceolate-linear, hairy: hairs

spreading; spikes terminal, compound, linear-oblong; stamens exserted. ♃. G. Native of the Cape of Good Hope, in sandy places. Willd. spec. 1. p. 786. Lam. ill. 1. p. 413. no. 1861. Burm. cap. p. 5. Root fleshy, fusiform, purplish. Stems 2 or more from the same root, purplish. Radical leaves 2-3 hands long, rosulate, nearly as long as the flowering stem, petiolate; cauline leaves sessile, 2-3 inches long, acuminated. Spikes a finger to 2 hands long. Bracteas subulate. Calyx clothed with silvery villi; segments oblong-linear, obtuse. Corollas small, white.

Spicate-flowered Viper's Bugloss. Fl. March, May. Clt. 1799. Pl. 1 to 2 feet.

39 E. INCA'NUM (Thunb. l. c. p. 39. prod. p. 33.) stem herbaceous, simple, canescent; leaves linear-ensiform, rather scabrous, clothed with adpressed hairs, canescent; raceme spicate, linear. ♃. G. Native of the Cape of Good Hope, in Swartland, in sandy places. Willd. spec. 1. p. 786. Lehm. asper. p. 436. Leaves a span long, attenuated, and a little sheathing at the base: cauline ones lanceolate: uppermost ones an inch long. Racemes from a finger to a span long, composed of spikelets. Peduncles and pedicels very short. Calycine segments linear, obtuse, hoary and hairy. Corolla irregular, blue.

Hoary Viper's Bugloss. Pl. 1 to 1½ foot.

40 E. ACUTIFÒLIUM (Willd. herb. ex Lehm. asper. p. 437.) stem herbaceous, simple; leaves lanceolate, acuminated, clothed with white villi; racemes terminal, composed of nearly sessile spikelets; corolla nearly equal; stamens exserted. ♃. H. Native of Persia, in exposed places of woods. Root nearly simple, dark purple. Stem strigose. Radical leaves petiolate: cauline ones sessile. Bracteas pilose, linear-lanceolate. Calyx clothed with white villi; segments linear, rather unequal. Corolla villous outside; segments obtuse. Stigma sub-capitate.

Acute-leaved Viper's Bugloss. Pl. 1 to 2 feet.

41 E. THYRSOÍDEUM (Vent. malm. p. 98, in a note.) stem herbaceous, simple, hairy; leaves oblong-lanceolate, very rough; flowers thyrsoid; corolla unequal; stamens exserted. ♃. H. Native country unknown. Poir. dict. 8. p. 670. Lehm. asper. p. 431. Stem hispid. Leaves strigose above, and pilose below: lower ones 3-5 inches long: superior ones narrower, and gradually shorter. Spikelets approximate at top, forming a terminal thyrse; lower ones 3 inches long. Calyx hispid, with linear segments. Corolla bluish, villous outside; with ovate, nearly equal segments.

Thyrsoid-flowered Viper's Bugloss. Fl. July, Aug. Clt. 1820. Pl. 1½ to 2½ feet.

42 E. RU'BRUM (Jacq. fl. austr. 5. append. p. 27. t. 3.) stems herbaceous, simple, hispid; leaves linear-lanceolate, hispid; spike terminal, compound, very long; corollas nearly regular; stamens exserted. ♂. H. Native of Austria, Hungary, Transylvania, Tauria, Siberia, and Caucasus, in exposed fields. Lehm. asper. p. 439. Bieb. fl. cauc. 1. p. 135. Sims, bot. mag. t. 1826. Baumg. fl. trans. 1. p. 130 E. Róssicum, Gmel. syst. 2. p. 323. E. Créticum, Pall. ind. taur. E. Itálicum, Gmel. itin. 1. p. 119. t. 19.—Mor. hist. 3. sect. 11. t. 27. f. 2.—Clus. hist. 2. p. 164. f. 2. Root woody. Stem usually solitary. Flowers in nearly sessile axillary fascicles, the whole forming a compound terminal spike, from ½ to 1½ foot long. Calyx hispid, with unequal linear segments. Corolla red, 3 times longer than the calyx, with downy lines outside; segments of the limb unequal, obtuse. Stigma simple.

Red-flowered Viper's Bugloss. Fl. July, Aug. Clt. 1791. Pl. 2 to 3 feet.

43 E. CLAVA'TUM (Willd. herb. ex Lehm. asper. p. 440.) stem herbaceous, nearly simple; leaves linear-lanceolate, strigose; spike terminal, compound, very short; corolla tubularly clavate, unequal; stamens exserted. ♃. H. Native at the river Uruch. Root woody. Stem hispid. Radical and lower cauline leaves petiolate, 3-4 inches long; upper cauline leaves sessile. Spikelets of flowers sessile, forming a terminal spike. Calyx strigose, with subulate unequal segments. Corolla downy outside. Stigma emarginate, sub-bilobed.

Clavate-flowered Viper's Bugloss. Pl. 1 to 2 feet.

44 E. PAPILLÒSUM (Lehm. asper. p. 441.) stem herbaceous, simple; leaves oblong-lanceolate, attenuated at the base, obtuse, papillosely strigose; spikelets axillary, sessile, short, reflexed; corolla rather unequal; stamens exserted. ♃. H. Native of Siberia. Sy'mphytum secúndum, Gmel. syst. 2. p. 320. itin. 3. t. 36. f. 2. Stem rather angular, beset with soft strigæ. Lower cauline leaves 2-3 inches long, obovate-oblong, becoming gradually smaller and narrower as they ascend. Calyx pilose, hoary, with lanceolate segments. Corolla downy outside. Stigma simple.

Papillose Viper's Bugloss. Pl. 1½ to 2 feet.

45 E. GLOMERA'TUM (Poir. dict. 8. p. 670.) stem woody at the base, simple, strict, hispid; leaves oblong-lanceolate, rough; raceme spike-formed, very long, composed of glomerate spikelets; corolla nearly equal; stamens exserted. ♃. H. Native of Syria. Lehm. asper. p. 442. Stem angular, canescent. Leaves canescent, beset with adpressed strigæ: lower ones a span long: upper ones 2-4 inches long, and 2-3 lines broad, becoming gradually shorter as they ascend. Raceme constituting the greater part of the stem. Bracteas with setose margins. Calycine segments lanceolate-linear, with hispid edges. Corolla white, regular. Style bifid at top.

Glomerate-racemed Viper's Bugloss. Pl. 2 to 4 feet.

46 E. ITA'LICUM (Lin spec. 200.) stem. herbaceous, simple, strict; leaves linear-lanceolate, hispid from strigæ; raceme very long, spike-formed, composed of bifid dense-flowered spikelets; corolla nearly equal; stamens exserted. ♂. H. Native of Spain, south of France, Italy, Switzerland, Hungary, Transylvania, Greece, Tauria, Eastern Caucasus, Iberia, and Jersey, in waste fields. All. fl. ped. no. 180. Suter, fl. helv. 1. p. 108. Smith, engl. bot. t. 2081. Lapeyr. abr. p. 89. Smith, prod. fl. græc. 1. p. 124. Baumg. fl. trans. 1. p. 231. E. aspérrimum, Bieb. fl. cauc. 1. p. 135. exclusive of the synonymes of Lam. and Sabat. E. altíssimum, Jacq. fl. austr. 5. p. 35. app. t. 16. E. linearifòlium, Mœnch. meth. suppl. p. 149.—Hall. helv. no. 604. Stems many from the same root, beset with dark purple dots, and spreading stiff hairs. Calyx hispid, with linear rather unequal segments. Corollas white, or pale violet, pilose outside; segments ovate obtuse. Style bifid at apex.

Var. β. *lùteum* (Lehm. asper. p. 444.) stem simple; leaves lanceolate, very hairy; corolla nearly regular; stamens exserted. ♂. H. Native of the Pyrenees. E. lùteum, Lapeyr. abr. p. 91. Flowers yellow.

Var. γ; leaves softer and more villous; flowers nearly sessile. ♂. H. Native of the Pyrenees. E. Itálicum, β. Lepeyr, abr. p. 89. "Echium, corollis vix calycem excedentibus margine villosis." Lin. hort. ups. p. 35.

Italian Viper's Bugloss. Fl. July. Britain. Pl. 2 to 4 feet.

47 E. PYRENA'ICUM (Lin. mant. p. 334.) stem herbaceous, branched, hispid from strigæ; branches ascending pyramidal, panicled; leaves linear-lanceolate; spikelets elongated; flowers rather distant; corolla nearly equal; stamens exserted. ♂. H. Native of the South of France; Upper Italy; Lower Pyrenees; and about Tangiers and Algiers. Desf. fl. atl. 1. p. 164. D. C. syn. no. 2708. fl. gall. 6. p. 418. Willd. enum. 1. p. 187. Lehm. asper. 445. E. pyramidàle, Lapeyr. abr. p. 90. fl. pyr. t. 66. E. aspérrimum, Lam. ill. no. 1854. Pers. ench. 1. p. 164. E. Itálicum, var. γ. Willd. spec. 1. p. 787. E. Itálicum, var. β. Lin. spec. p. 201. E. Itálicum, Lam. fl. fr. 2. p. 451. E. lævigàtum, β. Vittm. summ. 1. p. 398. Murray, syst.

15. p. 196. Stem and branches beset with dark purple dots and spreading stiff hairs. Leaves hispid, from strigæ, deep green. Spikelets conjugate on the top of the stem and branches, axillary. Calyx hispid, with linear almost unequal segments, Corolla white or pale violet, villous outside, with lanceolate, obtuse segments. Style bifid at apex. Nuts beaked.

Pyrenean Viper's Bugloss. Fl. July, Aug. Clt. 1815. Pl. $1\frac{1}{2}$ to 2 feet.

48 E. margarita'ceum (Lehm. asper. p. 446.) stem herbaceous, branched, very hispid from bristles; leaves lanceolate, bristly: bristles rising from large tubercles; spikelets almost simple, elongated; stamens about equal in length to the corolla, which is tubular. ⊙. H. Native of Egypt. E. Rauwólfii Delile, fl. egypt. t. 19. f. 3. Spikelets usually solitary, rarely conjugate, very long and very hispid. Calyx hispid, with lanceolate, unequal segments. Corolla rather unequal, white; pilose outside.

Pearl Viper's Bugloss. Pl. $1\frac{1}{2}$ to 2 feet.

49 E. Menzie'sii (Lehm. pug. 2. p. 29.) stem herbaceous, erect, beset with retrograde strigæ; leaves sessile, acute, very hispid: lower ones narrow-lanceolate: superior ones ovate-lanceolate; racemes many-flowered, imbricate, hispid; stamens much shorter than the corolla, which is small and somewhat tubular. ♂. H. Native of the North-west coast of America. Stems herbaceous, erect, angular, $1\frac{1}{2}$ foot, branched. Leaves obscurely 3-nerved. Racemes secund, simple, terminal, bractless. Calyx very hispid, with equal linear segments. Corolla glabrous, yellowish; having 3 of its lobes twice the breadth of the rest. Nuts ovate, trigonal, wrinkled.

Menzies's Bugloss. Pl. $1\frac{1}{2}$ foot.

50 E. fla'vum (Desf. fl. atl. 1. p. 164. t. 45.) stem herbaceous, simple; leaves lanceolate, very hairy; raceme terminal, spike-formed; spikelets simple, dense; corolla almost regular; stamens exserted. ♂. H. Native of Atlas, near Tlemsen. Lehm. asper. p. 447. The whole plant is covered with numerous yellowish hairs. Racemes very numerous, axillary, twisted into a spire, but erect while in fruit. Calycine segments subulate. Corolla yellow; tube slender, arched; limb obtuse. Stigmas bifid.

Yellow-flowered Viper's Bugloss. Pl. 1 to 2 feet?

51 E. pustula'tum (Sibth. et Smith, prod. fl. græc. 1. p. 125. fl. græc. t. 180.) stem herbaceous, nearly simple, tubercularly hispid, as well as the leaves; leaves linear-oblong, repand; spikelets simple, spreading; stamens about equal in length to the corolla, which is irregular. ♂. H. Native of Sicily. Lehm. asper. p. 448. Hairs or strigæ very long, shining, rising from large white tubercles, giving the plant a canescent appearance. Tubercles on the stem blackish. Root fusiform. Calyx hispid, with nearly equal linear segments. Corolla large, sub-bilabiate, blue, or violaceous, before expansion red, marked with pilose lines outside. Style bifid at apex.

Pustulate Viper's Bugloss. Pl. 1 to $1\frac{1}{2}$ foot.

52 E. vulga're (Lin. spec. p. 200. fl. suec. ed. 2d. no. 168.) stem herbaceous, usually simple, strigose; leaves linear-lanceolate, hispid; raceme terminal, spike-formed, very long, composed of spreading simple spikelets; corolla irregular; stamens exserted. ♂. H. Native throughout Europe to Caucasus; also of North America, by way sides, and in waste fields and places; plentiful in some parts of Britain. Scop. fl. carn. ed. 2d. 1. p. 129. All. ped. no. 181. Mœnch, meth. p. 422. Vill. dauph. 2. p. 448. Sut. fl. helv. 1. p. 108. Bieb. fl. cauc. 1. p. 135. Bess. fl. gall. 1. p. 154. Smith, prod. fl. græc. 1. p. 125. engl. bot. t. 181. Oed. fl. dan. t. 445. Sturm. fl. germ. fasc. 18. with a figure. Pursh, fl. amer. sept. 1. p. 130. Blackw. t. 299.—Mor. hist. 3. sect. 11. t. 27. f. 1.—Riv. tab. t. 7. f. 2.—Sabb. rom. 2. t. 96. and a monstrous variety, t. 97. Root branched. Stems many from the same root, covered with black tubercles, furnished with axillary spikelets from the middle to the top, the whole forming a very long raceme. Radical leaves rosulate, obtuse. Calyx hispid, with unequal segments. Corolla downy outside, fine purple before expansion, afterwards of a violet blue colour. Style bifid at apex. Nuts wrinkled, tubercled.

Var. β. stem branched from the base, spreading, and often decumbent; stamens longer. ♂. H. Native of Britain. E. vulgàre, β, Smith, fl. brit. 1. c. E. violàceum, Schmidt, fl. bohem. no. 203. p. 3.

Var. γ. *albiflòrum* (Roth, l. c. and others.) flowers white.

Common Viper's Bugloss. Fl. July, Aug. Britain. Pl. 2 to 4 feet.

53 E. tubercula'tum (Hoffm. et Link, fl. port. 1. p. 183.) stem herbaceous, simple, upright, tubercularly hispid, as well as the leaves; leaves lanceolate-linear, with revolute margins; spikelets simple, erect, strict; stamens about equal in length to the corolla, which is irregular. ♃ ?. ♂. H. Native of Portugal; by way sides, particularly about Lisbon and Coimbra. Root branched. Superior leaves sessile, 1-3 inches long, and 3-4 lines broad. Spikelets axillary and terminal, dense, pedunculate. Calyx very hispid, with linear segments. Corolla blue, pilose outside. Style bifid at top.

Tubercular Viper's Bugloss. Fl. July, Aug. Clt. 1820. Pl. $1\frac{1}{2}$ to 2 feet.

54 E. Lusita'nicum (Royen, lugdb. p. 407. Lin. spec. p. 200.) stems herbaceous, simple, hairy; leaves lanceolate, attenuated at the base, acute, rather villous; spikelets simple, alternate, erectly spreading; corolla nearly equal; stamens exserted, 2 of which are very long. ♃. H. Native of Portugal, in sandy places. Lehm. asper. 450. Willd. spec. 1. p. 789. Pers. ench. 1. p. 164. Mill. dict. no. 4. E. Itálicum, Brot. fl. lus. 1. p. 290. Hoffm. et Link, fl. port. 1. p. 185. Root branched. Stems many from the same root. Radical leaves rosulate, canescent, 1 foot long, and 2 inches broad, on short petioles: cauline ones sessile, gradually narrower and shorter. Spikelets simple, numerous, pedunculate, axillary, covering the stem almost from the base to the top. Peduncles and calyxes strigosely hispid, the hairs rising from blackish tubercles. Calycine segments equal, lanceolate, acuminated. Corolla funnel-shaped, pilose outside; limb blue, painted with violet lines, bluntish. Style bifid at apex.

Portugal Viper's Bugloss. Fl. July, Aug. Clt. 1731. Pl. 2 to 3 feet.

55 E. viola'ceum (Lin. mant. p. 42.) stem herbaceous, branched; lower leaves oblong: upper ones lanceolate, cordate at the base, stem-clasping, hispid from strigæ; spikelets simple, elongated; stamens about equal in length to the corolla, which is irregular. ⊙. H. Native of the South of Germany, Spain, France, Italy, Transylvania, and in the South of Tauria, &c. Retz. obs. fasc. 2. p. 9. Willd. spec. 1. p. 788. Bieb. fl. cauc. 1. p. 422. D. C. syn. fl. fr. p. no. 2709. Bess. fl. gal. 1. p. 154. Baumg. fl. trans. 1. p. 131. Lapeyr. abr. p. 91. E. Créticum, Lam. ill. no. 1857. Lapeyr. abr. p. 91. Root fusiform. Stem hispid, from strigæ. Lower leaves obtuse, tapering into the petioles at the base: cauline ones acuminated. Calyx pilose, with unequal, narrow-lanceolate, ciliated, spreading segments. Corollas large, violet or pale blue, striated, beset with scattered hairs. Style bifid at apex.

Violaceous-flowered Viper's Bugloss. Fl. July, Aug. Clt. 1658. Pl. 1 to 2 feet.

56 E. orienta'le (Lin. hort. cliff. p. 43. spec. 200.) stem herbaceous, branched; branches ascending, pyramidal: leaves oblong-lanceolate: uppermost ones cordate, ovate, soft on both surfaces from dense pili; stamens shorter than the corolla, which is large. ♂. H. Native of the Levant. Willd. spec. 1. p. 789. Lam. ill. p. 413. no. 1859. E'chium orientàle, Vesbas-

ci folio, flore maximo campanulato, Tour. itin. 2. p. 107. t. 107.—Trew. pl. rar. 1. t. 1?. Root fusiform, fibrous. Stem pilose. Leaves pale green; radical and lower cauline ones a foot and more long: the rest gradually shorter as they ascend. Spikelets axillary and terminal, simple. Calyx hairy; with lanceolate, acute, segments. Corolla large, purplish blue, with a rather curved tube, and obtuse limb. Style bifid at apex.

Eastern Viper's Bugloss. Fl. July, Aug. Clt. 1780. Pl. 2 to 3 feet.

57 E. grandiflòrum (Desf. fl. atl. 1. p. 166. t. 46.) stem herbaceous, nearly simple, pilosely strigose; leaves ovate-oblong, clothed with downy tomentum: floral ones ovate-lanceolate; spikelets simple, erect; corolla 4 times longer than the calyx; stamens inclosed. ⊙. H. Native of Barbary and Cyrenaica. Horn. hort. hafn. 1. p. 183. Lehm. asper. p. 456. E. macránthum. Rœm. et Schultes, syst. 4. p. 20. Leaves bluntish: lower ones drawn out into petioles: middle and upper ones sessile, 2-3 inches long, becoming gradually shorter as they ascend. Spikelets terminal, and from the axils of the superior leaves. Bracteas clasping, hispid. Calyx pilose or hispid, with linear-subulate segments. Corolla large, nearly an inch long, violaceous, striated, pubescently pilose outside, particularly at the striæ. Style bifid at apex.

Great-flowered Viper's Bugloss. Fl. July, Aug. Clt. 1818. Pl. 1½ foot.

58 E. plantagíneum (Lin. mant. p. 202.) stem herbaceous, erect, paniculately-branched; radical leaves petiolate, ovate-oblong, lined; cauline leaves sessile, lanceolate, beset with long incumbent hairs; stamens hardly equal in length to the corolla, which is irregular. ⊙. H. Native of Greece, Portugal, South of France, Italy, Montevideo, &c. All. ped. no. 138. Smith, prod. fl. græc. 1. p. 124. fl. græc. t. 179. Jacq. hort. vind. 1. t. 45. D. C. syn. fl. fr. no. 2711. St. Hil. pl. usuell. bras. t. 25. Hoffm. et Link, fl. port. 1. p. 186. Poir. dict. 8. p. 671. Horn. hort. hafn. 1. p 182. Lehm. asper. p. 457. E. plantaginoìdes, Rœm. et Schultes, syst. 4. p. 19.—Barrel. icon. 1026. obs. 145. E. amplissimo folio Lusitanicum, Tourn. inst. p. 135. —E. orientàle, folio oblongo molli et cinericio, Tourn. cor. p. 6. Root fusiform, reddish brown. Stems many from the same root, soft to the touch at the base, but scabrous above. Radical leaves obtuse, 2-3 inches long, and 1 to 1½ broad: cauline ones stem-clasping: uppermost ones acute. Flowers large, showy, disposed in solitary, many-flowered, pedunculate spikelets. Calyx hispid; with linear lanceolate, nearly equal segments. Corolla large, purplish-violet, rarely white, red before expansion; limb sub-bilabiate, obtuse. Filaments glabrous. Style bifid at apex.

Plantain-like Viper's Bugloss. Fl. July, Oct. Clt. 1779. Pl. 1 to 2 feet.

59 E. Bentha'mii (Wall. cat. no. 931.) plant thickly clothed with strigose pili; radical leaves long, lanceolate, tapering at both ends, acuminated, 5-nerved; stems simple, naked from the base to the spike of flowers: lower bracteas ovate-lanceolate, acuminated, gradually diminishing in size to the top of the spike: calycine segments very long, linear, very villous. ♃. H. Native of the East Indies, at Buddrinath. Leaves 1 to 1½ foot long. Spike solitary, a foot long. Corolla not seen.

Bentham's Viper's Bugloss. Pl. 2 to 4 feet.

60 E. e'legans (Lehm. asper. p. 459.) stem herbaceous, erect, branched at the base, pilosely hispid; leaves linear-lanceolate, hispid, somewhat repand; stamens a little longer than the corolla, which is irregular. ♂. H. Native in the fields of Naples. E. híspidum, Smith, fl. græc. 1. p. 125. fl. græc. t. 181. E. Sibthórpi, Rœm. et Schultes, syst. 4. p. 26. The whole plant is canescent. Branches beset with red spots. Spikelets simple, alternate, many-flowered. Bracteas linear, ovate at the base. Calycine segments unequal, lanceolate, acute. Corolla of a fine scarlet colour, pilose at bottom. Filaments glabrous. Style bifid at apex.

Elegant Viper's Bugloss. Fl. June, July. Clt. 1824. Pl. 1 to 2 feet.

61 E. Cre'ticum (Lin. spec. 200.) stem herbaceous, diffuse, very hispid, branched at the base; leaves oblong-lanceolate, hispid; calyxes while bearing the fruit distant and widened; stamens inclosed. ⊙. H. Native of Candia, and throughout the Grecian Islands, in the sand by the sea-side. Smith, prod. fl. græc. 1. p. 126. fl. græc. t. 183. Sims, bot. mag. 1934. Schultes obs. p. 33. Nocca, in Usteri. ann. bot. 5. stuck. p. 14. Willd. enum. 1. p. 187. Horn. hort. hafn. 1. p. 183. Lehm. asper. p. 460. Sabb. hort. rom. 2. t. 95. E. rùbrum Mœnch. meth. p. 421. E. angustifòlium, Mill. dict. no. 6. E. Créticum angustifòlium rùbrum, Tourn. inst. p. 136. Root slender, brown. Stems decumbent in the spontaneous plant, but erect when cultivated. Leaves bluntish: radical ones petiolate: cauline ones sessile: floral ones acute, stem-clasping at the base. Spikelets simple, axillary, and terminal, many-flowered. Calyx hispid, with unequal foliaceous segments. Corolla irregular, reddish-violet, marked by 5 villous lines outside. Style bifid at apex.

Cretan Viper's Bugloss. Fl. July, Sept. Clt. 1683. Pl. ½ to 1½ foot.

62 E. floribu'ndum (Lehm. pug. 2. p. 24.) leaves nearly sessile, linear-lanceolate, acute, a little ciliated, downy on both surfaces: radical ones lanceolate, petiolate: racemes bifid, bracteolate; nuts smoothish: prickles glochidate, disposed in a simple series along the margins. ⊙. H. Native of the north-west coast of America. Stem beset with adpressed hairs. Racemes axillary, pedunculate, panicled at the top of the stem, many-flowered. Pedicels pilose: floriferous ones length of calyx, erect; but twice that length, and refracted in the fruit-bearing state. Calycine segments lanceolate, obtuse. Corolla blue, size of that of *Myosòtis palústris*, with roundish segments. Nuts ovate, acute.

Bundle-flowered Bugloss. Pl. 1 to 2 feet.

63 E. Bonarie'nse (Poir. dict. 8. p. 674.) stem herbaceous, simple, pilose; lower leaves linear, very narrow: superior ones dilated at the base, hairy; stamens hardly exceeding the corolla, which is large. ♂?. ⊙?. H. Native of Buenos Ayres. Lehm. asper. p. 462. Stem somewhat fistular. Leaves stem-clasping, 1 to 2 inches long, obtuse: floral ones subsagittate. Spikes terminal on long peduncles. Calyx very hispid, with lanceolate, acuminated segments. Corolla bluish-violet, irregular. Style glabrous; stigma bifid.

Buenos Ayrean Viper's Bugloss. Pl. 1 foot?

64 E. angustifòlium (Lam. ill. p. 412. no. 1856.) stem herbaceous, simple, erect, hispid; leaves linear, very narrow, attenuated at the base, hispid; corolla twice as long as the calyx; stamens exserted. ⊙. H. Native of Spain. Pers. ench. 1. p. 184. Lehm. asper. p. 462.—Barrel. icon. 1011. —Bocc. mus. t. 78. f. 3. Hairs rising from white conical tubercles. Leaves bluntish, 3-4 inches long, and about a line in breadth: lower ones petiolate: upper ones sessile. Spikelets solitary, pedunculate, terminal, and from the axils of the upper leaves. Calycine segments subulate. Corolla funnel-shaped, blue, beset with long, white, stiff hairs above; segments unequal. Style bifid at apex.

Narrow-leaved Viper's Bugloss. Pl. 1 to 2 feet?

65 E. Merte'nsii (Lehm. asper. p. 463.) stems woody at the base, simple, erect, leafy; leaves linear-lanceolate, hispid, hoary; corolla twice as long as the calyx; stamens equal in length to the corolla. ♃. H. Native of Spain. Root fusiform, simple. Stems one or more from the same root, hispid, hoary. Lower leaves 3-4 inches long, and 1-2 lines broad,

acutish; superior ones smaller, all imbricate at the base, and clasping the stem, with revolute edges. Flowers on short pedicels, disposed in short pedunculate spikelets, the whole constituting a terminal, compact, oblong raceme. Calyx hoary and pilose; with linear, nearly equal segments. Corolla funnel-shaped, blue, beset with long white hairs; segments unequal. Style bifid at apex.

Mertens's Viper's Bugloss. Fl. June, July. Clt. 1824. Pl. ½ to 1 foot.

66 E. spatula'tum (Viv. fl. libyc. p. 8. t. 9. f. 1.) plant shrubby, strigose; leaves long-spatulate; corolla twice as long as the calyx; stamens inclosed. ♄. F. Native of Libya, on the shores of the Great Syrtus. Stem branched from the base. Leaves tapering into the petioles; upper ones oblong, sessile. Flowers disposed in short terminal spikes. Calyx very hispid; with linear, acute segments. Corolla violaceous, hairy outside, ciliated. Stigma emarginate.

Spatulate-leaved Viper's Bugloss. Shrub.

67 E. setòsum (Vahl. symb. 2. p. 35.) stems woody at the base, procumbent, branched; leaves linear-lanceolate, very hispid, hoary; stamens a little longer than the corolla. ♃. H. Native of Egypt. Willd. spec. 1. p. 784. Lehm. asper. p. 464. E. rùbrum, Forsk. descr. p. 41. icon. 2. t. 17. f. 2.—The whole plant is hoary, and strigosely hispid. Leaves bluntish, sessile: lower ones more than an inch long. Spikelets terminal, solitary; bracteas ovate-lanceolate. Calycine segments linear-lanceolate, rather unequal. Corolla irregular, red inside, and canescent from villi outside. Style bifid at apex.

Bristly Viper's Bugloss. Pl. procumbent.

68 E. seríceum (Vahl, symb. 2. p. 35.) stems woody at the base, ascending, branched, diffuse; leaves linear, cuneated, hoary on both surfaces from incumbent hairs; stamens much longer than the corolla. ♃. H. Native of Egypt. Willd. spec. 1. p. 783. Lehm. asper. p. 465.—The whole plant is hoary and pilose. Leaves obtuse: lower ones crowded, petiolate, 2-3 inches long; petioles ciliated, stem-clasping; upper leaves gradually shorter, stem-clasping at the base. Flowers sessile, disposed in terminal, simple, compact spikelets. Calycine segments equal, lanceolate. Corolla irregular, villous outside. Style bifid at apex.

Silky Viper's Bugloss. Pl. ascending.

69 E. dista'chyum (Viv. fl. libyc. p. 8. t. 5. f. 1.) stem shrubby, decumbent, hispid from adpressed bristles; leaves linear, and are, as well as the calyxes and bracteas, strigose; corolla twice as long as the calyx; stamens exserted. ♄. F. Native of Libya, in the Great Syrtus, on the shores of Pentapoli. Leaves sessile, with subrevolute edges. Calycine segments linear. Spikes conjugate. Floral leaves length of calyxes. Corolla blue, hairy outside, with roundish lobes. Stigma deeply bifid. Allied to *E. seríceum*, and *E. setòsum*.

Two-spiked Bugloss. Pl. decumbent.

70 E. marítimum (Willd. spec. 1. p. 788. Lehm. asper. p. 466.) stems herbaceous, ascending, simple; leaves spatulate-lanceolate, obtuse, villously strigose, cinereous; stamens about equal in length to the corolla, which is large. ⊙. H. Native of Italy and Sicily, near the sea side; and in corn-fields of Tunis. E. marítimum stoechadum, flore maximo cœruleo, Tourn. inst. p. 136.—Barrel. icon. t. 1012.—Bocc. mus. 2. t. 78. f. 1. Root quite simple. Lower leaves tapering into petioles, 3 inches long; superior ones sessile, lanceolate, obtuse. Spikelets terminal, and from the axils of the upper leaves, dense, pedunculate. Calyx hoary from numerous hairs, with unequal, lanceolate segments. Corolla blue, irregular, downy outside; segments unequal. Style bifid at apex.

Sea-side Viper's Bugloss. Fl. July, Aug. Clt. 1815. Pl. ascending, ½ to 1 foot long.

71 E. te'nue (Roth. cat. bot. fasc. 2. p. 16.) stems herbaceous, erect, branched, slender; leaves linear-lanceolate, setosely pilose; stamens unequal, shorter than the corolla, which is small. ⊙. H. Native of Barbary, in sandy places. Pers. ench. 1. p. 164. exclusive of the syn. of Schousb. Lehm. asper. p. 467. The whole plant, with the exception of the corollas, is beset with tubercles, and stiff, dense hairs. Leaves acute, 2-3 inches long, and 3-4 lines broad. Racemes terminal, usually 3, alternate, dense. Calycine segments lanceolate-linear, nearly equal, acuminated, connivent. Corolla small, fine blue, reticulately veined, downy outside; limb oblique, unequal, obtuse.

Var. β, *hùmile* (Lehm. asper. p. 467.) leaves narrow-lanceolate, pilose, scabrous, running into the petioles at the base; calyxes very hairy. ⊙. H. Native of Barbary, in sandy places. E. hùmile, Desf. fl. atl. 1. p. 165. Pers. ench. 1. p. 164. Plant tufted, 3-4 inches high. Calycine segments linear-subulate.

Slender Viper's Bugloss. Fl. June, July. Clt. 1824. Pl. 1 foot.

72 E. pu'milum (Lehm. pug. 1. p. 18.) stem herbaceous, simple; leaves linear-lanceolate, hispid, hoary; spikes terminal, simple, very short; stamens a little longer than the corolla, which is large. ♃. H. Native of Egypt. Root rather woody. Stems 2 inches high, simple, hispid. Leaves obtuse. Spikes simple, dense, 8-12-flowered, at first revolute. Calyx hispid; segments equal, linear, bluntish. Flowers large for the size of the plant, irregular, violaceous, pilose outside, 3 times as long as the calyx. Stigma bifid.

Dwarf Bugloss. Pl. 2 inches.

73 E. parviflòrum (Mœnch. meth. p. 423. Roth. catal. fasc. 2. p. 14.) stems herbaceous, ascending, branched; leaves obovate-oblong, bluntish, strigosely pilose; stamens one half shorter than the corolla, which is small. ⊙. H. Native along the shores of the Mediterranean sea, &c. Pers. ench. 1. p. 164. Horn. hort. hafn. 1. p. 183. Willd. enum. 1. p. 187. E. calycìnum, Viv. fragm. fl. ital. fasc. 1. p. 2. t. 4. D. C. fl. fr. 4. p. 419. Lois. journ. bot. 2. p. 262. E. prostràtum, Tenore. fl. neap. prod. p. 14. fl. neap. 1. p. 60. t. 12. E. ovàtum, Poir. dict. 8. p. 666. E. micránthum, Schousb. beob. maroc. p. 75. E. Lusitánicum, All. ped. no. 182. E. marítimum, Tenore.—Till. hort. pis. p. 56. t. 23. f. 3.—Bocc. mus. p. 163. t. 132. Root fibrous. Stems many from the same root, strigosely hispid. Tubercles white, from which hairs rise. Radical leaves more than 2 inches long, petiolate, as well as the lower cauline ones: upper cauline ones sessile. Flowers nearly sessile, disposed in simple, terminal spikes. Calyx hispid, inflated, and larger in the fruit-bearing state; with unequal, lanceolate segments. Corolla rather irregular, pale blue, tubular, pilose outside; segments roundish-cordate. Style bifid at apex.

Small-flowered Viper's Bugloss. Fl. July, Aug. Clt. 1798. Pl. procumbent.

74 E. diffu'sum (Smith, prod. fl. græc. 1. p. 125. fl. græc. t. 182.) stems herbaceous, prostrate, diffuse, nearly simple; leaves linear-subspatulate, setosely strigose; stamens a little shorter than the corolla, which is large. ⊙. H. Native of Candia. Root thick, rather woody. Stems numerous, hispid. Leaves 1-2 inches long. Flowers sessile, disposed in terminal, simple, many-flowered elongated spikes; bracteas obovate-spatulate, recurved. Calyx bristly, with nearly equal, linear, acute segments. Corolla irregular, scarlet, beset with white pili outside. Style bifid at apex.

Diffuse Viper's Bugloss. Fl. June, July. Clt. 1817. Pl. prostrate.

75 E. longifòlium (Delile. descrip. egypt. 2. t. 16. f. 3.) erect, simple; leaves linear-lanceolate, elongated, strigose; corolla large; stamens exserted. ♃. H. Native of Egypt.

Long-leaved Viper's Bugloss. Pl.

76 E. arena'rium (Guss. sem. hort. Bocc. 1825. ex Linnæa, 4. p. 37.) stem diffuse; leaves obtuse; corolla small, tubular; calyx hispid from strigæ, by which it differs from *E. diffùsum*, and *E. tènue*. ♃. H. Native of the South of Europe.

Sand Bugloss. Pl. diffuse.

† *Species doubtful or hardly known, many of which are probably synonymous with some of those described above.*

77 E. Salma'nticum (Lag. gen. et spec. nov. diagn. 1806. p. 10.) radical leaves lanceolate; stamens very long, glabrous; throat of corolla impervious. ♃. H. Native of Spain, about Salamanca. Plant hispid.

Salamanca Viper's Bugloss. Fl. June, July. Clt. 1811. Pl. 1 to 2 feet.

78 E. Valentìnum (Lag. l. c.) plant strigose; leaves lanceolate; corollas campanulately funnel-shaped, nearly equal, longer than the calyx; stamens about equal in length to the corolla. ♃. H. Native of Spain, in the province of Valentia, where it was gathered by Cavanilles.

Valentia Viper's Bugloss. Pl.

79 E. Schiffe'ri (Lang, in syll. soc. reg. ratisb. vol. 2. with a figure, ex Bull. phil. 18. p. 240.) We know nothing of this species.

Schiffer's Viper's Bugloss. Pl.

80 E. Laga'scæ (Rœm. et Schultes, syst. 4. p. 27.) strigose; stem panicled at top; branchlets alternate, terminated by a bifid spike; corolla shorter than the calyx; upper leaves lanceolate, subpetiolate. ♃. H. Native of Spain, near Hispalim. E. paniculàtum, Lag. l. c. but not of Thunb.

Lagasca's Viper's Bugloss. Pl.

81 E. elonga'tum (Lam. ill. no. 1855. Poir. dict. 8. p. 669.) stem herbaceous, erect, pilose, forming a long spike at top; corolla hardly exceeding the calyx; stamens exserted. ♂.? H. Native country unknown. This species is said to differ from *E. aspérrimum*, and *E. Pyrenàicum*, in the long spike; in the sessile flowers, small, obliquely truncate corollas, with short, obtuse, white lobes.

Elongated-spiked Viper's Bugloss. Pl.

82 E. spine'scens (Med. bot. beob. des jahres. 1783. no. 36. Lehm. asper. p. 474.) Nothing is known of this plant but the name.

Spinescent Viper's Bugloss. Pl.

83 E. megala'nthum (Lapeyr. abr. suppl. p. 39.) stem herbaceous, simple, elongated, pilose; leaves lanceolate, strigose; corolla unequal, rather villous outside, much longer than the calyx; pistil longer than the stamens, which are exserted. ♂. H. Native of the Pyrenees; as well as of Galicia and Jacca, on the mountains. E. grandiflòrum, Lapeyr. abr. p. 90. fl. pyr. ined. t. 65. E. longistamíneum, Pourr. chlor. hisp. no. 611. Habit of *E. altíssimum*, Jacq.; but the stem is only floriferous at the apex. Corolla irregular, 4 times longer than the calyx, white, ciliated on the edges. Perhaps only a var. *E. violàceum*. See D. C. fl. fr. 6. p. 418.

Large-flowered Viper's Bugloss. Pl. 2 to 3 feet.

84 E. Austra'le (Lam. ill. no. 1860. Poir. dict. 8. p. 692.) stem herbaceous, pilose; leaves ovate, attenuated at both ends; corollas equalling the stamens, which are villous at the apex. ⊙. H. Native about the Nile, in fields. Poir. dict. 8. p. 692. D. C. syn. fl. fr. no. 2710. Pers. ench. 1. p. 164. This species is joined by Loiseleur, in fl. gall. 1. p. 111. with *E. Lusitánicum*; others have joined it with *E. violàceum*, *E. Créticum*, and *E. grandiflòrum*. It is often to be found in gardens and Herbaria under the names of *E. violàceum*, and *E. Créticum*; and is probably the *E. Créticum* of Schultes, obs. bot. p. 33. of which he gives the following diagnosis: "Stem 1-2 feet high, clothed with canescent hairs. Superior leaves acuminated. Spikes elongated, leafy, very hispid. Calycine segments straight, acute. Corolla twice as long as the calyx, rather pilose, violaceous or purple, irregular. Stamens and style rather pilose; stigma bifid. ⊙. H. Native of the south of Europe."

Southern Viper's Bugloss. Fl. July, Aug. Clt. 1824. Pl. 1½ foot.

85 E. longiflòrum (Du Mont de Courset, bot. cult. 7. suppl. p. 147. to vol. 3. p. 198.) Nothing is known of this plant but the name. ♄. G. Native of the Cape of Good Hope.

Long-flowered Viper's Bugloss. Fl. June, July. Clt. 1806. Shrub 2 to 3 feet.

86 E. pyramida'tum (Du Mont de Courset, l. c.) ♄. G. Native of the Cape of Good Hope. Nothing is known of this plant but the name.

Pyramidal Viper's Bugloss. Fl. May, July. Clt. 1820. Shrub 2 to 3 feet.

87 E. brachysta'chyum (Pall. ex herb. Willd. see Rœm. et Schultes, syst. 4. p. 726.) corollas nearly equal, twice longer than the calyx; stamens longer than the corolla; spikes axillary, usually 5-flowered, sessile; leaves lanceolate, obtuse, rough from dots or tubercles. ♃. H. Native of Siberia. Pallas.

Short-spiked Viper's Bugloss. Pl.

88 E. a'lbicans (Schott. fil. ex Rœm. et Schultes, syst. 4. p. 726.) stem erect, simple, hairy, mixed with long strigæ; radical leaves broad-lanceolate: cauline leaves linear-lanceolate, densely strigose; bracteas and leaves of calyx hispid from long, ciliated strigæ; corolla pale red, hairy. ♂.? H. Native near Tarifa, Schott. Plant white from strigæ. Spikes lateral, much shorter than in *E. Itálicum*.

Whitish Viper's Bugloss. Pl. erect.

Cult. All the species of *Echium* are very elegant when in flower; and are, therefore, worth cultivating in every collection, particularly the hardy species. The shrubby kinds, being all greenhouse plants, grow very well in a mixture of loam, sand, and peat; and cuttings of them will strike root in the same kind of soil, under a hand-glass; but they are more readily increased by layering down the young shoots, making a small incision with a knife on the back of each shoot so laid before pegging it down; they may be also raised from seeds, which are sometimes produced in this country. The hardy species grow very well in common garden soil, in a dry situation; and they are only to be increased by seeds, which should be sown in the open ground in spring; their treatment is that of other hardy, perennial, biennial, and annual plants. All the hardy kinds are well fitted for decorating flower borders, from the different shades of their elegant blossoms.

XXII. ECHIOCHI'LON (from εχιον, *echion*, Bugloss; and χειλος, *cheilos*, a lip; in reference to the bilabiate limb of corolla, and its affinity with Bugloss.) Desf. fl. atl. 1. p. 166. t. 47. Lehm. asper. p. 477.

Lin. syst. *Pentándria, Monogýnia.* Calyx 4-parted. Corolla with a slender arched tube, a naked throat, and a bilabiate limb; upper lip 2-lobed: lower one somewhat 3-lobed. Stamens 5, inclosed. Nuts 4, 1-celled, glabrous, tubercled, imper-

forated at the base, fixed to the bottom of the calyx.—A shrubby plant, with hairy branches, evergreen, subulate, hispid leaves, and axillary, sessile, solitary, small blue flowers. This genus appears to be the connecting link between *Boragíneæ* and *Labiàtæ*.

1. E. fruticòsum (Desf. l. c. Delile, fl. ægypt. 238. Viv. p. 9.) ♄. F. Native of the kingdom of Tunis, near Kerwan; and on the shores of the Great Syrtus. Stems and leaves tubercular, rather strigose. Branches clothed with white pili. Lower leaves reflexed: upper ones adpressed to the stem. Corolla hairy outside; lobes rounded. Anthers versatile. Style slender; stigma 2-lobed.

Shrubby Echiochilon. Shrub 1 foot.

Cult. For culture and propagation see *Onósma*, p. 317.

XXIII. NO'NEA (named by Mœnch, after J. P. None, a German botanist.) Mœnch. meth. 420. Med. phil. bot. 1. p. 31. D. C. syn. fl. fr. no. 2718, &c.—Oscámpia, Mœnch. meth. p. 420. Lycópsis, Lehm. asper. 252.—Echioìdes, Dill. —Lycópsis species of Lin. and other authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft, drooping, inflated and campanulate in the fruit-bearing state. Corolla funnel-shaped, with a pervious bearded throat, and a straight tube. Stamens inclosed. Stigma simple. Nuts 4, 1-celled, turbinate, concave, and perforated at the base, fixed to the bottom of the calyx.—Hispid, annual plants; with terminal, leafy racemes of flowers. Habit of species of *Lycópsis*. Radical leaves petiolate: cauline ones sessile.

1 N. pícta; hispid; stems procumbent, much branched; leaves linear-lanceolate, undulated, obsoletely toothed: floral ones broadest at the base; limb of corolla equal, shorter than the tube. ⊙. H. Native of Siberia, in sandy deserts at the Volga, Terek, and Kuma; in vineyards about Astrachan; and in Eastern Iberia; as well as in the Soongarian desert. Anchùsa pícta, Bieb. fl. cauc. 1. p. 127. Trev. in schrift. gesell. nat. freund. berol. 1817. p. 147. Lehm. asper. 255. Ledeb. fl. alt. 1. p. 185. Root simple. Floral leaves much longer than the flowers. Calycine segments unequal, subulate. Corolla having the tube a little longer than the calyx, pale at bottom, with a pilose throat, and a blue limb, painted with deeper veins.

Painted-flowered Nonea. Fl. June, July. Clt. 1800. Pl. procumbent.

2 N. Cá'spica; hispid; stem erect, almost simple; leaves lanceolate, or narrow-oblong, attenuated at both ends, entire; limb of corolla equal, shorter than the tube. ⊙. H. Native in sandy places towards the Caspian Sea; and in the Soongarian desert. Ledeb. fl. alt. 1. p. 185. Onósma Cáspica, Willd. spec. 1. p. 775. exclusive of the synon. of Pall. Lycópsis Cáspica, Lehm. asper. p. 256. Root fusiform, violaceous. Pedicels shorter than the floral leaves. Calycine segments hairy, lanceolate-linear, long-acuminated. Corolla one-half longer than the calyx, purple; tube slender, dilated at top, equal in length to the limb.

Caspian Nonea. Pl. ½ to ¾ foot.

3 N. cilia'ta (Rœm. et Schultes, syst. 4. p. 71.) hispid; stem simple, erect; leaves oblong-lanceolate, obtuse, denticulated: floral ones acuminated; limb of corolla unequal, nearly the length of the tube. ⊙. H. Native of the Levant. Lycópsis ciliàta, Willd. spec. 1. p. 780. Lehm. asper. p. 257. Root quite simple. Racemes twin, terminal. Floral leaves longer than the calyx. Calycine segments narrow-lanceolate, acuminated. Corolla large, yellow; tube cylindrical, a little longer than the calyx. Leaves beset with long white pili, especially on the margins and midrib.

Ciliated-leaved Nonea. Fl. June, July. Clt. 1804. Pl. ½ to ¾ foot.

4 N. obtusifòlia; hispid from pili; stems ascending, simple; leaves oblong-lanceolate, obtuse, nearly entire: floral ones lanceolate, acute; limb of corolla unequal, one-half shorter than the tube. ⊙. H. Native of Chio. Lycópsis obtusifòlia, Willd. spec. 1. p. 780. Pulmonària Chia echii folio verrucoso, calyce vesicario, flore cœruleo, Tourn. cor. p. 6. Root fibrous. Stems many from the same root. Radical leaves rosulate, roundish-obtuse: cauline leaves half stem-clasping. Calycine segments ovate, acute. Corolla blue, one-third longer than the calyx.

Var. β. Pulmónaria Lesbia, echii folio verrucoso, calyce vesicario, flore cœruleo, Tourn. cor. p. 6. ⊙. H. Native of Lesbo. This is larger; the leaves more hispid, and obsoletely and remotely toothed, but otherwise very like var. α.

Obtuse-leaved Nonea. Fl. June, July. Clt. 1818. Pl. ½ to ¾ foot.

5 N. Sibthorpia'na; hispid from pili; stems procumbent, almost simple; radical leaves oblong-elliptic: cauline ones lanceolate, obtuse, quite entire: floral ones acute, ovate-lanceolate at the base; limb of corolla equal, flat, one-half shorter than the tube. ♃. H. Native of Candia, on the Spaciotic mountains. Anchùsa ventricòsa, Smith, prod. fl. græc. 1. p. 117. fl. græc. t. 169. Viv. fl. libyc. p. 10. t. 4. f. 1. Root fusiform, fibrous. Stems simple or bifid at top: lateral ones prostrate: middle ones ascending. Leaves sessile. Flowers sessile, in the axils of the floral leaves. Calycine segments short, unequal, acute. Corolla white, ex Smith, violaceous or blue, ex Viv., small, having the tube a little longer than the calyx, and the throat bearded; processes in the throat ciliately fringed. Style exceeding the corolla. This and *N. alpéstris* are probably species of *Anchùsa*, from the throat of the corolla being furnished with fringed processes.

Sibthorp's Nonea. Pl. procumbent.

6 N. alpe'stris; hispid; stems ascending, simple; leaves oblong-lanceolate, bluntish, erosely toothed; limb of corolla equal, length of tube; calyx 5-toothed; teeth bluntish, ex Stev. acute, ex Lehm. ♃.? H. Native of Eastern Caucasus, on alp Schahdagh, at the fountains of the river Jucharibasch. Anchùsa alpéstris, Stev. in Lin. trans. 11. p. 409. t. 32. Lycópsis alpéstris, Lehm. asper. p. 260. Root branched, blackish. Racemes terminal, conjugate, revolute at top. Bracteas lanceolate, acuminated. Corollas size of those of *Anchùsa lùtea*, twice as large as the calyx; tube cream-coloured; limb yellow, with a fulvous base; throat closed by 5 very short bearded scales. Calyx with 5 bluish lines.

Alp Nonea. Pl. 1 foot.

7 N. ròsea (Link, enum. 1. p. 167.) hispid; stems procumbent, simple; leaves oblong, bluntish, obsoletely toothed, clammy; limb of corolla equal, length of tube. ⊙. H. Native of Siberia, at the river Terek, in gardens and vineyards. Anchùsa ròsea, Bieb. fl. cauc. 1. p. 225. cent. pl. ross. t. 43. Lehm. asper. p. 261. Root fusiform, simple. The whole plant is hispid and clammy. Floral leaves cordate-oblong, obliquely acuminated, much longer than the flowers. Racemes usually solitary. Calycine segments lanceolate-subulate, conniving in the fruit-bearing state. Corolla having the tube a little curved, a little longer than the calyx; limb fine purple, marked with 10 yellow lines towards the throat, disposed by pairs; throat bearded with long hairs. Anthers bluish.

Rose-coloured-flowered Nonea. Fl. June, July. Clt. 1823. Pl. procumbent.

8 N. decu'mbens (Mœnch, meth. p. 422.) hispid; stems

procumbent, branched; leaves lanceolate, quite entire: floral ones much longer than the calyx; corolla equal, hardly exceeding the calyx; limb very short. ⊙. H. Native of Europe, and in sandy places near Tozzer. N. violàcea, D. C. syn. fl. fr. no. 2718. exclusive of the syn. of Desf. Echioìdes nígricans, Desf. fl. atl. 1. p. 163. Anchùsa nígricans, Brot. fl. lus. 1. p. 298. Lycópsis nígricans, Pers. ench. 1. p. 163. Horn. hort. hafn. 1. p. 181. Hoffm. et Link, fl. port. 1. p. 130. t. 22. Lycópsis vesicària, Lin. spec. 198. Roth. tent. fl. germ. 2. p. 216. Willd. spec. 1. p. 779. enum. 1. p. 188. Lapeyr. abr. p. 89. Lehm. asper. p. 262.—Mor. hist. 3. sect. 11. t. 26. f. 11. —Zan. hist. t. 30. Leaves acute, pale green; floral ones obliquely acuminated. Calycine segments lanceolate, acute. Corolla with a yellowish tube, and a dark purple, almost black limb; throat pilose. Anthers brown.

Decumbent Nonea. Fl. June, July. Clt. 1686. Pl. procumbent.

9 N. ELONGA'TA; hispid from pili; stem erect, simple; leaves lanceolate, quite entire: floral ones ovate, cordate, shorter than the calyxes; limb of corolla equal, one-half shorter than the exserted tube. ♃. ? H. Native of the deserts of Alexandria. Lycópsis elongàta, Lehm. asper. p. 264. Calycine segments lanceolate, unequal. Corolla with a pale yellow tube, and purplish blue limb; tube of corolla length of calyx.

Elongated-racemed Nonea. Pl. 1½ to 2 feet.

10 N. COLSMANNIA'NA; hispid; stems erect, branched; branches divaricate; leaves linear-lanceolate, quite entire: floral ones ovate, acuminated; limb of corolla unequal, a little shorter than the tube. ♃. H. Native country unknown. Lycópsis Colsmanniàna, Lehm. asper. p. 265. Root woody, twisted. Stems many from the same root, tufted. Floral leaves a little longer than the flowers. Racemes usually conjugate. Calycine segments lanceolate, acute. Corolla purple; tube length of calyx. Nuts as in *N. decúmbens*.

Colsmann's Nonea. Pl. ½ to ¾ foot.

11 N. PU'LLA (D. C. syn. fl. fr. no. 2719.) pilose; stems erect, nearly simple; leaves lanceolate, quite entire, soft, clothed with adpressed pili: floral ones ovate-lanceolate; limb of corolla equal, length of tube. ♃. H. Native of South and Middle Europe, in corn-fields, and by way sides; and of Caucasus, in grassy places. Lycópsis púlla, Lin. spec. p. 196. Jacq. fl. austr. 2. p. 53. t. 188. Gærtn. fruct. 1. p. 327. Lapeyr. abr. p. 89. Bess. fl. gal. 1. p. 153. Anchùsa púlla, Bieb. fl. cauc. 1. p. 125. Lycópsis vesicària, Horn. hort. hafn. 1. p. 181. but not of Lin. Echioìdes violàcea, Desf. fl. atl. 1. p. 164. Anchùsa tinctòria, Pall. ind. taur.—Clus. hist. 2. p. 164. f. 1.—Riv. intr. herb. 1. t. 8. Root fusiform, simple. Leaves somewhat canescent: radical ones more or less crowded: cauline ones half stem-clasping, acuminated, ciliated with long rigid hairs, longer than the flowers. Racemes axillary and terminal, at the tops of the stems, short, dense, many-flowered, nutant. Calycine segments unequal, acuminated. Corolla with a pale yellow tube, which is shorter than the calyx, and a dark purple, almost black limb.

Dark-flowered Nonea. Fl. June, July. Clt. 1648. Pl. ½ to 1½ foot.

12 N. LU'TEA (D. C. fl. gall. 6. p. 420.) pilose; stems ascending, branched above; leaves oblong, obtuse, almost quite entire: floral ones subcordate, obliquely acuminated, at last distich; limb of corolla equal, length of tube. ⊙. H. Native of France and Italy; and of Caucasus, in sterile places, especially among sand at the river Terek. Lycópsis lùtea, Lam. ill. no. 1828. Schultes, obs. p. 33. Lehm. asper. p. 267. Anchùsa lùtea, Bieb. fl. cauc. 1. p. 126. exclusive of the syn. of Lin. and Curt. Horn. hort. hafn. 1. p. 176. Willd. enum. 1. p. 179. exclusive of the syn. of Lin. and Forsk. Anchùsa lycópsidis, Retz, fil. pug. p. 8—9. Anchùsa dùbia, Nocca, hort. ticin. t. 3. Asperùgo divaricàta, Murray, in nov. comm. gœtt. 1776. vol. 7. p. 25. t. 2. Oscámpia dichótoma, Mœnch. meth. p. 421. Root fibrous. Radical leaves obovate-oblong, obtuse; floral ones longer than the calyxes, all rather clammy. Racemes terminal, erect. Calycine segments lanceolate, acuminated. Corolla pale sulphur-coloured, longer than the calyx; tube much shorter than the calyx, marked by 5 hollows under the throat, which is green and pilose.

Var. β; flowers about half the size. ⊙. H. Bieb. fl. cauc. 1. p. 126.—Bieb. cent. 2. t. 13. f. 2.

Yellow-flowered Nonea. Fl. June, July. Clt. 1805. Pl. 1 to 2 feet.

13 N. FLAVE'SCENS; annual, downy, also beset with stiff bristles or strigæ; stems diffuse or erect, branched; leaves oblong-lanceolate, acute, quite entire: cauline ones sessile: floral ones subcordate; corollas about equal in length to the calyx: tube 3 times longer than the limb, which is equal; calyxes, when bearing the fruit, inflated and pendulous: teeth connivent; nuts obovate, nearly glabrous. ⊙. H. Native of Caucasus, in fields near Sallian and Lenkoran; as well as in the island of Sara. Lycópsis flavéscens, Meyer, verz. pflanz. p. 98. Corollas pale yellow.

Yellowish-flowered Nonea. Pl. diffuse.

14 N. SETÒSA; strigose; stem erect, simple; leaves oblong-lanceolate, denticulated: floral ones ovate; limb of corolla equal, twice as long as the calyx, and the length of the tube. ⊙. ? H. Native of Iberia. Lycópsis setòsa, Lehm. asper. p. 269. Leaves obtuse. Strigæ or bristles very long. Racemes at first conglobate. Calycine segments lanceolate, acuminated. Corolla large, yellow, with a pilose throat. Habit of *N. echioìdes*.

Bristly Nonea. Pl. ½ to 1 foot.

15 N. ECHIOÌDES; pilose; stems erect, much branched; leaves lanceolate, quite entire, pilose, rather silky: floral ones ovate, somewhat cordate; limb of corolla unequal, thrice as long as the calyx, but one-half shorter than the tube. ♃. H. Native of Caucasus and Armenia, in alpine pastures. Lycópsis echioìdes, Lin. spec. p. 199. Willd. spec. 1. p. 781. Lehm. asper. p. 270. Lycópsis púlchra, Willd. herb. no. 3396. Anchùsa echioìdes, Bieb. fl. cauc. 1. p. 270.—Buxb. cent. t. 1. Stems numerous. Radical leaves large; lower cauline ones 3-4 inches long. Flowers nearly sessile, disposed in terminal, conjugate, leafy, spike-formed racemes. Calyx silky from pili, with lanceolate segments. Corolla large, an inch long, pale yellow, with very black spots in the throat, which is pilose.

Bugloss-like Nonea. Fl. June, July. Clt. 1820. Pl. ½ to 1½ foot.

16 N. DECU'RRENS; perennial; the whole plant clothed with short, minute, velvety down; stem erect, a little branched, winged; cauline leaves lanceolate, acute, quite entire, a little decurrent; corollas hardly longer than the calyx; tube exceeding the limb, which is equal; calyx, when bearing the fruit, inflated, pendulous; teeth of calyx connivent; nuts large, downy. ♃. H. Native of Caucasus, on the Talusch Mountains, in grassy places, at the altitude of 900 to 1000 hexapods. Lycópsis decúrrens, Meyer, verz. pflanz. p. 98. Corollas purple.

Decurrent-leaved Nonea. Pl. erect.

17 N. VERSÍCOLOR (Sweet, hort. brit.) pilose or strigose; stems prostrate; leaves obtuse; corollas equal. ⊙. H. Native of Caucasus, on alps about Chinalug; and on the edges of fields towards Kasbek. Anchùsa versícolor, Stev. in act. mosc. p. 11. Nearly allied to *N. ròsea*, and *N. lùtea*, but differs in the floral leaves being obtuse, not cordate; in the co-

rollas being larger, and the limb subcampanulate, striped with blue, dusky-white, and violet; in the nuts being larger and veiny, not smooth.

Party-coloured-flowered Nonea. Fl. June, Aug. Clt. 1820. Pl. prostrate.

18 N. PHANERANTHE'RA (Viv. fl. libyc. p. 9. t. 1. f. 3.) radical leaves elliptic: cauline and floral ones half stem-clasping; spikes erectish, secund; stamens exserted, alternating with the segments of the corolla. ⊙. H. Native of Cyrenaica. Mólkia Cyrenàica, Spreng. syst. 1. p. 548. Stem erect, hispid, simple, but sometimes branched at the base. Leaves hispid; cauline ones linear-elliptic; floral ones ovate-acuminated. Flowers disposed in a secund, racemose spike, which is hardly recurved. Calyx cleft beyond the middle; segments linear, acuminated, connivent, but reflexed in the fructiferous state. Corolla glabrous, hardly longer than the calyx; throat naked. Nuts convex on the back, reticulately veined, beaked at the apex, and tubercled at the sides. Filaments inserted a little below the segments of the corolla.

Appearing-anthered Nonea. Pl. ½ foot?

19 N. SCHULTE'SII; plant very hispid; leaves and bracteas very long, lanceolate; stem erect; calyx at length inflated. ⊙. H. Native of Teneriffe. Lycópsis calycìna, Rœm. et Schultes, syst. 4. p. 74. Root purple, a span long. Stems many, branched from the base. Leaves thin. Bristles or strigæ on the leaves white, on the calyxes and bracteas yellowish. Bracteas twice as long as the flowers, or more. Calycine segments linear-subulate, unequal. Corolla twice as long as the calyx, fucescent in the dried state.

Schultes's Nonea. Pl. ½ to 1 foot.

20 N. CONFERTIFLÒRA; branches decumbent, diffuse, very rough; leaves long-lanceolate, quite entire, strigose; spikes imbricate, bracteate; corolla longer than the calyx. ⊙.? H. Native of Palestine. Lycópsis confertiflòra, Clark, ex Spreng. syst. 1. p. 556.

Crowded-flowered Nonea. Pl. decumbent.

† *Species hardly known.*

21 N. A'LBA (D. C. fl. gall. 6. p. 420.) ⊙. H. Native in corn-fields near Avignon. Corollas white.

White-flowered Nonea. Pl.

22 N. CAPE'NSIS; leaves lanceolate, strict, dotted; peduncles recurved; flowers terminal, spicate, secund.—Native of the Cape of Good Hope. Lycópsis Capénsis, Burm. prod. fl. cap. p. 4.

Cape Nonea. Pl.?

What are *Echioìdes rùbra*, Desf. fl. atl., and *Echioìdes grandiflòra*, Desf. tabl. d l'ecole, bot. 1815?

Cult. For culture and propagation see *Anchùsa*, p. 343.

XXIV. LOBOSTE'MON (from λοβος, *lobos*, a lobe, and στημων, *stemon*, a stamen; in allusion to the processes of the throat bearing the stamens on their back). Lehm. sem. hort. hamb. 1827.

LIN. SYST. *Pentàndria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped; throat furnished with erect processes, which bear the stamens on their back. Nuts 4, 1-celled, turbinate, fixed to the bottom of the calyx, imperforated at the base.—A small shrub, with the habit of *E'chium sphærocéphalum*.

1 L. ECHIOÌDES (Lehm. l. c. t. 5. f. 1.) stem terete, glabrous; branches hairy; leaves scattered, sessile, elliptic-lanceolate, obtuse, glabrous above, but strigose beneath; spikes 2-3 together, terminal bracteate; bracteas length of calyx. ♄. G. Native of the Cape of Good Hope, at Brede river. Corolla blue.

Bugloss-like Lobostemon. Shrub.

Cult. For culture and propagation see the shrubby species of *E'chium*, p. 335.

XXV. LYCO'PSIS (from λυκος, *lycos*, a wolf; and οψις, *opsis*, the face; some resemblance in flowers.) Lin. gen. no. 190. Schreb. gen. no. 250. Juss. gen. p. 131. ed. Usteri, p. 146. Schkuhr, handb. 1. t. 29. Lam. ill. t. 92.—Anchùsa species of Lehm. and Bieb. Buglóssum, Gærtn. fruct. 1. no. 414. t. 67. f. 2. Echioìdes, Dill. gen. 3.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-cleft, erect, not inflated. Corolla funnel-shaped, 5-lobed, erectly spreading; lobes entire; tube incurved; throat furnished with ovate, prominent, connivent processes. Stigma emarginate. Nuts concave at the base, 1-celled, turbinate, fixed to the bottom of the calyx.—Rough, erect plants. This genus differs principally from *Anchùsa* in the curved tube of the corolla.

1 L. ORIENTA'LIS (Lin. spec. p. 199.) stem erect, dichotomously branched; leaves ovate, half stem-clasping, unequal at the base, quite entire, hispid from strigæ; racemes very long, leafy; tube of corolla unequal, incurved: the processes in the throat pencilled. ⊙. H. Native of Caria. Smith, prod. fl. græc. 1. p. 124. Anchùsa ovàta, Lehm. asper. p. 222.—Buxb. cent. 5. t. 30. Plant strigose. Stem bluntly angular. Pedicels one half shorter than the bracteas. Calycine segments linear-lanceolate, unequal, erect in the flowering state, but spreading in the fruit-bearing state. Tube of corolla length of calyx, white at bottom and violaceous at top; limb sky-blue. Nuts wrinkled, black.

Eastern Wild Bugloss. Fl. June, July. Clt. 1796. Pl. 1 foot.

2 L. VARIEGA'TA (Lin. spec. 198.) stems ascending, nearly simple; leaves ovate-oblong, half stem-clasping, hispid from strigæ, spiny, toothed; racemes solitary, bracteate at bottom; tube of corolla unequal, incurved; processes in the throat downy. ⊙. H. Native of Italy, and the adjacent islands; Candia, and other islands of the Archipelago and of the Peloponnesus. Allion, pedem. no. 168. Smith, fl. græc. t. 178. L. bullàta, Cyrill. pl. rar. fasc. 1. p. 34. Anchùsa perlàta, Lam. ill. no. 1820. Anchùsa variegàta, Lehm. asper. p. 223.—Mor. hist. 3. sect. 11. t. 26. f. 10.—Stiss. bot. t. 57.—Barrel. icon. t. 403.—Munt. oeff. pl. t. 309. Buglossoìdes, Riv. mon. p. 9. Anchùsa Crética, Mill. dict. no. 7. Plant very hispid from strigæ. Radical leaves obtuse, 3-4 inches long; the upper cauline ones hardly an inch. Racemes short at first, capitate. Calycine segments linear, unequal. Tube of corolla a little shorter than the calyx; limb blue, variegated with white lines; processes in the throat white.

Variegated-flowered Wild Bugloss. Fl. June, July. Clt. 1683. Pl. ascending, 1 foot.

3 L. ARVE'NSIS (Lin. spec. 199. fl. suec. no. 167.) stem erect, branched; leaves lanceolate, half stem-clasping, toothed, very hispid from strigæ; racemes leafy; tube of corolla incurved, length of the calycine segments, which are unequal and lanceolate; processes of the throat hairy. ⊙. H. Native throughout Europe and North America, in corn-fields and waste grounds; plentiful in Britain. Curt. fl. lond. t. 336. Oed. fl. dan. t. 435. Smith, engl. bot. t. 938. Anchùsa arvénsis, Hoffm. et Link, fl. port. 1. p. 179. Bieb. fl. cauc. 1. p. 123. Lehm. asper. p. 225. —Blackw. t. 234.—Mor. hist. 3. sect. 11. t. 26. f. 8. Echioìdes, Riv. mon. t. 7. f. 2. Plant hispid from strigæ. Leaves undulated. Racemes short at first, but at length elongated. Corolla

blue, striped with 5 fine white veins. Nuts reticulately wrinkled, girded by a tumid circle below. This plant was formerly recommended as a remedy against the anthrax, or corrosive ulcer, commonly called a carbuncle, by laying the bruised leaves on the tumour; but it is difficult to persuade oneself that such a plant can have any efficacy in such a disease.

Corn or Common Wild Bugloss. Fl. June, Sept. Britain. Pl. $\frac{1}{2}$ to 1 foot.

4 L. Virgínica (Gron. virg. 140. Pursh, fl. 1. p. 133.) leaves linear-lanceolate, entire, crowded, soft, tomentose; stem erect. ⊙. H. Native from Pennsylvania to Virginia, in dry woods. Plant small, very hispid. Lower leaves spatulate, entire. Racemes solitary. Corollas small, white.

Virginian Wild Bugloss. Pl. small.

Cult. The seeds of all the species only require to be sown in the open border in spring.

Tribe IV.

BUGLO'SSEÆ (βουγλωσσος is the Greek name for Bugloss, from βους, *bous*, an ox; and γλωσσα, *glossa*, a tongue; in reference to the roughness and shape of the leaves of most species.) D. Don. in edinb. phil. journ. July, Oct. 1832. Corolla salver-shaped, having the mouth closed with vaulted processes. Nuts 4, distinct, 1-celled.

Sub-Tribe I.

ANCHUSEÆ. Nuts perforated at the base, fixed to the bottom of the calyx.

XXVI. ANCHU'SA (from αγχουσα, *anchousa*, paint for the skin; use of some species.) Lin. gen. no. 182. ed. Schreb. no. 242. Juss. gen. p. 131. Lam. ill. no. 257. t. 92. Schkuhr, handb. 1. t. 29. Lehm. asper. p. 211.—Buglóssum Gærtn. fruct. 1. no. 414. t. 67. f. 2. Tourn inst. t. 53.—Lycópsis species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft or 5-parted. Corolla funnel-shaped; throat closed by erect obtuse processes. Nuts 4, 1-celled, turbinate, fixed to the bottom of the calyx, perforated and concave at the base.—Rough plants, usually with terminal flowers.

§ 1. *Calyx 5-parted, erect in the fruit-bearing state. Corollas unequal in most of the species.*

1 A. linifòlia (Willd. herb. ex Lehm. asper. p. 215.) stems decumbent, stoloniferous; leaves opposite, sessile, linear-lanceolate, acute, entire, nearly glabrous, ciliated at top; flowers axillary, solitary, equal. ♃. F. Native of South America. A. leucántha, Willd. herb. l. c. A. lanceolàta, Willd. herb. no. 3316. Root creeping. Calyx pilose. Corolla glabrous, pale yellow: tube length of calyx: throat closed by 5 very hairy tubercles; segments roundish, obovate.

Flax-leaved Bugloss. Pl. $\frac{1}{2}$ foot.

2 A. oppositifòlia (H. B. et Kunth, nov. gen. amer. 3. p. 91. t. 200.) stems procumbent, creeping, branched; leaves opposite, linear, quite entire, ciliated with strigæ on the back and margins; flowers axillary, solitary, on short pedicels. ♃. F. Native of the Andes, of Quindiu near Teindala; and Jaquanquer, between the town of Pasto and Tulcan. Herb tufted, strigose. Leaves subconnate at the base, acute, 9-10 lines long, and one broad. Calyx hispid, with lanceolate, equal segments. Corolls white, about the size of those of *M. palústris.* Nuts strigose, glabrous.

Opposite-leaved Bugloss. Pl. procumbent.

3 A. pygmæ'a (H. B. et Kunth, nov. gen. 3. p. 92.) plant tufted, creeping, leafy; leaves scattered, sessile, linear, quite entire, hispid from strigæ; flowers axillary, solitary, sessile. ♄. F. Native of Quito, on the top of Mount Antisana, at the altitude of 2104 hexapods. Leaves imbricate at the base, acutish, 4 lines long. Calyx beset with adpressed pili; with linear-lanceolate, acute, nearly equal segments. Corolla funnel-shaped, white, glabrous, size of those of *Myosòtis arvénsis.* Nuts wrinkled, glabrous.

Pygmy Bugloss. Pl. tufted, creeping.

4 A. crucia'ta (Cham. in Linnæa. 4. p. 438.) shrubby, strigosely pilose, canescent at top, much branched; branches ascending; leaves linear-lanceolate, connate at the base, and are, as well as the axillary branchlets, strictly opposite; cymes scorpioid, panicled at top, furnished with bracteas which are hardly longer than the calyxes. ♄. F. Native of the South of Brasil. Calyx very hairy, with lanceolate, unequal segments. Corolla hairy outside, with a short tube; processes of the throat fringed. Stigma emarginate.

Cross-leaved Bugloss. Shrub 1 to $1\frac{1}{2}$ foot.

5 A. stœchadifòlia (Cham. in Linnæa, 4. p. 439.) nearly allied to *A. cruciàta*, and in like manner has opposite leaves, but differs from it in the cymes being solitary and terminal, in the flowers being larger, in the leaves being linear, with revolute margins, hoary, and in habit. ♄. F. Native of the South of Brasil. Habit of *Gnaphàlium Stœ'chas*, or *Lavándula;* of a hoary aspect. Bracteas longer than the pedicels. Corolla having the tube shorter than the calyx, and the limb blue, villous outside; processes of the throat fleshy, papillose. Stigma subcapitate.

Stœchas-leaved Bugloss. Shrub 1 to $1\frac{1}{2}$ foot.

6 A. tetra'quetra (Cham. in Linnæa, 8. p. 113.) glabrous: tops and inflorescence hairy; stems simple, erect, tetraquetrous; leaves lanceolate, or oblong-lanceolate, mucronate: radical ones on long petioles: cauline ones opposite, partly connate at the base, all strigose; cymes on long peduncles, composed of short spikes: terminal ones twice bifid: axillary ones bifid; flowers sessile, bracteate; nuts smooth, solitary by abortion; calyx 5-toothed. ♃. F. Native of Brasil, Sello. Stems height of the radical leaves. Teeth of calyx acute. Corolla pilose outside; processes of the throat small, fringed. Nuts smooth, a little smaller than the calyx.

Four-sided-stemmed Bugloss. Pl. $1\frac{1}{2}$ to 2 feet.

7 A. Sellowia'na (Cham. in Linnæa, 8. p. 115.) plant scabrous, from strigæ; stems erect and decumbent, glabrous, acute-angled at the base; leaves scattered, mucronate: superior ones ovate, half stem-clasping: lower ones obovate-lanceolate, narrowed into marginate half stem-clasping petioles; spikes twin, terminal and axillary, on peduncles which are equal in length to the leaves; bracteas broad, cordate, ovate, acute, exceeding the flowers a little; nuts granular, glabrous, solitary by abortion; covered by the 5-cleft calyx. ♃. F. Native of Brasil, Sello. Corolla clothed with silky pili outside; processes of the throat small, villous. Stigma deeply emarginate.

Sello's Bugloss. Pl. $1\frac{1}{2}$ foot.

8 A. cæspitòsa (Lam. dict. 1. p. 504. ill. no. 1818.) stems decumbent; leaves linear, obtuse, hispid from pili, undulated, longer than the stems; racemes terminal, few-flowered; flowers equal. ♃. H. Native of Candia, on the Spaciotic mountains. Willd. spec. 1. p. 759. Sibth et Smith, fl. græc. t. 169.—Buglóssum Créticum humifusum acaulon perenne, echii folio angustissimo Tourn. cor. p. 6. Roots woody, dark brown. Stems simple, short, tufted. Flowers 2-4 terminal, large for the size of the plant. Corolla with a white tube, which is nearly twice as long as the calyx, and a deep blue limb: the processes in the throat pencil-formed and white.

Tufted Bugloss. Pl. decumbent and tufted.

9 A. hispida (Forsk. descr. p. 40. Vahl. symb. fasc. 2. p.

33.) stems diffuse; leaves ovate-lanceolate, attenuated at the base, bluntly-toothed, hispid from strigæ; pedicels axillary, conjugate; flowers equal.—Native in Egypt. Lehm. asper. p. 216. Stem hispid, from retrograde pili. Calyx hispid. Corolla small, nearly the length of calyx; segments ovate, short.

Hispid Bugloss. Fl. May, June. Clt. 1817. Pl. diffuse.

10 A. cilia'ta (Cham. in Linnæa, 4. p. 440.) leaves tufted, large, obovate, elliptic-lanceolate, but usually linear-lanceolate, exceeding the stems, which are erect or ascending, and furnished with small leaves; cymes scorpioid, bracteate, forming terminal panicles; flowers sessile. ♃. F. Native of Brazil, both within and without the tropic. Habit of *Myosòtis*. Plant beset with short strigose hairs. Radical leaves a foot long; cauline ones 3 inches long, half stem-clasping, ciliated with longer strigæ, all acuminated. Calycine segments equal, lanceolate, acute, pilose on the back. Corolla tubular, hairy outside; segments of the limb lanceolate, acute; processes of the throat fringed, bearded. Stigma capitate, hardly emarginate. Nuts usually solitary by abortion, chartaceous, shining.

Ciliated Bugloss. Pl. 1 foot.

11 A. tene'lla (Lehm. asper. 217.) stems depressed, dichotomous, weak; leaves on short petioles, ovate, hispid; pedicels solitary, interfoliaceous, nodding, while bearing the fruit; flowers equal. ⊙. H. Native of China. Horn. hafn. 1. p. 176. A. Zeylánica, Jacq. eclog. p. 47. t. 29. Horn. enum. 1807. Plant hairy. Corolla small, glabrous, white; tube shorter than the calyx; segments of the limb roundish-obovate, purplish at the base; processes of the throat emarginate, yellowish. Nuts somewhat kidney-shaped, verrucose.

Weak Bugloss. Fl. May, June. Clt. 1820. Pl. ½ foot.

12 A. tinctòria (Lin. spec. ed. 2d. vol. 1. p. 192. exclusive of the syn. edit. 1st.) stems diffuse; leaves oblong, hispid from pili; bracteas exceeding the calyx; processes of corolla shorter than the stamens. ♃. H. Native of the Peloponnesus, Island of Cyprus, and in deserts about Alexandria. Sibth. et Smith, fl. græc. t. 166. Desf. atl. 1. p. 156, exclusive of many synonymes. Willd. spec. 1. p. 758. Lehm. asper. p. 218. Plant pilose. Root woody, descending, of a dark blood colour. Spikes or racemes usually twin, rarely 3 or 4 terminal, many-flowered. Corolla with a deep blood-coloured tube, which is inflated at the base and the length of the calyx; processes inserted near the middle of the tube; limb deep blue; segments roundish, obovate. This plant is cultivated in the South of France for the deep purplish red colour of its roots. It imparts a fine deep red colour to oils, wax, and all unctuous substances, as well as to spirits of wine. The spirituous tincture on being inspissated changes to a dark brown. Its chief use is for colouring plasters, lip-salves, &c.

Dyer's Bugloss. Fl. June, Oct. Clt. 1596. Pl. ½ foot, diffuse.

13 A. aggrega'ta (Lehm. asper. p. 219.) stems diffuse, strigose; leaves linear-oblong, obtuse, very hispid; flowers sessile, aggregate, 4 times shorter than the bracteas; nuts hemispherical. ⊙. H. Native near Athens. A. parviflòra Smith, prod. fl. græc. 1. p. 117. fl. græc. t. 167, but not of Willd. Plant very hispid. Flowers sessile, crowded in dense, solitary, terminal, leafy spikes. Corolla with a pale tube, which is twice as long as the calyx; limb deep blue, with ovate flattened segments; processes of the throat pencil-formed. Calyx subglobose, with conniving segments. Perhaps a species of Nònea.

Aggregate-flowered Bugloss. Pl. ½ foot.

14 A. parviflòra (Willd. spec. 1. p. 759.) stem much branched, hispid; leaves linear, bluntish, hispid; racemes few-flowered, crowded. ⊙.? H. Native of the Levant. Lehm. asper. 220.

Small-flowered Bugloss. Pl. ½ to 1 foot.

15 A. echina'ta (Lam. dict. 1. p. 505. ill. no 1821.) stems ascending, nearly simple, bristly; leaves sessile, lanceolate, attenuated at the base, acute, very hispid from bristles; spikes leafy; flowers equal.—Native of Syria, near Tripoli. Lehm. asper. p. 221. Root woody, twisted. Bristles on the plant stiff and white. Spikes of flowers lateral and terminal, simple, or bifid. Calyx white, from bristles. Corolla having the tube longer than the calyx; segments of the limb obtuse.

Echinated Bugloss. Pl. 1 foot.

16 A stylòsa (Bieb. fl. cauc. 1. p. 123.) stem erect, branched at top; leaves lanceolate, attenuated at the base, undulately denticulated, hispid; bracteas subulate; calyxes nearly equal, shorter than the tube of the corolla, with subulate segments. ⊙. H. Native of Tauria, on stony hills, on the banks of the Karasu, and among corn. Bieb. cat. pl. t. 23. A. ánnua Pall. ind. taur. Buglóssum Orientàle erectum, foliis undulatis, flore amœne cœruleo Tourn. cor. p. 6.—Barrel. icon. 578.—Bocc. mus. t. 77. Root perpendicular, branched, white. Plant hispid. Racemes axillary, and terminal, usually twin. Flowers regular, a little smaller than those of *A. officinàlis*. Corolla fine blue; segments of the limb roundish: processes of the throat naked. Style equal, filiform, about equal in height to the corolla.

Long-styled Bugloss. Fl. May, June. Clt. 1820. Pl. 1 foot.

17 A. Barrelie'ri (D. C. syn. fl. fr. 2731.) stems erect, nearly simple; leaves oblong-lanceolate, denticulated, hispid; racemes conjugate, panicled, bracteate; calyxes very blunt, longer than the tube of the corolla; corolla regular. ♃. H. Native of the South of Europe, by road sides, among rubbish, and in shady places; as of Piedmont, Naples, &c. Baumg. trans. 1. p. 122. Bess. fl. gal. 1. p. 147. Lehm. asper. 227. Lois. fl. gall. 1. p. 106. Vittm. summ. 1. p. 288. Bell. append. fl. pedem. p. 15. Tenor. fl. neap. p. 46. Buglóssum Barrelièri, All. pedem. no. 164. Pentagn. inst. 2. p. 314. Myosòtis obtùsa, Waldst. et Kit. pl. rar. hung. 1. p. 103. t. 100. Schultes, fl. austr. no. 792. Horn. hafn. 1. p. 173. Willd. enum. 1. p. 176.—Barrel. icon. 333. Root woody, branched. Cauline leaves half stem-clasping. Calyx pilose; segments obtuse. Corolla with a white tube; limb blue, with roundish obtuse segments; throat yellow; processes of the throat erect, white. The flowers are very like those of a species of *Myosòtis*, both in colour and form.

Barrelier's Bugloss. Fl. May, June. Clt. 1820. Pl. 1 to 2 feet.

18 A. strigòsa (Labill. icon. pl. syr. dec. 3. p. 7. t. 4.) stem erect, branched at top; leaves ovate-lanceolate, denticulated, prickly; racemes conjugate, furnished with bracteoles at the base, which are shorter than the pedicels; calyxes obtuse, shorter than the tube of the corolla; flowers regular; processes of the throat papillose. ♃. H. Native of Syria, about Tripoli. Lehm. asper. p. 229. Plant covered all over with white bristles, which rise from white papillæ or glands. Racemes twin, secund. Corolla blue; processes of the throat nearly orbicular.

Strigose Bugloss. Pl. 1½ foot.

19 A. panicula'ta (Ait. hort. kew. 1. p. 177.) stem erect, branched; leaves lanceolate, undulated, strigose, lucid; racemes conjugate, divaricate, panicled, bracteate; flowers equal; calyxes longer than the tube of the corolla, with subulate segments; processes of the throat pencil-formed. ♃. H. Native of the South of Europe, North of Africa, Island of Madeira, and Siberia. Willd. spec. 1. p. 756. Sibth et Smith, fl. græc. t. 163. Lehm. asper. p. 230. A. Itálica, Retz, obs. 1. p. 12. Wulf. in Jacq. coll. 4. p. 302. Hoffm. et Link, fl. port. 1. p. 176. Sut. fl. helv. 1. p. 104. Trew. dec. 2. p. 14. t. 15. Tratt. arch. p. 105. t. 120. A. officinàlis, Gouan, monsp. p. 81. Brot. fl. lus. 1. p. 197. Desf. fl. atl. 1. p. 157. Sav. fl. pis. 1. p. 204. mat. med. p. 37. t. 2. Jaume St. Hil. pl. fr. 1. t. 63. Buglóssum officinàle, Lam. fl. fr. 2. p. 278. Bugl.

elàtum Mœnch. meth. p. 418. Bugl. angustifòlium, All. ped. no. 163 ?—Mor. hist. 3. sect. 11. t. 28. f. 2. and t. 26. f. 1. —Tourn. inst. p. 134. Buglóssum amœ'num, Gærtn. fruct. 1. p. 323. t. 67. f. 2. Roots creeping. Plant hispid, large. Racemes twin, with a flower in the fork, constituting panicles at the tops of the stems. Bracteas linear, length of pedicels. Calycine segments subulate, unequal. Corolla blue, or violaceous, with a white throat; processes of the throat erect, pencil-formed; segments of the limb unequal, obovate-roundish, obtuse. This is a very showy plant when in blossom.

Panicled-flowered Bugloss. Fl. May, June. Clt. 1777. Pl. 3 to 5 feet.

20 A. microca'lyx (Vis. in bot. zeit. 1829. p. 8.) hispid; stems weak, nearly simple; leaves flat: radical ones obversely-lanceolate, attenuated at the base, obtuse, repand: cauline ones lanceolate, sessile, acute, entire; racemes pedunculate, conjugate, alternate, leafy at the base, loose; calyx very hispid, 5-cleft, shorter than the tube of the corolla, but twice as long as the bracteas; processes of the throat thickened at tops, truncate, smoothish. ♃. H. Native of Dalmatia, about Verlika, on the edges of fields. Calyx smaller than in *A. sempervírens*. Tube of corolla straight. Nuts wrinkled, acutely bicostate at the apex, and umbilicate. Peduncles erect in the fructiferous state.

Small-calyxed Bugloss. Pl. 1 foot?

21 A. dasya'ntha (Cham. in Linnæa, 4. p. 437.) leaves of the floriferous branches oblong-cuneated, sometimes acute, and sometimes bluntish at apex, and short-acuminated: upper ones dilated at the base, and more acute; bracteas subcordate-ovate, acute, length of flowers; cymes or spikes glomerate; flowers sessile; calyx hardly 5-cleft to the middle; corolla funnel-shaped; tube exceeding the calyx; throat villous; stigma 2-lobed. ♃. F. Native of Tropical Brasil. Said to have the habit of *Anchùsa sempervírens;* but the flowers are smaller, the calyx hardly 5-cleft to the middle, the corollas hairy outside, the processes of the throat small and bearded. The upper portion of a branch is the only part of this plant which has been examined.

Thick-flowered Bugloss. Pl.?

22 A. Mille'ri (Willd. enum. 1. p. 179.) stems ascending, diffuse; leaves oblong, bluntish, obsoletely denticulated, hispid; racemes solitary, leafy; calyx length of the tube of the corolla, with linear-obtuse segments; corolla equal. ⊙. H. Native country unknown, Levant.? Lycópsis Millèri, Horn. hort. hafn. 1. p. 182. Plant strigose, hispid. Corolla flesh-coloured; throat oblique, incurved; segments of the limb obovate, roundish; processes of the throat erect, yellow, pilose at the base. Perhaps a species of *Lycópsis* from the oblique, incurved throat of the corolla.

Miller's Bugloss. Fl. May, June. Clt. 1713. Pl. 1½ foot.

23 A. macrophy'lla (Lam. ill. no. 1816. Lehm. asper. p. 233.) stem weak, branched at top; radical leaves oval: cauline ones lanceolate, acute, quite entire, strigose; racemes somewhat panicled, loose, bracteate; calyxes length of the tube of the corolla, with acutish segments; flowers regular. ♃?. H. Native of the kingdom of Morocco. Desf. atl. 1. p. 157. Lycópsis macrophýlla, Lam. dict. 3. p. 657. Plant strigose. Radical leaves large, disposed in an orb: cauline ones half stem-clasping. Corolla tubular, pale yellow, small, a little longer than the calyx, glabrous; segments of the limb obtuse; processes of the throat erect, obtuse, tomentose.

Long-leaved Bugloss. Pl. 1½ foot.

24 A. latifòlia (Lehm. sem. hort. hamb. 1821. p. 2. pug. 1. p. 6.) leaves ovate-lanceolate, undulated, hairy; bracteas ovate-lanceolate, equal in length to the calyx; calyx 5-cleft, bluntish; processes of the throat bearded. ♂. H. Native country unknown. Anchùsa versícolor Hortul. Stems many from the same root, erectish, hairy, much branched. Flowers imbricate, on short pedicels, disposed in conjugate, bracteate, terminal racemes. Corolla with a violaceous tube, equal in length to the calyx; constricted below the throat; limb deep rose-coloured, having the edges variegated with white.

Broad-leaved Bugloss. Fl. May, June. Clt. 1826. Pl. 1½ to 2½ feet.

25 A. villòsa (Spreng. syst. 1. p. 560.) stem branched; leaves lanceolate, quite entire, villous; racemes axillary; flowers remote; bracteas exceeding the calyxes; calycine segments bluntish, shorter than the tube of the corolla. ♃. H. Native country unknown. Calyx 5-parted, erect.

Villous Bugloss. Pl.

26 A. myosotidiflòra (Lehm. asper. p. 234.) stem erect, simple; radical leaves on long petioles, reniformly cordate: cauline ones sessile, ovate, hairy; racemes terminal, panicled, bractless; flowers equal. ♃. H. Native of Siberia, among rocks. Myosòtis macrophýlla, Bieb. cauc. 1. p. 119. Adams and Web. et Mohr, cat. 1. p. 46. no. 7. Bieb. cent. pl. ross. t. 14. Root oblique, covered by the remains of the leaves at top. Leaves large, canescent while young. Calycine segments linear. Corolla having the tube the length of the calyx; limb fine blue; and the throat closed by yellow processes.

Mouse-ear-flowered Bugloss. Fl. July, Sept. Clt. 1825. Pl. 1 foot.

27 A. tuberòsa (H. B. et Kunth, nov. gen. 3. p. 92.) root tuberous; stem erect, nearly simple; leaves scattered, sessile, linear, quite entire, hispid from strigæ; spikes leafy, terminal. ♂. F. Native of Mexico, in bushy places, between Moran and Regla, at the altitude of 1300 hexapods. Root tuberous, turnip-formed, globose, size of a cherry, furnished with fibres. Plant strigose. Leaves an inch long, and 1 line broad. Calyx hispid, with linear, bluntish segments. Spikes 1-2 inches long. Corolla pale yellow, ex Bonpl. downy outside, sweet-scented. Ovaria glabrous.

Tuberous-rooted Bugloss. Pl. 1 foot.

§ 2. *Calyx 5-cleft, or deeply 5-toothed, campanulate when in fruit, and more or less inflated and nodding. Corollas equal.*

28 A. amplexicau'lis (Sibth et Smith, prod. fl. græc. 1. p. 116. Lehm. asper. p. 237.) cauline leaves cordate-oblong, stem-clasping, repand; spikes dichotomous, 2-leaved; calyx 5-cleft. ♃?. H. Native in fields about Constantinople. According to the diagnosis given this plant would appear to approach the *Anchùsa sempervírens*, now *Omphalòdes sempervírens*.

Stem-clasping-leaved Bugloss. Pl. 1 foot.

29 A. verrucòsa (Lam. ill. p. 403. no. 1819. Horn. hort. hafn. 1. p. 176. Lehm. asper. p. 238.) leaves oblong-lanceolate, repandly-toothed, hispid from strigæ, which rise from white warts: upper ones subcordate at the base; pedicels interfoliaceous. ⊙. H. Native of Egypt. A. flàva, Forsk. descr. p. 40. no. 30. Lycópsis Ægyptìaca, Lin. spec. 1. p. 138. Pers. ench. 1. p. 163. Asperùgo Ægyptìaca, Lin. spec. ed. 2. p. 198. mant. 334. Vahl. symb. 1. p. 14. Jacq. vind. 3. p. 15. t. 21. Willd. spec. 1. p. 778. Plant very hispid from strigæ. Stems branched at top. Upper leaves sometimes subcordate at the base. Calycine segments unequal, lanceolate-linear, acute. Corolla yellow; tube shorter than the calyx; segments of the limb rounded; processes of the throat yellow.

Warted-leaved Bugloss. Fl. July, Aug. Clt. 1821. Pl. ½ to 1 foot.

30 A. defle'xa (Lehm. sem. hort. hamb. 1823. p. 17. pug.

1. p. 5.) leaves linear-lanceolate, hispid; pedicels solitary, axillary, deflexed while bearing the fruit. ⊙. H. Native of Egypt. Stem solitary, or many from the same root, nearly terete, hispid. Calycine segments linear-lanceolate, bluntish, beset with white strigæ, especially along the edges. Corolla shorter than the tube of the calyx; segments roundish obovate, rose-coloured, or blue, with deeper veins; processes of the throat glabrous.

Deflexed-pedicelled Bugloss. Pl. ½ to 1 foot.

31 A. ochroleu'ca (Bieb. fl. cauc. 1. p. 125. Curt. bot. mag. t. 1603. Lehm. asper. 239.) leaves lanceolate, strigose, hispid, ciliated on the edges; bracteas linear-lanceolate; calyx 5-toothed: teeth obtuse; tube of the corolla length of the calyx. ♃. H. Native of Caucasus and Transylvania, in fields. Baumg. fl. trans. 1. p. 120. Horn. hafn. 1. p. 176. Willd. enum. 1. p. 178. Schrank, pl. rar. mon. 1. t. 6.—Gmel. sib. 4. p. 74. no. 13. Root branched. Stems diffuse, angular, scabrous. Flowers on short pedicels in the axils of the bracteas, disposed in conjugate, spike-formed, terminal racemes, which are crowded in fascicles before expansion. Corolla cream-coloured; tube a little longer than the calyx; processes of the throat erect, villously tomentose.

Cream-coloured flowered Bugloss. Fl. July, Aug. Clt. 1810. Pl. 1 to 2 feet.

32 A. Aga'rdhii (Lehm. asper. p. 241.) leaves linear-lanceolate, tubercled, strigose; bracteas ovate-lanceolate, setosely ciliated; calyx 5-cleft: segments obtuse; tube of corolla one-half longer than the calyx. ♃. H. Native of Siberia. Stem erect, strigose. Flowers on short pedicels, distant, disposed in terminal racemes, which are generally conjugate. Corolla purple; processes of the throat erect, pilose.

Agardh's Bugloss. Fl. July, Sept. Clt. 1820. Pl. 1 foot.

33 A. undula'ta (Lin. spec. ed. 2d. 1. p. 191. ed. 1. p. 133.) leaves lanceolate, dentately undulated, hispid from strigæ; racemes spike-formed, compact; bracteas lanceolate; calyxes deeply 5-parted, acute. ♃. H. Native of Italy, France, Spain, Portugal, Barbary, and the Islands of the Archipelago, in meadows and fields. Sibth et Smith, fl. græc. t. 165. Hoffm. et Link, fl. port. 1. p. 177. t. 22. Brot. fl. lus. 1. p. 297. Curt. bot. mag. t. 2119. Horn. hort. hafn. 1. p. 175. Mill. fig. 1. t. 29.—Sabb. hort. 2. t. 24. Stems many from the same root. Plant canescent. Flowers on short pedicels, secund, disposed in conjugate, terminal, compact racemes. Corolla purple, with the tube longer than the calyx, and ovate obtuse segments; processes of the throat saccate above, with pilose edges.

Undulated-leaved Bugloss. Fl. June, Aug. Clt. 1752. Pl. ½ to 1½ foot.

34 A. crispa (Viv. append. fl. cors. 1825. ex Linnæa. 1. p. 500.) strigose; leaves linear-oblong, coarsely and distantly toothed: cauline ones undulately curled; spikes loose; calyx 5-cleft, equal in height to the tube of the corolla, when bearing the fruit ventricose, pendulous, and secund; corolla with obovate segments; processes of the throat ovate, ciliated; nuts smooth, triquetrous. ♃?. H. Native of Corsica.

Curled-leaved Bugloss. Pl. ½ to 1 foot.

35 A. hy'brida (Ten. prod. fl. neap. 1. p. 45. t. 11.) leaves oblong-lanceolate, sinuately toothed, undulated, villously hispid; bracteas ovate-cordate; calyx 5-toothed: teeth bluntish. ♃. H. Native near Naples, along way-sides. Root fusiform. Plant villously hispid. Stems simple. Flowers on short pedicels, disposed in axillary and terminal, conjugate racemes. Corolla purple; tube longer than the calyx; processes of the throat white, obtuse, pilose.

Hybrid Bugloss. Fl. June, Aug. Clt. 1820. Pl. 1 to 1½ foot.

36 A. angustifòlia (Lin. spec. ed. 2d. vol. 1. p. 192.) leaves linear-lanceolate, hispid from pili; bracteas ovate-lanceolate, small when the flowers are open; calyx 5-toothed: teeth very blunt. ♃. H. Native of the South of Europe. Curt. bot. mag. 1897. Sibth et Smith, fl. græc. t. 164. Horn. hort. hafn. 1. p. 175. Lapeyr. abr. p. 86. A. officinàlis, Lin. spec. ed. 1st. p. 133. A. spicàta, Lam. ill. no. 1810. Buglóssum angustifòlium, Mœnch, meth. p. 418.—Zan. hist. 49. t. 50. stirp. rar. t. 39.—Mor. hist. 3. sect. 11. t. 28. f. 9.—Lob. stirp. 576. f. 2. Buglòssum angustifòlium mìnus, Tourn. inst. 134. Root fusiform. Stems very scabrous, canescent from retrograde hairs. Racemes spike-formed, conjugate, terminal; bracteas hispidly ciliated. Corolla with a pale purple tube, which is white at bottom, exceeding the calyx; limb deep blue; segments obovate-oblong, conniving a little.

Narrow-leaved Bugloss. Fl. May, June. Clt. 1640. Pl. 1 to 2 feet.

37 A. lycopsòides (Bess. hort. Krzem. ex Link. enum. 1. p. 166.) very like *A. procèra* and *A. angustifòlia*, but smaller; flowers secund, almost in one row; bracteas ovate, acuminated, ciliated, spreading also in one row. ♃. H. Native of Russia. Corolla smaller than in *A. procèra*, at first violaceous, but at length blue.

Lycopsis-like Bugloss. Fl. July, Aug. Clt. 1824. Pl. 1½ foot.

38 A. proce'ra (Bess. l. c. ex Link. l. c.) larger than *A. angustifòlia*; flowers secund in 2 rows; bracteas ovate, acuminated, ciliated, distinct, spreading; calyx closed. ♃. H. Native of Galicia. Corolla blue. Perhaps a variety of *A. angustifòlia*.

Tall Bugloss. Fl. May, June. Clt. 1824. Pl. 2 to 3 feet.

39 A. leptophy'lla (Rœm. et Schultes, syst. 4. p. 90.) leaves oblong-lanceolate, strigose; spikes secund, imbricate; calyxes 5-cleft, length of the tube of the corolla. ♃. H. Native of the South of Europe. A. angustifòlia, Willd. enum. 1. p. 178, exclusive of his spec. pl. Schultes fl. austr. 2. ed. 1. p. 364. Sims, bot. mag. 1897. Corolla twice smaller than in *A. officinàlis*, pale blue. Stem pilose. Calycine segments obtuse, silky, from adpressed hairs. Leaves thinner than in *A. officinàlis*.

Slender-leaved Bugloss. Fl. July, Oct. Clt. 1640. Pl. 1 to 2 feet.

40 A. officina'lis (Lin. spec. ed. 2. vol. 1. p. 191. fl. suec. ed. 2d. no. 161.) leaves lanceolate, hispid; bracteas ovate-lanceolate, equal to the calyx in length; calyxes 5-cleft, acute. ♃. H. Native of Europe, Asia, and Africa, in waste places, and by way sides, and on the edges of fields. Smith's engl. bot. t. 662. Oed. fl. dan. t. 5. Bieb. fl. cauc. 1. p. 124. Bess. fl. gal. 1. p. 146. Gmel. fl. bad. 1. p. 417. Vill. fl. dauph. 2. p. 455. Scop. fl. carn. ed. 2. vol. 1. p. 123. Willd. 1. p. 756. Lehm. asper. p. 247.—Plenck, off. t. 79.—Blackw. herb. t. 500. Plant hispid. Radical leaves tufted. Flowers sessile, imbricate, disposed in conjugate, terminal spikes. Corolla blue, or purple; tube length of calyx; segments of the limb oblong-roundish; processes of the throat erect, tomentose. This plant when tender in the spring is eaten boiled in Upland. The tube of the corolla is melliferous, and the bees are very fond of it. This is not the *Anchùsa*, but the Bugloss of the officinal writers. It appears to be nearly similar to Borage; the leaves being less juicy, and the roots more mucilaginous; these, with the leaves and flowers, are ranked among the articles of the Materia Medica, bnt they are very seldom made use of. "In China," Loureiro says, "the plant is in great esteem for gently promoting the eruption of the small-pox."

Var. β. cærùlea; flowers blue. ♃. H. Native of Europe. A. angustifòlia, Baumg. fl. trans. 1. p. 121. Schultes fl. austr. no. 783. Gmel. fl. bad. 1. p. 418. Suter, fl. helv. 1. p.

104. Roth tent. fl. germ. 2. p. 220. Vill. dauph. 2. p. 455. Poll. pal. 1. p. 183, and of many other European Floras.

Var. γ. incarnàta; flowers flesh-coloured, or red. ♃. H. Roth. tent. fl. germ. l. c. and some other Floras. A. incarnàta Schrad. in litt.

Var. δ. álba; flowers white. ♃. H. Roth. l. c.

Officinal Bugloss. Fl. June, Oct. Britain. Pl. 1 to 2 feet.

41 A. Cape'llii (Moris, elench. sard. ex Linnæa, 5. p. 93.) plant procumbent, clothed with strigose hairs; leaves lanceolate, denticulated: radical ones undulated; bracteas ovate-lanceolate, half stem-clasping; flowers loosely racemose; calyx 5-cleft, when bearing the fruit inflated and nutant. ♃. H. Native of Sardinia. Allied to *A. officinàlis* and *A. angustifòlia*.

Capelli's Bugloss. Pl. procumbent.

42 A. Cape'nsis (Thunb. in Schrad. journ. 1806. p. 45. prod. fl. cap. p. 34.) leaves linear-lanceolate, attenuated at both ends, somewhat hispid from villi; racemes terminal, panicled; bracteas ovate-lanceolate; calyxes 5-cleft, obtuse. ♂. G. Native of the Cape of Good Hope. Andr. bot. rep. t. 336. Curt. bot. mag. t. 1822. Lehm. asper. p. 249. Stems simple, hairy, canescent. Corolla blue, twice as long as the calyx.

Cape Bugloss. Fl. July, Aug. Clt. 1800. Pl. 1½ foot.

43 A. leucoiifòlia (Lehm. asper. p. 249.) leaves linear-subspatulate, bluntish, silky and hoary; spikes solitary; bracteas lanceolate, attenuated at the base; calyxes 5-cleft, acute. ♃. H. Native of Armenia. Lithóspermum Orientàle leucoji fòlio, flore cœruleo parvo, Tourn. cor. p. 6. Stem downy, hoary, leafy at bottom. Flowers sessile, crowded into terminal spikes. Bracteas longer than the calyx. Corolla a little longer than the calyx; tube very short; limb blue, with obovate-rounded segments.

Snow-drop-leaved Bugloss. Pl. 1 foot.

44 A. bracteola'ta (Viv. fl. libyc. p. 10. t. 4. f. 2—3.) plant clothed with soft white hairs, which rise from obsolete tubercles; lower leaves spatulate: cauline ones linear-oblong, sessile, obtuse: floral ones half stem-clasping, cordate, acute, imbricated in two rows. ♃. H. Native of Cyrenaica, on the mountains. Lycópsis Cyrenàica, Spreng. syst. 1. p. 557. Stem ascending, dividing into spike-bearing branches at top. Floral leaves or bracteas a little longer than the leaves. Flowers disposed in dense, leafy, revolute spikes. Calyx hispid, with linear-acute segments, equal in length to the tube of the corolla. Corolla blue; the throat and tube white.

Bracteolate Bugloss. Pl. ascending.

† *Species hardly known.*

45 A. longifòlia (Lam. ill. no. 1817. dict. 1. p. 502.) leaves long, tongue-shaped, broadest at the base and apex; spikes small, naked, somewhat panicled. ♃. H. Native of Italy. Stem simple; hairs springing from white tubercles. Flowers small, of a beautiful blue.

Long-leaved Bugloss. Fl. June, Aug. Clt. 1819. Pl. 1½ foot.

46 A. Africa'na (Burm. prod. fl. cap. p. 4.) stem shrubby, villous; leaves lanceolate, tomentose beneath. ♄. G. Native of the Cape of Good Hope.

African Bugloss. Shrub.

Cult. The species of *Bugloss* are of the most easy culture; they will grow in any soil, and are readily increased by seed. *A. Capénsis* should be treated as a green-house plant. Some of the species are very pretty when in blossom, as *A. paniculàta*, *A. Barrelièri*, &c.

XXVII. MYOSO'TIS (from *μυς μυος, mys myos*, a mouse; and *ους ωτος, ous otos*, an ear; supposed resemblance in leaves.) Dill. gen. 3. Lin. gen. no. 180. Schreb. gen. no. 240. Juss. gen. p. 131. ed. Usteri, p. 146. Schkuhr, handb. t. 29. Lehm. asper. p. 78.—Echioìdes, Mœnch. meth. p. 416.

Lin. syst. *Pentándria, Monogýnia.* Corolla salver-shaped; throat furnished with short processes; limb 5-parted, obtuse. Stamens inclosed. Nuts 4, 1-celled, fixed to the bottom of the calyx, perforated at the base.—Annual or perennial, rough or smoothish plants, with terminal racemes of blue flowers; the racemes revolute before expansion.

§ 1. *Nuts smooth, glabrous.*

1 M. latifòlia (Poir. suppl. 4. p. 45. Lehm. asper. p. 82.) stem erect, nearly simple, pilose; leaves on long petioles, ovate-lanceolate, pilose; calyxes acute, villous; corollas a little longer than the calyx. ♃. F. Native of the Canary Islands. This species differs from the rest in the leaves being on long petioles, 2-3 inches long, and 1½ inch broad. Corollas blue?

Broad-leaved Scorpion-grass. Pl. ?

2 M. grandiflòra (H. B. et Kunth, nov. gen. amer. 3. p. 90. t. 199.) stems nearly simple; leaves strigose, obtuse: radical ones lanceolate, petiolate: cauline ones lanceolate-oblong, sessile; spikes terminal, solitary, or twin, leafy; flowers pedicellate; calyx closed; fruit glabrous. ♃. F. Native of Quito. Stems terete, strigose. Corolla white, size of those of *Tiarídium I'ndicum;* processes of the throat roundish, downy. Calycine segments linear, acutish.

Great-flowered Scorpion-grass. Pl. ½ to ¾ foot.

3 M. corymbòsa (Ruiz. et Pav. fl. per. 2. p. 5. no. 2.) stems procumbent, divaricate; leaves linear, acute; flowers corymbose; corollas 3 times longer than the calyx. ☉. H. Native of Chili, about Conception, in fields. Pers. ench. 1. p. 157. Lehm. asper. p. 82. Plant hispid. Middle stem erect; side ones procumbent; branches forked at top. Corymb forked, sometimes spicate. Corolla white.

Corymbose-flowered Scorpion-grass. Pl. procumbent.

4 M. robu'sta (D. Don, prod. fl. nep. p. 101.) leaves elliptic-oblong, acute, sessile, pilose on both surfaces; racemes conjugate, short, bractless; calycine segments oval, obtuse, longer than the tube of the corolla. ♃. H. Native of Nipaul, in Gosainsthan, where it is called *Khurkurree* by the natives. Root fusiform. Stems ascending, simple, pilose. Leaves 3 inches long, and ½ inch broad.

Robust Scorpion-grass. Pl. 1½ foot.

5 M. la'xa (Lehm. asper. p. 83.) stem filiform, loose; leaves obovate-lanceolate, obtuse, nearly glabrous; racemes bractless, very long; pedicels diverging while bearing the fruit, very long, much longer than the calyx, which is spreading and obtuse; corollas small. ☉. H. Native of North America. Stem glabrous, divided at top into some racemiferous branches. Calyx rather pilose, ventricose at the base; teeth ovate-lanceolate, acute.

Loose Scorpion Grass. Pl. 1 to 1½ foot.

6 M. sparsiflòra (Mikan, in Hoppe. taschenb. 1807. p. 74. Pohl, fl. boh. 1. p. 175.) stem branched, diffuse; leaves oblong-lanceolate, acutish; racemes loose, few-flowered, leafy at the base; pedicels deflexed while bearing the fruit, longer than the calyx, which is spreading, and beset with hooked bristles at the base; corollas small. ☉. H. Native of Bohemia, Silesia, Transylvania and Caucasus, in shady humid places; and of Altaia, at the river Kurtschum. Baumg. fl. trans. 1. p. 117. Horn. hort. hafn. 1. p. 174. Bess. fl. gal. 1. p. 143. Lehm. asper. p. 84. Led. fl. alt. 1. p. 186. M. sèpium, Hort. crac. Stem angular at top, scabrous from reflexed hairs. Leaves strigose. Racemes axillary and terminal. Calyx globose at the base. Corollas small, blue, sometimes white; throat yellow.

Scattered-flowered Scorpion Grass. Fl. May, June. Clt. 1822. Pl. ½ foot.

7 M. sylva'tica (Ehrh. herb. 31. Lehm. asper. p. 85.) leaves oblong-lanceolate, bluntish, clothed with soft hairs; racemes very long, loose, bractless; pedicels diverging while bearing the fruit, a little longer than the 5-cleft, closed calyx; limb of corolla flat, longer than the tube. ♃. H. Native throughout Europe, in woods in mountainous places. Hoffm. deutschl. fl. 1. p. 85. exclusive of *M. alpìna*. Baumg. fl. trans. 1. p. 117. exclusive of the synonymes. Pers. ench. 1. p. 156. Sut. fl. helv. 1. p. 102. M. intermèdia, Smith, engl. fl. 1. p. 250. M. scorpioìdes, var. sylvática, Horn. hort. hafn. 2. p. 956. M. scorpioìdes, var. Smith, fl. brit. 1. p. 212. M. arvénsis, Wahl. fl. suec. 1. p. 120.—Hall. helv. no. 591.—Knip. cent. 11. t. 81. M. perénnis, β, D. C. fl. fr. no. 2725. M. arvénsis,? β, sylvática, Pers. ench. 1. p. 156. M. intermèdia, α, parviflòra, Led. fl. alt. 1. p. 187. Stems simple, divided at top into long loose racemes, hairy. Racemes solitary and conjugate. Calycine segments unequal, lanceolate, acuminated, obsoletely 3-nerved, furnished with hooked hairs at the base, conniving while bearing the fruit. Corolla blue, with a yellow throat.—There is a variety of this species found at the Cape of Good Hope. See Cham. in Linnæa, 4. p. 445.

Wood Scorpion Grass. Fl. June, July. Britain. Pl. ½ to 1 foot.

8 M. cæspitòsa (Schultes, fl. starg. suppl. p. 11. Ledeb. fl. alt. 1. p. 188.) plant strigose, tufted; leaves lanceolate, obtuse; calyx 5-cleft, about equal in length to the tube of the corolla, strigose; fruit bearing pedicels twice as long as the calyxes; racemes loose, naked. ♃. H. Native of the duchy of Mecklenburgh; and of Altaia, near Riddersk, Smejow, &c., in boggy places; in Britain, common about ponds. Link. enum. 1. p. 165. Bess. pl. volh. p. 52. Hook. suppl. engl. bot. t. 2661. M. lingulàta, Schultes. Lehm. asper. 1. p. 110. M. uliginòsa, Schrad. M. commutàta, Schultes, syst. 4. p. 102. M. strigulòsa, Rchb. M. scorpioìdes parviflòra, Wahl. fl. suec. 1. p. 119. Hairs of the stem and calyx adpressed. Corolla blue, with a yellow throat; limb as long as the tube. Very nearly allied to *M. palústris*.

Tufted Mouse-ear. Fl. June, Aug. Britain. Pl. tufted.

9 M. alpe'stris (Hoppe, in Schmidt, fl. boh. cent. 3. no. 225.) stems tufted, erect; leaves lanceolate, or oblong-linear, acutish, obsoletely 3-nerved, strigose; racemes strict, bractless; pedicels spreading while bearing the fruit, a little longer than the calyx, which is 5-parted and spreading; limb of corolla flat, a little longer than the tube. ♃. H. Native of Europe, and the north of Asia, on the alps, and in dry alpine places; in Scotland, on the elevated range of the Breadalbane mountains. Lehm. asper. p. 86. Schultes, fl. austr. 1. p. 788. Willd. enum. 1. p. 175. Ledeb. fl. alt. 1. p. 189. M. lithospermifòlia, Horn. hort. hafn. 1. p. 173. M. scorpioìdes, β, lithospermifòlia, Willd. enum. 1. p. 175. M. suavèolens, Waldst. et Kit. hung. ined. Willd. l. c. M. odoràta, Poir. suppl. 4. p. 44. M. rupícola, Smith, engl. bot. t. 2559. M. Pyrenàica, Pourr. mem. acad. toul. 3. p. 323. M. montàna, Bess. fl. gal. 1. p. 142. Bieb. 3. p. 116. exclusive of the syn. of Erhr. pl. volh. p. 8. M. alpína, Lapeyr.—Barrel. icon. t. 404. Root brown. Stem beset with adpressed hairs, simple at bottom, but divided at top into short racemes; the raceme terminating the stem, conjugate; those terminating the branches solitary. Calyx beset with hooked hairs; segments linear-lanceolate, acute. Tube of corolla shorter than the calyx; limb blue; throat yellow.—There are varieties of this with white and reddish flowers.

Alp Scorpion Grass. Fl. June, July. Scotland. Pl. ½ foot.

10 M. nemoròsa (Besser. pl. volh. p. 52. Ledeb. fl. alt. 1. p. 188.) stem erect, acute-angled, shining and smooth at the base; racemes loose, naked; fruit bearing pedicels a little longer than the calyxes; calyx 5-toothed, exceeding the tube of the corolla, hispid from strigæ, as well as the leaves. ♃. H. Native of Altaia, in woods and groves near Riddersk, &c. M. laxiflòra, Rchb.

Grove Scorpion-grass. Fl. June, Aug. Pl. ½ foot.

11 M. rotundifòlia (Wall. cat. no. 930.) plant tufted, beset with short strigæ; leaves small, oval-roundish: radical ones on long petioles; upper cauline leaves sessile; racemes terminal, twin. ♃. H. Native of Kamaon. Stems simple, erect. Nuts unknown. Nearly allied to *M. alpéstris*.

Round-leaved Scorpion-grass. Pl. ¼ foot.

12 M.? longiflòra (Wall. cat. no. 929.) root creeping; stems smoothish, prostrate or ascending; leaves ovate, mucronate, on long petioles, beset with short strigæ; racemes short, simple or twin, terminal. ♃. H. Native of Simla and Kamaon. Racemes and calyxes strigose. Calycine segments linear-lanceolate, shorter than the tube of the corolla. Corolla salver-shaped, white or blue. Nuts unknown. Habit of a species of *Omphalòdes*.

Long-flowered Scorpion-grass. Pl. prostrate, creeping.

13 M. palu'stris (With. p. 225.) hairs of the stem adpressed; leaves obovate-lanceolate, obtuse, rather scabrous from strigæ; racemes bractless; pedicels diverging while bearing the fruit, nearly twice the length of the calyx, which is 5-parted, obtuse, and spreading, and equalling the tube of the corolla; limb of corolla flat, longer than the tube. ♃. H. Native throughout Europe, Asia, and North America, in humid meadows, bogs, banks of rivers, rivulets, and ditches; plentiful in Britain, in like situations. Lehm. asper. p. 88. Hoffm. et Link, fl. port. 1. p. 174. Bess. fl. gal. 1. p. 142. M. perénnis, Mœnch. hass. no. 154. Lapeyr. abr. p. 84. D. C. syn. fl. fr. no. 2725. M. scorpioìdes, Horn. hort. hafn. 1. p. 173. Pursh, fl. 1. p. 133. Willd. spec. 1. p. 746. Wahl. fl. lapp. p. 54. Bieb. fl. cauc. 1. p. 118. Michx. fl. 1. p. 129. M. scorpioìdes, var. palústris, Lin. spec. ed. 2d. vol. 1. p. 188. fl. suec. ed. 2d. no. 157. Smith, fl. brit. 1. p. 212. Curt. fl. lond. fasc. 27. t. 65. Smith, engl. bot. 1973. St. Hil. pl. fr. 3. t. 264. Sturm, fl. germ. fasc. 5. with a figure. Svensk, bot. 1. t. 72. Ledeb. fl. alt. 1. p. 189. Echioìdes palústris, Mœnch, meth. p. 416. Plant pale green, roughish. Stems creeping at the base. Racemes simple or conjugate. Corolla blue; throat yellow; tube length of calyx; segments of the limb obovate, emarginate, or obcordate.—There is also a variety of this with white flowers. This, the *Forget-me-not*, is the emblem of affection among the Germans. It is now a general favourite, and deservedly so; its beauty is so striking as to have acquired for it a kind of proverbial name. Few who have observed the flower are likely to forget it.

FIG. 36.

Var. β, *parviflòra* (Led. fl. alt. 1. p. 189.) flowers 3 times smaller, and more crowded than in the species. ♃. H. Native near Barnaoul.

Marsh Scorpion Grass, or Forget me not. Fl. April, May. Britain. Pl. ½ to 1 foot.

14 M. re'pens (G. Don, Hook. fl. scot. p. 83. under M. palústris. Engl. bot. suppl. t. 2703.) hairs of the stem spreading; leaves obovate, obtuse, rather strigose; calyx covered

with adpressed bristles, deeply 5-cleft when in fruit, mostly connivent, shorter than the diverging pedicels; limb of the corolla flat, longer than the tube: lobes somewhat emarginate. 4. H. Native of Scotland; and in Yorkshire, Kent, and Sussex, in open heaths and parts of forests. Root creeping. Leaves lingulate. Nuts smooth. Plant pilose.

Creeping Scorpion Grass, or Mouse-ear. Fl. April, Aug. Britain. Pl. ½ foot.

15 M. collìna (Hook. engl. bot. suppl. 2629. ed. 2d. t. 257.) annual; calyx beset with spreading, uncinate bristles, open and ventricose when bearing the fruit, as long as the diverging pedicels; limb of corolla concave, shorter than the tube. ⊙. H. Native of Britain, common in dry fields, and on sunny sandy banks, flowering early in summer, and soon withering away. M. arvénsis, Smith, engl. bot. 2558. engl. fl. 1. p. 252. Racemes without peduncles, the flowers beginning among the leaves, sometimes from the very base of the stem. Corollas small, blue, with a yellow throat.

Hill Scorpion Grass. Fl. May, June. Britain. Pl. ¼ to ½ foot.

16 M. arve'nsis (Sibth, fl. oxon. p. 68.) leaves oblong-lanceolate, acute, hairy; racemes bractless; pedicels spreading while bearing the fruit, twice as long as the calyx, which is erect, 5-cleft, and open; limb of corolla erectly spreading, nearly the length of the tube. ⊙. H. Native throughout Europe, Asia, Africa, and North America, in corn fields and in sterile dry places; plentiful in Britain in like situations. Bess. fl. gal. 1. p. 142. Wahl. fl. lapp. p. 55. Bieb. fl. cauc. 1. p. 119. Willd. spec. 1. p. 747. Lehm. asper. p. 90. M. ánnua, Mœnch, fl. hass. no. 153. Lapeyr. abr. p. 84. D. C. syn. no. 2724. M. scorpioìdes, Desf. fl. atl. 1. p. 153. M. scorpioìdes, var. α arvénsis, Lin. spec. ed. 2d. p. 188. Smith, fl. brit. 1. p. 212. engl. bot. suppl. 2629. Œd. fl. dan. t. 583. Bull. herb. t. 355. Lin. fl. suec. ed. 2d. no. 157. Echioìdes ánnua Mœnch. meth. p. 416.—Hall. hist. no. 590.—Gerard, hist. p. 338. f. 4.—Lob. icon. 461. f. 2. Stem beset with spreading hairs. Lower hairs of calyx hooked. Calycine segments linear-lanceolate, unequal, conniving when in fruit. Corolla with a white tube, which is a little shorter than the calyx; limb blue; throat yellow; segments hardly emarginate.

Var. β. símplex (Pers. ench. 1. p. 156.) stem very simple; leaves rosulate; petals not emarginate; flowers on short pedicels. ⊙. H.

Var. δ. alpìna; stem dwarf, branched, more pilose; radical leaves tufted; flowering racemes revolute; flowers on short pedicels; corolla small, blue, rarely white or purple, with a yellow throat. ⊙. H.

Corn Scorpion Grass, or Mouse-ear. Fl. April, Aug. Britain. Pl. ½ to 1 foot.

17 M. ve'rna (Nutt. gen. addend.) small and hairy; stem simple; radical leaves spatulate-oblong: cauline ones linear-oblong; spikes simple; flowers nearly sessile; seeds smooth and shining. ⊙. H. Native of New Jersey, in sandy woods and by way sides. Flowers small and white. Lycópsis Virginica, Pursh ?.

Spring Mouse-ear, or Scorpion Grass. Fl. May, July. Pl.

18 M. multicau'lis (Wall. cat. no. 7020.) plant rough from short strigæ; stems numerous, simple, ascending, dividing into racemiferous branches at top; radical leaves oval, on long petioles: lower cauline ones petiolate: upper cauline ones sessile, oval-oblong; racemes numerous, axillary, and terminal, slender; pedicels erect. 4. H. Native of Nipaul, in Gosainsthan. Stems many from the same root. Racemes twin or solitary. Nuts unknown.

Many-stemmed Mouse-ear. Pl. ascending, 1 foot long.

19 M. pa'llens (Wall. cat. 7019.) hispid from strigæ; stems erect, simple; radical leaves rosulate: cauline ones lanceolate, sessile, and half stem-clasping, bluntish, mucronate; terminal racemes twin, with a flower in the fork: axillary ones solitary; nuts unknown. ⊙. H. Native of Kamaon. Lower leaves lanceolate-spatulate. Pedicels at length drooping. Nearly allied to *M. arvénsis.*

Pale Mouse-ear, or Scorpion Grass. Pl. 1 to 1½ foot.

20 M. interme'dia (Link. enum. 1. p. 164.) stem erect, branched, hispid; leaves obversely lanceolate, or ovate-oblong, hispid; pedicels much longer than the flowers; calyx beset with hooked hairs, exceeding the corolla, closed in the fruit-bearing state. ⊙. ? H. Native of Europe, in humid places; and of the Cape of Good Hope. M. arvénsis, Lehm. asper. p. 90. but not of Lin. Drev. et Heyne, bild. 2. t. 51. M. intermèdia, β, parviflòra, Ledeb. fl. alt. 1 p. 187. M. scorpioìdes, Thunb. fl. cap. 183. Racemes strict, naked. Corolla small, blue, with a yellow throat. This species is usually confounded with *M. arvénsis.*

Intermediate Mouse-ear, or Scorpion Grass. Fl. April, May. Britain. Pl. 1 to 2 feet.

21 M. versícolor (Roth. fl. germ. 2. p. 222.) leaves lanceolate, bluntish, hairy; racemes bractless; pedicels erectly spreading while in fruit, shorter than the calyx, which is 5-cleft, acute, and closed; limb of corolla spreading, shorter than the tube. ⊙. H. Native throughout Europe, in dry, arid places. Engl. bot. ed. 2d. t. 258. M. scorpioìdes, Smith, engl. bot. 480. f. 1. M. scorpioìdes, γ, Lin. spec. ed. 2d. p. 189. Smith, fl. brit. 1. p. 212. M. arvénsis, var. γ, versícolor, Pers. ench. 1. p. 156. M. arvénsis, β, Willd. 1. p. 747. M. díscolor, Lin. syst. ed. 15. p. 190. M. collìna, Hoffm. fl. germ. 1791. p. 61. Ehrh. herb. p. 51.? M. arvénsis, var. β, Gmel. fl. bad. 1. p. 411. Smith, fl. brit. 1. p. 213. Roth. 2. p. 223.—Knip. cent. 11. t. 80. Stems angular, hairy, solitary, or tufted. Flowers on short pedicels. Lower hairs of calyx hooked. Calycine segments unequal, narrow-lanceolate, conniving when in fruit. Corolla small, blue, with a yellow throat, or pale yellow; segments of the limb obtuse.

Var. β, arenària (Schrad. in litt. ex Lehm. asper. p. 93. Schulz, starg. suppl. p. 12.) flowers small, all blue; throat yellow; stigma somewhat 2-lobed. ⊙. H. M. ramosíssima, Rochel. Leaves oblong, hispid. Tube of corolla exserted, usually yellow.

Var. γ, lùtea (Pers. ench. 1. p. 156. Hoffm. et Link, fl. port. 1. p. 173.) stem scabrous, hairy; superior leaves lanceolate, quite entire; tube of corolla exceeding the calyx. ⊙. H. M. arvénsis, var. β, Willd. 1. p. 747. Anchùsa lùtea, Cav. icon. 1. p. 60. t. 69. f. 1. exclusive of the synonymes.

Party-coloured-flowered Scorpion Grass, or Mouse-ear. Fl. April, June. Britain. Pl. ½ to 1 foot.

22 M. stri'cta (Link, enum. 1. p. 164. exclusive of var. versícolor, Roth. Ledeb. fl. alt. 1. p. 186.) stem branched at the base, hispid as well as the leaves, which are oblong; racemes strict, naked; pedicels shorter than the calyx; calyx 5-cleft, exceeding the tube of the corolla, hispid from hooked bristles. ⊙. H. Native of Siberia, in dry sterile places on hills near Sogra, between Butokowna and Tscheremschuka. Flowers usually yellow.

Strict Mouse-ear. Fl. June, July. Clt. 1822. Pl. 1 foot.

23 M. Forste'ri (Lehm. asper. p. 95.) leaves obovate-spatulate, hispid from strigæ; racemes bractless; pedicels erectly spreading while in fruit, length of calyx; calycine segments oblong, bluntish, 3-nerved. 4. G. Native of New Holland, where it was collected by Forster. Root creeping; fibres in fascicles. Stems ascending, hispid. Racemes filiform.

Forster's Scorpion Grass. Pl. ½ to 1 foot.

24 M. littora'lis (Stev. cat. hort. gorenki? Lehm. asper. p. 95.) radical leaves obovate, obtuse: cauline ones ovate-cor-

date, pilose above and nearly glabrous beneath; flowers nearly sessile, imbricate, disposed in spike-formed, bractless racemes. ⊙. H. Native on the shores of the Caspian Sea. Plant small at the time of flowering, but afterwards more elongated. Radical leaves rosulate. Racemes solitary, pilose, many-flowered. Calyx hairy; segments unequal, connivent, linear-lanceolate. Tube of corolla length of calyx.

Sea-shore Scorpion Grass. Pl. 1 to 2 inches.

25 M. pusílla (Lois. in Desv. journ. 2. p. 260. t. 8. f. 1. not 36. D. C. fl. fr. 6. p. 421. no. 2724. Lehm. asper. p. 96.) radical leaves somewhat spatulate, obtuse: cauline ones oblong, pilose; racemes short, leafy; pedicels axillary, erect, much shorter than the leaves; tube of corolla a little longer than the calyx; limb very short. ⊙. H. Native of Corsica, in fields. Root simple, slender, with some long fibres. Stems simple, numerous from the same root, pilose. Calycine segments acute.

Least Mouse-ear. Fl. June, July. Clt. 1820. Pl. $\frac{1}{4}$ foot.

26 M. spatula'ta (Forst. prod. p. 12. no. 62.) stem filiform, procumbent; leaves petiolate, ovate, distant, hispid from pili; pedicels lateral, one-half shorter than the leaves; tube of corolla much longer than the calyx. ⊙. H. Native of New Zealand. Pers. ench. 1. p. 175. Willd. spec. 1. p. 748. Lehm. in act. soc. hal. 3. t. 1. f. 2. asper. 97. Anchùsa spatulàta, Rœm. et Schultes, syst. 4. p. 100. Stem pilose. Calyx obovate, with lanceolate segments.

Spatulate-leaved Mouse-ear. Pl. procumbent.

27 M. seri'cea (Lehm. asper. p. 98.) stem erect; leaves sessile, oblong-lanceolate, silky; racemes leafy; pedicels axillary, erect when in fruit, length of the floral leaves; tube of corolla length of calyx. ⊙. H. Native of Siberia. Anchùsa sericea, Rœm. et Schultes, syst. 4. p. 774. M. pectinàta, Hort. Stem silky, divided into many erect leafy racemes at apex. Calycine segments linear, bluntish. Corollas large, blue.

Silky Mouse-ear, or Scorpion Grass. Fl. June, Aug. Clt. 1802. Pl. $\frac{1}{2}$ to 1 foot.

28 M. foliòsa (Lehm. asper. p. 99.) leaves spatulate-lanceolate, roundish, obtuse, nearly glabrous; flowers axillary, on short pedicels, one-half shorter than the leaves; tube of corolla nearly the length of the calyx. ♃. G. Native of South America. Anchùsa foliòsa, Rœm. et Schultes, syst. 4. p. 775. Roots nearly simple. Stem scabrous from adpressed short hairs. Racemes leafy. Calyx pilose; with linear-lanceolate, obtuse segments. Corolla rather pilose outside.

Leafy Mouse-ear, or Scorpion Grass. Pl. $\frac{1}{2}$ to 1 foot.

29 M. villòsa (Ledeb. act. nov. acad. petrop. 5. p. 516. no. 3. fl. alt. 1. p. 191. fl. ross. alt. ill. t. 215.) plant clothed with white villi; stems simple; leaves elliptic, obtuse, 3-nerved, reticulately veined, villous; racemes twin, bracteate; bracteas minute; pedicels hardly the length of the flowers; nuts truncate, marginately toothed: teeth inflexed. ♃. H. Native of Siberia, on the alps, along with *Dryas octopétala;* and of the bay of St. Lawrence, along with *M. alpéstris*. Lehm. asper. p. 100. Anchùsa villòsa, Rœm. et Schultes, syst. 4. p. 775. Plant tufted, white from villi. Root woody. Stems simple, divided at top into simple leafy racemes. Racemes axillary and terminal. Calycine segments linear. Corolla rather large, deep blue, with a pale throat.

Villous Mouse-ear, or Scorpion Grass. Pl. $\frac{1}{4}$ foot.

30 M. aretioìdes (Cham. in Linnæa, 4. p. 443.) stems tufted, clothed with long white hairs, divided at top; leaves densely imbricated, sessile, lanceolate, cuneate at the base, acutish at the apex; racemes cymose, twin, terminal, each furnished with a leaf at the base. ♃. H. Native of the island of St. Laurence. Stems hardly emerging from the tufts of leaves. Surculi creeping. Pedicels longer than the calyxes. Calycine segments lanceolate, acutish. Corolla salver-shaped; limb fine blue; genitals inclosed.

Arctia-like Mouse-ear. Pl. 2 to 4 inches.

31 M. rupe'stris (Pall. itin. 3. append. p. 716. E. f. 3. R. Br. prod. p. 494.) plant silky; leaves linear, villous; racemes twin or tern, alternate, leafy at the top of the stem; pedicels erectly spreading while bearing the fruit, length of the floral leaves, but exceeding the flowers. ♃. H. Native of Dahuria, and Altaia, on the mountains, in dry rocky places. Willd. spec. 1. p. 748. Lam. ill. p. 305. no. 1772. Lehm. asper. p. 100. Anchùsa rupéstris, Rœm. et Schultes, syst. 4. p. 100. Root simple. Stems tufted, numerous from the same root, simple, slender, canescent. Racemes axillary and terminal. Calyx villous; with spreading segments. Corolla large, showy, deep blue, twice as long as the calyx. Nuts truncate, marginate, with the margins toothless.—There is a white-flowered variety of this plant found at the river Tschuja.

Rock Mouse-ear. Fl. July. Clt. 1802. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

32 M. obova'ta (Ledeb. fl. alt. 1. p. 190.) plant rather silky; stems tufted, simple; leaves obovate-oblong; racemes twin, bracteate; pedicels hardly exceeding the flowers; nuts unknown. ♃. H. Native of Kamtschatka; also of Dahuria, near Nertschinsk. Root thick, woody. Radical leaves rosulate, all attenuated into the petioles. Flowers like those of *M. rupéstris*.

Obovate-leaved Mouse-ear, or Scorpion Grass. Fl. June, July. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

33 M. fla'ccida (Dougl. mss. ex Lehm. pug. 2. p. 22.) stem erect, branched; leaves linear, strigose; spikes bractless, bifid; calyx 5-parted, closely adpressed to the fruit, closed, very hispid at the base and apex. ⊙. H. Native of North-west America. Stem beset with adpressed hairs or strigæ. Calycine segments linear, obtuse. Corolla yellow, glabrous; limb short. Nuts ovate, beaked, smooth.

Flaccid Mouse-ear, or Scorpion Grass. Pl. $1\frac{1}{2}$ foot.

34 M. leucophœ'a (Dougl. mss. ex Lehm. pug. 2. p. 22., stem erect; leaves lanceolate-linear, silky above and strigose beneath; spikes crowded at the top of the stem, few-flowered; calyx very hispid; nuts unknown. ⊙. H. Native of North-west America.—A very pretty plant. Stem angular, beset with adpressed hairs below, and spreading pili above. Leaves 3-nerved. Spikes hispid. Calycine segments linear, obtuse, tomentose inside at apex. Corollas large, white; with roundish, obovate segments.

Leucophœous Mouse-ear, or Scorpion Grass. Pl. 1 foot.

35 M. pauciflòra (Ledeb. in act. nov. acad. petrop. 5. p. 517. no. 4. Lehm. asper. 1. p. 101.) leaves linear, villously hispid, hoary; racemes conjugate, usually 3-flowered; pedicels 3 times longer than the calyx when bearing the fruit; bracteas minute. ♃. H. Native of Dahuria. Anchùsa pauciflòra, Rœm. et Schultes, 4. p. 774. Plant clothed with white, shining hairs. Stems simple, numerous from the same root. Racemes terminal. Corolla large for the size of the plant, pale blue, with a yellow throat.

Few-flowered Mouse-ear. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

§ 2. *Nuts wrinkled, rugged, granular, or bristly.*

36 M. peduncula'ris (Trev. in scrift. ges. freund. berol. 1813. p. 147. t. 2. f. 6, 7, 8, 9.) leaves elliptic-roundish, obtuse; racemes many-flowered, bractless, loose; pedicels longer than the calyxes, thickened above while in fruit; nuts pyramidal, downy. ⊙. H. Native near Astrachan, in fields and vineyards. Lehm. asper. p. 102. Roots fibrous. Stems numerous from the same root, beset with adpressed hairs, as well as the leaves. Racemes terminal, simple. Calycine segments linear,

or lanceolate, erectly spreading. Nuts beset with hooked bristles at the sides, nevertheless shining.

Peduncular Mouse-ear, or Scorpion Grass. Fl. May, June. Clt. 1824. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

37 M. TENUIFLÒRA (Viv. fl. libyc. 9. t. 1. f. 2.) plant strigose; stem erect; lower leaves spatulate: superior linear-oblong; calyx 5-parted, equal in length to the corolla, erect when bearing the fruit; bracteas linear-lanceolate, exceeding the flowers. ⊙. H. Native of Cyrenaica, in dry, exposed parts of mountains. Stem sparingly branched. Flowers disposed in short, imbricate, solitary, terminal spikes. Calyx hispid; with linear, acute, connivent segments. Corolla furnished with 5 fascicles of hairs inside. Nuts triquetrous, having the margins and back tubercled.

Thin-flowered Mouse-ear. Pl. $\frac{1}{2}$ foot.

38 M. NA'NA (Vill. dauph. 2. p. 459.) leaves oblong-lanceolate, villous; racemes few-flowered, leafy at bottom; nuts denticulately crenulated on the margins. ♃. H. Native of the alps of Dauphiny, Piedmont, Switzerland, Tyrol, Carinthia, Carniola, and Savoy. Vill. delph. 4. t. 13. prosp. p. 41. t. 23. f. 3. All. ped. no. 189. Wulf. in Jacq. coll. 1. p. 261. Schmidt, fl. boh. cent. 2. p. 27. Lam. ill. 1. p. 396. no. 1780. D. C. syn. fl. fr. no. 2726. Lois. fl. gall. 1. p. 104. Sut. fl. helv. 1. p. 102. Pers. ench. 1. p. 157. M. pauciflòra, Vittm. summ. 1. p. 382. M. Terglovénsis and M. nàna, Vittm. summ. 1. p. 382. M. Terglovénsis Hacq. pl. alp. carn. p. 21. t. 2. f. 6. Arètia Hacq. in act. soc. hist. nat. berol. 1780. p. 128. Lithospérmum alpìnum tomentòsum mínimum Tourn. inst. p. 137. Plant tufted, the smallest species of the genus. Root blackish. Stems numerous, simple, leafy. Radical leaves rosulate. Racemes simple, with hardly ever more than 4 flowers. Calyx villous; segments lanceolate, bluntish. Corollas large, sweet-scented; tube pale, about the length of the calyx; limb blue; throat yellow; segments ovate-roundish.

Dwarf Mouse-ear, or Scorpion Grass. Fl. May, July. Clt. 1800. Pl. 1 to 3 inches.

39 M. PECTINA'TA (Pall. itin. vol. 3. append. no. 71. t. E. f. 4.) leaves ovate-lanceolate, villous; racemes erect, strict, bracteate; nuts truncate at the apex, pectinated by erect marginal bristles. ♃. H. Native among frigid, mossy rocks, at the Jenissee; also about the Baical, and in Kamtschatka. Pers. ench. 1. p. 157. Willd. spec. 1. p. 750. Lam. ill. p. 396. Lehm. asper. p. 105. Root fibrous, adhering to the fissures of rocks. Stems erect, pilose, many from the same root, divided into simple racemes at top. Calyx pilose, with lanceolate, acute segments. Corolla blue, with a pale throat; tube length of calyx.

Pectinate-fruited Mouse-ear. Pl. $\frac{1}{2}$ to 1 foot.

40 M. CILIA'TA (Rudolph, in mem. acad. st. petersb. 1809. vol. 1. p. 352. t. 11. Led. fl. alt. 1. p. 191. fl. ross. alt. ill. t. 215.) leaves oblong-lanceolate, canescent, strigose, as well as the stems; racemes many, bracteate, loose; nuts truncate at the apex, girded by a toothed margin, having the teeth erect and ciliated. ♃. H. Native of Siberia, in exposed places at the Jenissee, especially near Krasnajarsk; also of the Altaian mountains, near Salair. Root perpendicular, fibry. Stems simple, many from the same root, divided into numerous loose racemes at top, strigose and canescent. Pedicels 3 times as long as the flowers. Calyx pilose, with linear segments. Corolla twice as long as the calyx; throat closed by 5 peculiar scales. Habit of *Echinospérmum barbàtum*.

Ciliated-toothed Mouse-ear. Pl. $\frac{1}{2}$ to 1 foot.

41 M. A'LBIDA (H. B. et Kunth, nov. gen. amer. 3. p. 91.) stem erect, much branched, and are, as well as the leaves, hispid, white; leaves sessile, linear, acutish; spikes terminal, leafy; flowers sessile; calyx closed; nuts scabrous. ⊙. H. Native of Mexico, near San Juan del Rio, and Hacienda de Lira, at the altitude of 1000 hexapods. Lithospérmum ramòsum, Lehm. asper. p. 328. ex Lam. Leaves 1 to $1\frac{1}{2}$ inch long, and one line broad. Corollas very minute, yellow, glabrous; and the processes of the throat orange-coloured. Calyx hispid, with linear-lanceolate segments.

Whitened Mouse-ear. Pl. 1 foot.

42 M. GRANULÒSA (Ruiz. et Pav. fl. per. 2. p. 5. no. 1.) stem erect; leaves linear-lanceolate, bluntish, rather hispid; corolla twice longer than the calyx; nuts granular. ⊙. H. Native of Peru, in sandy places in the provinces of Lima and Chancay. Pers. ench. 1. p. 157. Lehm. asper. p. 108. Plant hispid, or strigose. Root fusiform, fibry. Branches disposed in a corymbose manner. Racemes terminal. Flowers distant. Calyx hairy, with obtuse segments. Corolla white. Nuts ovate.

Granular-fruited Mouse-ear. Pl. $\frac{1}{2}$ to 1 foot.

43 M. HU'MILIS (Ruiz. et Pav. fl. per. 2. p. 5. no. 4.) stems procumbent; leaves linear, hispid; flowers lateral, secund; nuts rugose. ♃. G. Native of Peru, in fields. Pers. ench. 1. p. 157. Lehm. asper. p. 108. Plant hispid from pili. Root fusiform, fibry. Middle stems erect. Flowers on short pedicels. Calycine segments lanceolate. Corolla white, longer than the calyx. Nuts ovate.

Humble Mouse-ear. Pl. procumbent.

44 M. FU'LVA (Hook. et Arn. in Beech. voy. pt. bot. p. 38.) hispid; stem erect, nearly simple; leaves remote, broad-linear, bluntish; racemes spike-formed, conjugate, bractless; calyx densely pilose, deeply 5-parted; nuts only 2, and one of which is abortive. ⊙. H. Native of Chili, about Conception. Stem slightly branched upwards. Root fusiform, simple. Pedicels and calyxes clothed with fulvous hairs. Leaves strigose. Corolla white. Nuts wrinkled.

Fulvous-haired Mouse-ear, or Scorpion Grass. Pl. 1 foot.

45 M. MICRA'NTHA (Pall. in litt. ex Lehm. asper. p. 109.) stems diffuse, decumbent; leaves narrow-lanceolate, obtuse, strigose; flowers nearly sessile, interfoliaceous; nuts rugose, with prominent ribs.—Native of Siberia, at the Volga. Stems strigose, branched, many from the same root. Flowers distant, secund, axillary, and interfoliaceous. Calyx hairy; segments lanceolate, elongated and spreading when in fruit. Corolla small, a little longer than the calyx. Nuts ovate.

Small-flowered Mouse-ear. Pl. procumbent.

46 M. CHORISIA'NA (Cham. in Linnæa, 4. p. 444.) plant beset with white strigose pili; radical leaves linear, acute, obscurely 3-nerved; stems filiform, ascending, usually simple, bearing racemes from the base; segments of calyx, bearded at apex; stigma capitate; nuts wrinkled. ⊙. ♂?. H. Native of New California, at port St. Francisco. Calyx beset with adpressed strigæ. Radical leaves 3 inches long, and 2 lines broad. Corolla rotate. Calycine segments lanceolate, acute. Said to agree in hairiness and duration with *M. cæspitòsa*, Schultes, and in the racemes being leafy at bottom with *M. parviflòra*, but the nuts are wrinkled, and the habit peculiar.

Choris's Mouse-ear, or Scorpion Grass. Pl. $\frac{1}{2}$ to 1 foot.

47 M. GLOMERA'TA (Nutt. gen. amer. 1. p. 112.) stem erect, simple; leaves spatulate-linear, those on the stem rather acute, hairy; spikes pedunculate, axillary, conglomerate, bifid, sessile above; calyx extremely hispid; lobes of corolla entire. ♂. H. Native of the Missouri, on arid, argillaceous hills, around the great Bend. Cynoglóssum glomeràtum, Pursh. fl. amer. 2. p. 729. Rochèlia glomeràta, Torrey. Radical leaves villous, obovate-spatulate. Corolla white; tube constricted near the base. Stigma capitate. Stamens included beneath the arched protuberances of the orifice. Nuts rugose, with an elevated, scabrous, or minutely crenulated ridge in the centre.

Glomerate-spiked Mouse-ear, or Scorpion Grass. Fl. May, Aug. Clt. 1812. Pl. ½ to 1 foot.

† *Species not sufficiently known.*

48 M. austra'lis (R. Br. prod. p. 495.) hispid; leaves oblong-lanceolate; calyxes equal to the tube of the corolla, beset with hooked hairs. ⊙ ?. H. Native of New South Wales, about Port Jackson; and of Van Diemen's Land. R. Br. says that the anthers are peltate in *Myosòtis*, and that there is hardly any difference between it and *Anchùsa*, unless in the one the racemes are bractless, and bracteate in the other.

Southern Mouse-ear. Pl.

49 M. alpìna (Lapeyr. abr. p. 85. fl. pyr. t. 64.) nuts smooth; stem simple, sub-bifid; flowers capitate; calyxes hoary from villi; leaves lanceolate, those at the bottom of the stem very villous. ♃. H. Native of the Pyrenees. This is a peculiar species.

Alpine Mouse-ear. Pl. tufted.

50 M. lingula'ta (Lehm. asper. p. 110.) the specimen received by Lehmann under this name is nearly allied to *M. palústris*, and is probably the *M. commutàta*, Schultes. It has also been received under the name of *M. uliginòsa*, Schrad.

Lingulate-leaved Mouse-ear. Pl. 1. foot?

51 M. ramosíssima (Rochel, Lehm. asper. p. 111.) stem much branched, beset with spreading hairs; floriferous branches beset with adpressed bristles; calyx divided beyond the middle, unequal, a little shorter than the corolla: with linear, hispid, obtuse segments. ⊙. H. Native country unknown. Flowers very small, blue.

Much-branched Mouse-ear. Pl. ¼ to ½ foot.

Cult. Some of the species of this genus are very delicate and beautiful when in blossom, as *M. palústris*, the *Forget-me-not*, *M. rupéstris*, *M. rèpens*, *M. nàna*, and all the perennial kinds. They thrive best in moist places, or by the edges of ponds or ditches; they also may be grown in pots and placed among the other alpine plants. The annual species grow best in dry sandy soil, or on old walls where the seed may be sown. Most of the perennial species may be increased by dividing at the root, and all by seed.

XXVIII. EXARRHE'NA (εξ, *ex*, without; and ἀρρὴν, *arrhen*, a male; in reference to the exserted stamens.) R. Br. prod. p. 495. Lehm. asper. 76.

Lin. syst. *Pentándria Monogýnia.* Calyx 5-cleft. Corolla salver-shaped; throat closed by arched processes; limb 5-parted, obtuse. Stamens exserted; anthers peltate. Style length of stamens; stigma nearly simple. Nuts 4, distinct, 1-celled, fixed to the bottom of the calyx, umbilicate at the base.—A pilose herb, with the habit of *Myosòtis*, and differs principally from that genus in the exserted stamens. Leaves decurrent. Racemes conjugate or solitary, bractless. Flowers white, sweet-scented.

1 E. suave'olens (R. Br. l. c.) ⊙ ?. H. Native of Van Diemen's Land. Lehm. asper. l. c. Myosòtis suavèolens, Poir. suppl. 4. p. 44.

Sweet-scented-flowered Exarrhena. Pl.

Cult. For culture and propagation see *Myosòtis* above.

XXIX. BOTHRIOSPE'RMUM (from βοθριον, *bothrion*, a small pit, and σπερμα, *sperma*, a seed; in reference to a deep pit on the inner side of each carpel.) Bunge, in mem. acad. petersb. 2. p. 121.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, permanent at length, a little widened or increased. Corolla salver-shaped; throat furnished with bifid, arched processes; tube short; limb 5-cleft. Anthers nearly sessile, oblong. Stigma capitate. Nuts 4, 1-celled, fixed to the bottom of the calyx, reniform, granular on the outside, perforated at the base, and deeply umbilicate on the inner side; each pit girded by a neck. —This genus is nearly allied to *Myosòtis*, *Exarrhèna* and *Boràgo*. Habit of *Myosòtis*.

1 B. Chine'nse (Bunge, l. c.) ♂. H. Native of China, near Pekin, among rubbish. Herb very hairy. Leaves oblong, entire, attenuated into the petioles. Racemes leafy. Flowers blue, like those of *Myosòtis*. All parts of the plant are more robust than most species of *Myosòtis*.

China Bothriospermum. Pl. 1 foot?

Cult. For culture and propagation see *Myosòtis* above.

Subtribe II. CYNOGLO'SSEÆ. Nuts fixed to the central column, not perforated at the base.

XXX. ECHINOSPE'RMUM (from εχινος, *echinos*, a hedgehog, and σπερμα, *sperma*, a seed; in allusion to the seeds or nuts being echinated.) Swartz, ex Lehm. asper. p. 113. Blum. bijd. 846. Led. fl. alt. 1. p. 197. Myosòtis species, Lin. Juss. Lam. &c. Lam. ill. t. 91. Gærtn. fruct. 1. t. 68. f. 1.—Láppula Rivin.—Mœnch. meth. 1. p. 416.—Rochèlia, Lam. ill. t. 91, under Myosòtis. Rœm. et Schultes, syst. 4. p. xi. and p. 108.—Echioìdes species, Mœnch.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla salver-shaped, or funnel-shaped; throat furnished with short scales; limb 5-parted, obtuse, spreading. Nuts 4, distinct, 1-celled, triangular, compressed, echinated, fixed to the central column, not perforated at the base.—Scabrous, annual, or biennial-branched, erect plants. Leaves decurrent. Racemes bracteate, terminal. Flowers small, blue. "The Linnean species of *Myosòtis*, with echinated fruit, constitute a distinct genus, nearly allied to *Cynoglóssum*, from the nuts being adnate to the central column, but differs from that genus in the nuts being compressed, not depressed, and in the racemes being bracteate." R. Br. prod. p. 494.

§ 1. *Fruit drooping, or deflexed. Racemes almost bractless.*

1 E. Zeyla'nicum (Lehm. asper. p. 116.) leaves somewhat cordately ovate, callously hispid; racemes erect, very long, bractless; nuts densely clothed with sub-imbricate, glochidate prickles. ♃. H. Native of Ceylon, on the sea-shore among the sand. Myosòtis Zeylánica, Swartz in litt. Lehm. in act. soc. schrift, hall. 3. p. 20. Cynoglóssum Zeylánicum Thunb. in litt. Anchùsa Zeylánica, Vahl. herb. Horn. enum. hort. hafn. 1807. Rochèlia Zeylánica, Rœm. et Schultes, syst. 4. p. 108. Plant hispid, erect, branched. Corollas small, blue, a little longer than the calyx. Calycine segments ovate, obtuse.

Ceylon Echinospermum. Pl. 1 to 2 feet.

2 E. Virgínicum (Lehm. asper. p. 117.) leaves ovate-oblong, acuminated, scabrous above, downy beneath; racemes divaricate, bracteolate; nuts beset with dense, scattered, glochidate prickles. ⊙. H. Native of North America, in woods, especially in Virginia, Carolina, and Kentucky. Myosòtis Virgínica, Lin. spec. ed. 2d. vol. 1. p. 189. Pursh. fl. 1. p. 134. Willd. spec. 1. p. 748. Mill. dict. no. 1. Michx. fl. bor. 1. p. 129. Wahl. fl. lapp. p. 56. Rochèlia virgínica, Rœm. et Schultes, syst. 4. p. 108.—Mor. hist. 3. p. 449. sect. 11. t. 30. f. 9. Myosòtis seminibus hispidis, foliis lanceolato-ovatis, Gron. virg. p. 19. Plant erect, scabrous, branched; hairs on the stem retrograde. Corolla white, a little longer than the calyx. Calyx pilose, with ovate lanceolate segments, which are elongated and divaricate in the fruit-bearing state. "Leaves large. Flowers small, pale blue." Pursh. l. c.

Virginian Echinospermum. Fl. June, July. Clt. 1699. Pl. 1 to 1½ foot.

3 E. JAVA'NICUM (Lehm. asper. p. 118. Blum. bijdr. p. 846.) leaves lanceolate, strigose above, hairy beneath; racemes erect, loose, bifid, bractless; nuts depressed, densely clothed with scattered, somewhat imbricate, glochidate prickles. ♃. H. Native of Java, on mounts Gede and Salak, in dry, exposed places. Myosòtis Javánica, Swartz in litt. Lehm. in act. soc. schrift. hall. 3. p. 20. Rochèlia Javánica, Rœm. et Schultes, syst. 4. p. 108. Cynoglóssum Javánicum, Thunb. in litt. Stem erect, downy. Racemes bifid. Corolla blue; tube a little longer than the calyx, hispid, with ovate obtuse segments. This species differs from *E. Virgínicum*, to which it is very nearly allied, in the floriferous branches being erect, not divaricate, in the leaves being elliptic-lanceolate, short-acuminated, strigose above, and hairy beneath, not villous; and in the racemes being longer and bractless.

Java Echinospermum. Pl. 1 foot.

4 E. BORBÓNICUM (Lehm. asper. p. 119.) suffruticose; leaves lanceolate-linear, very long, nearly naked; racemes erect, bractless; nuts beset with densely scattered, very short, glochidate prickles. ♄. S. Native of the island of Bourbon. Myosòtis Borbónica, Lehm. in act. soc. scrift. hall. 3. p. 25. t. 2. Pers. ench. 1. p. 157. Myosòtis Borbóniæ, Lam. ill. 1. p. 396. no. 1777. dict. 4. p. 401. Rochèlia Borbónica, Rœm. et Schultes, syst. 4. p. 108. Stem scabrous, branched at top. Leaves scabrous above from white dots, and almost glabrous beneath. Flowers in 2 rows. Calyx obovate; with oblong lanceolate, bluntish segments. Corolla as in *Myosòtis palústris*.

Bourbon Echinospermum. Shrub 1 to 1½ foot.

5 E. DEFLE'XUM (Lehm. asper. p. 120.) leaves oblong-lanceolate, bluntish, hairy; racemes erectly spreading, bracteolate at the base; nuts having a simple series of prickles along the margins, which are connate at the base, and glochidate at the apex. ♂. H. Native of Lapland, Norway, Hungary, Siberia, and Styria, at the bottom of the Alps, in stony shady places. Myosòtis defléxa, Wahl. fl. carp. p. 47. fl. lapp. p. 55. act. stockh. 1810. p. 113. t. 4. Horn. hort. hafn. 1. p. 174. Oed. fl. dan. t. 1568. Rochèlia defléxa, Rœm. et Schultes, syst. 4. p. 109. Root fusiform, fibry. Stem hispid, branched at top. Calyx hairy, with oblong, obtuse segments, which are elongated, divaricate, and reflexed in the fruit-bearing state. Corolla size and colour of *E. láppula*. There are varieties of this, with blue or white, smaller or larger corollas.

Deflexed-calyxed Echinospermum. Fl. May, June. Clt. 1820. Pl. ½ to 1 foot.

§ 2. *Fruit erect. Racemes leafy.*

6 E. LA'PPULA (Lehm. asper. p. 121.) stem branched at top; leaves lanceolate, beset with incumbent strigæ, ciliated; calyx at length spreading, exceeding the pedicels; corolla small, exceeding the calyx, with an erectly spreading limb; nuts furnished with a double row of glochidate prickles along the margins, having the disk and sides tubercled. ⊙. H. Native of Europe, Asia, and North America, among rubbish, stones, and on walls; and of China, on mountains. Myosòtis Láppula, Lin. spec. ed. 2d. vol. 1. p. 189. fl. suec. ed. 2d. no. 158. All. ped. 1. p. 191. Smith. prod. fl. græc. 1. p. 112. Bess. fl. gall. 1. p. 145. Pursh. fl. 1. p. 134. Baumg. fl. trans. 1. p. 118. Oed. fl. dan. t. 692. Wahl. fl. lapp. p. 56. Bieb. fl. taur. 1. p. 120. Lam. ill. 91. Láppula Myosòtis, Mœnch. meth. p. 417. Cynoglóssum Láppula, Scop. fl. carn. ed. 2d. vol. 1. p. 25. Rochèlia Láppula, Rœm. et Schultes, syst. 4. p. 109.—Hall. hist. helv. no. 589.—Column. ecphr. p. 179. icon.—Clus. hist. 2. p. 163. f. 1. Root fusiform. Stems scabrous from pili, branched at top. Calycine segments linear-lanceolate, spreading in the fruit-bearing state. Corolla with a very short tube; limb exceeding the calyx, blue. There is also a white flowering variety.

Var. β. squarròsum (Lehm. asper. 1. p. 122.) angles of nuts beset with hooked prickles; leaves lanceolate, pilose, callous at apex. ⊙. H. Myosòtis squarròsa, Retz. obs. 2. p. 9. no. 10. Willd. spec. 1. p. 749, exclusive of the syn. of Pall. Pers. ench. 1. p. 157.

Burdock Echinospermum. Fl. April, Aug. Clt. 1656. Pl. 1 to 1½ foot.

7 E. HETERACA'NTHUM (Ledeb. suppl. ind. hort. dorp. 1823. p. 3. fl. alt. 1. p. 198.) stem erect, branched above; leaves strigose; corolla hardly exceeding the calyx; calyxes at length, spreading, exceeding the pedicels; nuts furnished with 2 rows of glochidate prickles along the margins: those in the inner row connate at the base, having the disk tubercled, and the sides tubercled and prickly. ⊙. H. Native near Astrachan.

Various-spined Echinospermum. Pl. 1 foot.

8 E. INTERME'DIUM (Ledeb. fl. alt. 1. p. 199. fl. ross. alt. ill. t. 180.) stem branched above; leaves strigose; corolla length of calyx; flowers pedicellate; pedicels a little longer than the calyx in the fruit-bearing state; nuts furnished with a single row of horizontal, approximate, glochidate prickles along the margins, having the disk granulated, and the sides wrinkled. ⊙. H. Native of Altaia, in sandy places at the river Katunga. Habit exactly of *E. Láppula*. Stem hispid. Leaves oblong-linear. Racemes solitary or twin. Bracteas ciliated. Corollas blue.

Intermediate Echinospermum. Pl. 1 to 1½ foot.

9 E. PA'TULUM (Lehm. asper. p. 124.) branches divaricate, spreading; leaves oblong-lanceolate, beset with spreading strigæ; corolla length of calyx, at length spreading; flowers sessile; nuts furnished with a single row of distant, elongated, glochidate prickles along the margins, having the sides and disk beset with acute prickles. ⊙. H. Native of Caucasus, at the rivers Kuma and Terek; also on the lower Volga, about Sarepta, and about the town of Astrachan, &c. Myosòtis squarròsa, Bieb. cauc. 1. p. 120, exclusive of the synonymes of Retzius, Horn. hort. hafn. 1. p. 174. Willd. enum. 1. p. 176. Rochèlia squarròsa, Rœm. et Schultes, syst. 4. p. 124. M. Láppula, var. Pall. itin. 3. p. 718. no 71, in a note. Root simple, perpendicular. Stem beset with rigid spreading hairs. Calyx pilose; segments linear, erectly spreading inflorescence, but in the fruit-bearing state they are divaricate and elongated. Corolla small, blue, a little longer than the calyx, like those of *Myosòtis arvénsis*.

Spreading-branched Echinospermum. Fl. April, Aug. Clt. 1802. Pl. ½ to 1½ foot.

10 E. STRÍCTUM (Ledeb. fl. alt. 1. p. 200. fl. ross. alt. ill. t. 27.) branches erect; leaves lanceolate, beset with spreading strigæ; tube of corolla length of calyx; flowers pedicellate; pedicels when bearing the fruit length of calyx; nuts furnished with a single row of erect, approximate, glochidate prickles along the margins, keeled and beset with obtuse tubercles on the disk, and wrinkled on the sides. ⊙. H. Native of Altaia, in sandy places at the river Irtysch, between the river Kurtschum and Lake Noor-Saisan. Stems many from the same root. Limb of corolla pale blue. Bracteas much smaller than in *E. pátulum*.

Strict Echinospermum. Pl. 1 foot.

11 E. TE'NUE (Ledeb. fl. alt. 1. p. 201. fl. ross. alt. ill. t. 182.) stem branched above, hispid from strigæ, as well as the leaves; leaves oblong-linear, obtuse; corolla exceeding the calyx a little; calyxes when bearing the fruit divaricate, twice as long as the pedicels; nuts furnished with a single row of short, distant, glochidate prickles along the margins, having the disk a little

keeled, and the sides tubercled. ⊙. H. Native of Altaia, at the river Tscharysch, and near Smejow. The whole plant is hispid from spreading hairs. Racemes terminal, elongated, usually solitary, rarely twin; bracteas narrow, ciliated. Corolla pale blue. Segments of calyx linear.

Slender Echinospermum. Pl. ½ to 1 foot.

12 E. MICROCA'RPUM (Ledeb. fl. alt. 1. p. 202. fl. ross. alt. ill. t. 183.) stems branched above, and are, as well as the leaves, silky from strigæ; leaves oblong, or ovate-oblong, attenuated at the base: radical ones rosulate; tube of corolla exceeding the calyx; segments of calyx erectly spreading while bearing the fruit, about equal in length to the pedicels; nuts furnished with a single row of approximate, glochidate prickles along the margins, having the disk a little keeled, and the keel and sides tubercled. ♂. H. Native of Altaia, in stony places, near the summits of the Arkaul mountains; and on mountains near Bucktorminsk, and near the mine of Nicolajew. Stems many from the same root. Racemes terminal, and sometimes axillary. Bracteas ciliated. Corolla with a pale blue limb; and the scales on the throat yellow.

Small-fruited Echinospermum. Pl. ½ to 1 foot.

13 E. CONDYLÓPHORUM (Lehm. asper. p. 125.) branches divaricately reflexed; leaves lanceolate, villous; pedicels thickened when bearing the fruit; nuts furnished with a single row of glochidate prickles along the margins. ♃. H. Native of Siberia. Root fusiform, simple, woody. Stem branched above, beset with incumbent hairs. Racemes for the most part conjugate, with a solitary flower in the fork; flowers distant. Calyx strigose; with oblong acutish segments, which are elongated and divaricate in the fruit-bearing state. Corolla fine blue: tube nearly the length of the calyx.

Club-bearing Echinospermum. Pl. 1 foot.

14 E. BRAHYCE'NTRUM (Led. fl. alt. 1. p. 203. fl. ross. alt. ill. t. 302.) stems branched above, and are, as well as the leaves, rather silky from adpressed soft strigæ; leaves as in *E. microcárpum;* tube of corolla a little shorter than the calyx; but twice shorter than the limb; calycine segments erect in the fructiferous state, exceeding the pedicels; nuts edged with a single row of very short prickles, having the disk and sides tubercled. ⊙. ♃. H. Native of Altaia, in exposed stony places between Butakowa and Tscheremschuka, and near Buchtarminsk. Very like *E. microcárpum*. Racemes elongated. Calyx hairy. Corollas varying to blue, red, and white.

Short-spurred Echinospermum. Pl. 1 to 2 feet.

15 E. SEMIGLA'BRUM (Ledeb. fl. alt. 1. p. 204. fl. ross. alt. ill. t. 28.) leaves oblong, glabrous above, but hispid beneath, as well as the stems which are branched; tube of corolla length of calyx, and about equal in length to the pedicels; nuts furnished with a single row of very long glochidate prickles along the margins, having the disk keeled and prickly, and the sides tubercled. ⊙. H. Native of Altaia, in saltish sandy places at the river Irtysch, not far from the Lake called Noor-Saisan. Stems many from the same root, rather tufted. Radical leaves rosulate, sub-spatulate, obtuse: cauline leaves ciliated at the base. Racemes solitary or twin, bracteate. Calyx hispid. Corollas small white, rarely pale blue.

Half-glabrous Echinospermum. Pl. ½ to 1 foot.

16 E. MACRA'NTHUM (Ledeb. fl. alt. 1. p. 205. fl. ross. alt. ill. t. 29.) stem branched; leaves strigose, oblong, obtuse, tapering to the base; corollas twice as large as the spreading calyx; fruit-bearing pedicels about equal in length to the calyx; nuts furnished with a single row of glochidate prickles, which are dilated at the base, upper ones the smallest, having the disk keeled; the keel prickly, and the sides somewhat tubercled. ⊙. or ♂. H. Native of Altaia, in sandy, saltish places, at the river Istysch, not far from the Lake called Noor-Saisan. Stem solitary, or many from the same root. Leaves strigose. Racemes terminal, erect, strict. Bracteas similar to the leaves. Calyx hispid. Corolla with a white tube, one-half shorter than the calyx, and a blue limb, which is 3 times longer than the tube.

Large-flowered Echinospermum. Pl. ½ to 1½ foot.

17 E. MÍNIMUM (Lehm. asper. p. 126.) branches divaricate; leaves lanceolate, obtuse, beset with spreading hairs; pedicels thickened in the fruit-bearing state; nuts large, furnished with a single row of somewhat branched, glochidate, very long prickles along the margins. ⊙. H. Native of Siberia, at the Volga, in nitrous places. Myosòtis echinóphora, Pall. itin. 3. append. no. 71. t. j. i. f. 1. Willd. spec. 1. p. 750. Rochèlia echinóphora, Rœm. et Schultes, syst. 4. p. 110. Plant hispid from white hairs. Root simple, perpendicular. Calycine segments lanceolate, elongated, and spreading in the fruit-bearing state. Corolla small, nearly the length of the calyx, with a blue limb and a white throat.

Least Echinospermum. Pl. ½ foot.

18 E. REDÓWSKII (Lehm. asper. p. 127.) stem simple, straight; leaves lanceolate-linear, beset with spreading hairs, reflexed; nuts furnished with a single row of short glochidate prickles along the margins. ♂. H. Native of Russia. Myosòtis Redówskii, Horn. hort. hafn. 1. p. 174. Rochèlia Redówskii, Rœm. et Schultes, syst. 4. p. 110. Root fusiform. Stem strigose. Racemes lateral and terminal, simple or bifid. Calyx pilose, with linear segments, hardly the length of the corolla, elongated and spreading in the fruit-bearing state.

Redowski's Echinospermum. Fl. May, July. Clt. 1819. Pl. 1 to 2 feet.

19 E. BARBA'TUM (Lehm. asper. p. 128.) stem branched above; leaves lanceolate, beset with incumbent hairs; corolla large, with a flat limb; nuts furnished with a double row of very short glochidate prickles along the edges. ⊙. H. Native of Tauria, on calcareous mountains, to Caucasus and Iberia, in gravelly and exposed places. Myosòtis barbàta, Bieb. fl. cauc. 1. p. 121. pl. cent. ross. t. 36. Myosòtis, Pall. cat. pl. taur. in nov. act. petrop. 1792. p. 303. Rochèlia barbàta, Rœm. et Schultes, syst. 4. p. 110. Root fibry, reddish. Stem beset with soft incumbent hairs. Branches leafy, bearing the flowers at the apex, for the most part bifid. Calyx villous, with oblong, acutish segments, which spread in the fruit-bearing state. Corolla fine azure blue, size of those of *Myosòtis palústris*. Processes of the throat orange colour.

Bearded Echinospermum. Fl. June, July. Clt. 1823. Pl. 1 to 1½ foot.

20 E. GRA'CILE (Lehm. asper. p. 129.) stems procumbent, filiform; leaves linear; nuts echinated; echinæ glochidate. ⊙. H. Native of Chili, about Conception in fields, and on hills. Myosòtis grácilis, Ruiz. et Pav. fl. per. 2. p. 5 and 6. no. 3. Pers. ench. 1. p. 157. Rochèlia gràcilis, Rœm. et Schultes, syst. 4. p. 111. Root capillary. Plant rather hispid. Flowers lateral, secund, disposed in a loose, leafy raceme. Corolla white.

Weak Echinospermum. Pl. procumbent.

21 E. MARGINA'TUM (Lehm. asper. p. 130.) stem erect, branched above; leaves oblong, obtuse, beset with spreading hairs; nuts furnished with a single row of glochidate prickles along the margins, which are combined to the middle. ⊙. H. Native on the Lower Volga, about Astrachan, in vineyards and sandy places. Myosòtis marginàta, Bieb. fl. cauc. 1. p. 120. Horn. hort. hafn. 1. p. 174. Willd. enum. 1. p. 176. Rochèlia marginàta, Rœm. et Schultes, syst. 4. p. 110. Root simple, perpendicular. Stem pilose. Racemes erect. Calyx pilose; segments lanceolate, spreading in the fruit-bearing state. Corolla small, a little longer than the calyx, blue.

Marginate-fruited Echinospermum. Fl. April, Aug. Clt. 1822. Pl. ½ to 1 foot.

22 E. DIFFU'SUM (Lehm. pug. 2. p. 33.) stem and leaves hairy; radical leaves petiolate, oblong-lanceolate: upper cauline ones ovate, obtuse, sessile; racemes erect, simple, bracteate; nuts covered with glochidate prickles all over. ⊙. H. Native of the north-west coast of America. Myosòtis diffùsa, Dougl. mss. Stem divided at top into racemiferous branches. Leaves somewhat 3-nerved. Pedicels subsecund, drooping in the fructiferous state. Calycine segments oblong-linear, blunt. Corollas large, white.

Diffuse Echinospermum. Pl. 1 foot.

23 E. CYNOGLOSSOI'DES (Lehm. asper. p. 131.) stems erect, suffruticose; leaves lanceolate, obtuse, hispid; nuts furnished with a single row of long, glochidate prickles along the margins, which are combined to the middle. ♄. G. Native of the Cape of Good Hope. Myosòtis cynoglossoìdes, Lam. ill. no. 1778. p. 396. Pers. ench. 1. p. 157. Cynogl. echinàtum, Thunb. in Schrad. new. journ. bot. 1806. p. 48. prod. 1. p. 34. Pers. ench. 1. p. 60. Willd. spec. 1. p. 763. Rochèlia cynoglossoìdes, Rœm. et Schultes, syst. 4. p. 111. Stems numerous, branched from the base, clothed with adpressed hairs. Racemes erect, secund. Calyx hispid; with lanceolate-acute segments, which spread in the manner of a star in the fruit-bearing state. Corolla blue?

Cynoglossum-like Echinospermum. Shrub 1 to 2 feet.

24 E. VAHLIA'NA (Lehm. asper. p. 132.) stem suffruticose, dichotomously branched at top; leaves linear, densely pilose, greyish; nuts muricately spinose. ♄. G. Native about Alexandria. Myosòtis spinocárpus, Vahl, symb. 2. p. 32. Willd. spec. 1. p. 750. Lehm. in act. nat. scrut. hal. 3. 2. p. 24. t. 1. f. 1. Anchùsa spinocárpus, Forsk. descr. p. 41. Del. egypt. p. 42. t. 17. f. 3. Plant greyish. Leaves bluntish. Peduncles axillary, solitary, in the branches. Leaves 2 under each calyx. Keel of nuts toothed.

Vahl's Echinospermum. Shrub ½ foot.

Cult. Most of the species of this genus have rather a weed-like appearance; and therefore they are only to be found in botanical gardens. They are of the most easy culture; only requiring the treatment given to other common hardy annuals and perennials. The two last species, being natives of Africa, should be kept in pots, and placed among other greenhouse plants. They are all increased by seed.

XXXI. ROCHE'LIA (named after Anthony Rochel, director of the botanic garden at Pest, in Hungary, who has written on the plants of the Carpathian mountains.) Rchb. comm. in icon. pl. rar. 2. p. 13. t. 123. f. 236. 237. Ledeb. fl. alt. 1. p. 172. fl. ross. alt. ill. t. 244. but not of Rœm. et Schultes.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped, 5-lobed; throat furnished with arched scales. Nuts 2, oblique, adnate to the indurated style, or central column, combined, 1-celled, 1-seeded.—Hispid plants, with narrow leaves, and terminal racemes of flowers.

1 R. LEIOCA'RPA (Ledeb. l. c.) plant hispid from spreading pili; cauline leaves oblong-linear; nuts smooth, glabrous. ⊙. H. Native of the Soongarian steppe, in sterile places at the river Kurtschum. Herb green. Stem simple, divided into 2 or 3 racemes at top, or branched from the base to the apex; the branches very straight, and adpressed to the stem.

Smooth-fruited Rochelia. Pl. ½ foot.

2 R. STELLULA'TA (Led. fl. atl. 1. p. 172.) plant hoary, and hispid from erectish strigæ; cauline leaves oblong-linear, somewhat spatulate; nuts strigose. ⊙. H. Native of Siberia.

Starry Rochelia. Pl. ½ foot.

Cult. For culture and propagation, see *Echinospérmum* above.

XXXII. OMPHALO'DES (from *ομφαλος, omphalos*, the navel; and *ειδος, eidos*, like; nuts or fruit resembling the navel; hence some species have been called Venus's Navelwort.) Tourn. inst. t. 58. Mœnch. meth. p. 420. Lehm. asper. p. 180.—Cynoglóssum species, Lin. gen. no. 181, and Schreb. no. 243. Juss. gen. p. 131. ed. Usteri, p. 147. Gærtn. fruct. 1. no. 426. t. 67. f. 4. C.—Picòtia species, Rœm. et Schultes, syst. 4. p. 84—85.

LIN. SYST. *Pentándria, Monogy'nia.* Calyx 5-cleft. Corolla rotate; throat closed by short vaulted processes; limb 5-parted, obtuse. Nuts 4, 1-celled, depressed, cup-shaped, with an inflexed membrane along the margin, fixed to the central column, not perforated at the base.

§ 1. *Perennial plants, with usually rhizomatous roots, broad green leaves, and terminal racemes of blue or white flowers.*

1 O. NI'TIDA (Lehm. in new schrift. gesell. berol. 8. p. 97. asper. p. 181.) leaves oblong-lanceolate, nerved, glabrous above, and shining, downy beneath: lower ones on long petioles: superior ones sessile. ♃. H. Native of Portugal, in humid places, under the shade of trees. Hoffm. et Link, fl. port. 1. p. 104. t. 25. Cynoglóssum nítidum, Willd. enum. 1. p. 181. Sims, bot. mag. t. 2529. Cynoglóssum Lusitánicum, Lam. dict. 2. p. 239. Brot. fl. lus. 1. p. 296. Cynoglóssum lanceolàtum of various Herbaria. Picòtia nítida, Rœm. et Schultes, syst. 4. p. 84. Omphalòdes Lusitánica, Cynoglóssi folio, Tourn. inst. p. 140. Rhizoma creeping under ground. Stems numerous from the same root, smoothish, branched. Racemes bractless, long. Pedicels and calyxes beset with adpressed hairs. Calycine segments ovate, acute. Corolla blue; tube white; throat yellow; scales in the throat floccose, of an obscure violet-colour. Membrane of nuts toothed.

Shining Venus Navel-wort. Fl. April, June. Clt. 1812. Pl. 2 to 4 feet.

2 O. CORNIFÒLIA (Lehm. in new. schrift, gesell. berol. 8. p. 97. t. 5. asper. 182.) radical leaves on long petioles, ovate-cordate, acuminated, nerved: cauline ones nearly sessile: lower ones lanceolate: upper ones ovate; racemes solitary, many-flowered. ♃. H. Native of Cappadocia. Cynoglóssum Cappadócicum, Willd. spec. 1. p. 767. Pers. ench. 1. p. 161. Cynoglóssum omphalòdes, β, Lam. dict. 2. p. 239. Picòtia cornifòlia, Rœm. et Schultes, syst. 4. p. 85. Omphalòdes Orientàlis cornifolio, Tourn. cor. p. 7. Rhizoma creeping under ground. Stems filiform, a span high, hairy. Leaves nearly glabrous. Flowers distant. Calyx pilose at the base; with ovate, acuminated segments.

Dogwood-leaved Venus Navelwort. Pl. ½ foot.

3 O. VE'RNA (Mœnch. meth. p. 420.) radical leaves ovate-cordate: cauline ones ovate-lanceolate, petiolate, nearly glabrous; racemes conjugate, few-flowered. ♃. H. Native of Piedmont, Carniola, Transylvania, and Caucasus, in mountain woods. Lehm. new. schrift, gesell. berol. 8. p. 98. asper. p. 183. O. rèpens, Schrank, in denks. acad. wiss. munch. 1811, 1812. p. 221. Cynoglóssum omphalòdes, Lin. spec. ed. 2d. vol. 1. p. 193. Pall. fl. ross. p. 96. Lois. fl. gall. 1. p. 107. Willd. spec. 1. p. 766. Jaume St. Hil. pl. fr. 2. t. 116. Curt. bot. mag. 7. Scop. fl. carn. 1. no. 190. t. 3. Mill. fig. 2. t. 190. f. 2. Sturm. fl. germ. fasc. 21. icone.—Mor. hist. 3. sect. 11. t. 26. f. 2.—Lob. icon. p. 577. f. 1.—Bull. herb. t. 309.—Knor. del. 2. t. e. 7. Rhizoma creeping under ground. Stems many: floriferous ones erect, glabrous, simple, emitting

stolons from their base. Petioles ciliated at the base. Racemes bractless. Flowers distant, on long pedicels. Calyx beset with incumbent hairs. Corolla fine blue, with a white throat.

Spring Venus Navel-wort. Fl. March, May. Clt. 1633. Pl. $\frac{1}{2}$ foot.

4 O. amplexicau'lis (Lehm. new. schrift, gesell. berol. 8. p. 98. t. 6.) lower leaves spatulate: the rest cordate, stem-clasping, glabrous, with smooth margins; racemes erect, many-flowered. ♃. H. Native of Spain and Portugal; particularly of Corduba. Lehm. asper. p. 185. O. Lusitánica, Schrank, denks. acad. wiss. munch. 1811, 1812. p. 221. Cynoglóssum brassicæfòlium, Lag. gen. et spec. 1816. p. 10. Cynogl. Lusitánicum, Lin. spec. p. 193. Vahl, symb. 2. p. 34. exclusive of all synonymes. Willd. spec. 1. p. 765. exclusive of the synonymes of Lin., Mill., and Tourn. Picòtia brassicæfòlia, Rœm. et Schultes, syst. 4. p. 85. Plant glabrous, glaucous-green. Stem branched. Racemes bractless. Calyx glabrous, with ovate-lanceolate segments. Corolla white.

Stem-clasping-leaved Venus Navel-wort. Fl. June, Aug. Clt. 1823. Pl. 1 to $1\frac{1}{2}$ foot.

5 O. sempervi'rens (D. Don, prod. fl. nep. p. 101. in a note) leaves ovate, obsoletely denticulated, hispid: lower ones on long petioles: superior ones sessile; peduncles axillary, 2-leaved; racemes conjugate, subcapitate. ♃. H. Native of the South of Europe; and in England, but a doubtful native. Anchùsa sempervírens, Lin. spec. ed. 2d. vol. 1. p. 192. hort. cliff. 47. Hoffm. et Link, fl. port. 1. p. 178. Smith, engl. bot. t. 45. Vill. dauph. 2. p. 456. Lehm. asper. p. 236.—Mor. hist. 3. sect. 11. t. 26. f. 2.—Sabb. hort. rom. 2. t. 23.—Lob. icon. 775. f. 2. Plant hispid. Stem erect, hispid from retrograde strigæ. Calycine segments lanceolate. Corolla blue, with a short white tube. Perforations of nuts closed by a scale, ex Lehm.

Evergreen Venus Navel-wort. Fl. May, July. Britain. Pl. 1 to 2 feet.

6 O. myosotoi'des (Schrank, densk. acad. wiss. munch. 1811, 1812. p. 222. Lehm. in new. schrift. gesell. berol. 8. p. 99.) radical leaves spatulate-lanceolate: cauline ones sessile, linear-lanceolate, strigose, rough; flowers loosely racemose. ♃. H. Native on the top of Mount Lebanon; and of Candia, on the Sphaciotic mountains. Lehm. asper. p. 188. Cynoglóssum myosotoìdes, Labill. pl. syr. dec. 2. p. 6. t. 2. Smith, prod. fl. græc. 1. p. 118. Cynoglóssum lithospermifòlium, Lam. dict. 2. p. 240. ill. no. 1805. Picòtia lithospermifòlia, Rœm. et Schultes, syst. 4. p. 86. Stems many from the same root, filiform, tufted, hairy. Corolla funnel-shaped, small, blue, hardly longer than the calyx; tube very short. Calyx pilose, with subovate segments. Nuts flat, ovate, acute, glabrous.

Mouse-ear-like Venus Navel-wort. Pl. $\frac{1}{2}$ foot.

7 O. interme'dia; leaves strigose, rough: radical ones spatulate-lanceolate: cauline ones linear-lanceolate; flowers loosely racemose; calyx equal in length to the tube of the corolla; carpels girded by a toothed, membranous margin, muricated in the centre. ♂. H. Native of Arabia, on rocks. Cynoglóssum intermèdium, Fres. fl. egypt. et arab. p. 169. Nearly allied to *Omph. myosotoìdes*.

Intermediate Venus Navel-wort. Pl. $\frac{1}{2}$ foot.

§ 2. *Annual, erect, glaucous plants, with fibrous roots, and terminal racemes of white, or very pale blue flowers.*

8 O. littora'lis (Lehm. in new. schrift. gesell. berol. 8. p. 98. asper. p. 187.) radical leaves spatulate: cauline ones sessile, oblong: superior ones ovate, dilated at the base, papillose, with strigose edges; racemes bracteate. ⊙. H. Native of the West of France, on the sea shore. Picòtia littoràlis, Rœm. et Schultes, 4. p. 186. Cynoglóssum littoràle, Spreng. syst. 1. p. 567. Root simple. Plant glaucous-green. Racemes axillary and terminal, rather strigose. Calycine segments ovate-lanceolate. Corolla white, as in *O. linifòlia*. Nuts with an inflexed, ciliated membrane.

Sea-shore Venus Navel-wort. Fl. June, Aug. Clt. 1826. Pl. $\frac{1}{2}$ foot.

9 O. linifòlia (Mœnch. meth. p. 419. Schrank, densk. acad. wiss. munch. 1811, 1812. p. 221. Lehm. in new. schrift. gesell. berol. 8. p. 99. asper. p. 187.) radical leaves cuneiform: cauline ones linear-lanceolate, glabrous, with denticulately ciliated margins; racemes bractless. ⊙. H. Native of Portugal, France, and Italy, on the sea shore. Hoffm. et Link, fl. port. 1. p. 193. Cynoglóssum linifòlium, Lin. spec. p. 193. hort. cliff. p. 43. Vahl, symb. 2. p. 35. Gærtn. fruct. 1. p. 324. t. 67. f. 4. Cynogl. Lusitánicum, Mill. fig. 2. t. 190. f. 1. Picòtia linifòlia, Rœm. et Schultes, syst. 4. p. 86.—Sabb. hort. rom. 2. t. 38.—Barrel. icon. 1234.—Mor. hist. 3. sect. 11. t. 30. f. 11. Omphalòdes Lusitánica lini folio, Tourn. inst. 140. Plant glaucous-green, glabrous. Branches terminating in loose racemes. Calyx strigose at the base; segments lanceolate, with denticulately ciliated edges. Corolla white, rarely with a tinge of blue; processes of the throat nearly globose. Nuts with a toothed, inflexed margin.

Flax-leaved, or Common Venus Navel-wort. Fl. June, Aug. Clt. 1748. Pl. $\frac{1}{2}$ to 1 foot.

10 O. scorpioìdes (Schrank, l. c. Lehm. l. c. t. 8. asper. p. 189.) stem prostrate, dichotomous; leaves scabrous: radical ones spatulate: cauline ones lanceolate, sessile: lower ones opposite, the rest alternate; pedicels axillary. ⊙. or ♂. H. Native of Bohemia, in shady places; and in the valley of Oycow, about Cracow. Cynoglóssum scorpioìdes, Hænke, in Jacq. coll. 2. p. 3. Wulf, in Rœm. arch. 3. p. 336. Schmidt, fl. boh. 3. no. 220. Sturm. fl. germ. fasc. 21. icon. Bess. fl. gall. 2. p. 149. Picòtia scorpioìdes, Rœm. et Schultes, syst. 4. p. 87. Root branched, fibrous. Plant glabrous, pale green. Stems somewhat tetragonal. Flowers solitary, in the axils of the upper leaves. Calyx rather strigose, with lanceolate-acute segments. Corolla small, of a watery-blue colour; processes of the throat yellow. Nuts glabrous. Habit of *Myosòtis palústris*.

Scorpion-like Venus Navel-wort. Pl. prostrate.

11 O.? Forti'sii; leaves ovate-lanceolate, quite entire, villous, ciliated at the base; stem obsoletely striated, scabrous; flowers opposite the leaves; seeds small, muricated. ♂. H. Native of the Island of Cherso. Cynoglóssum Lusitánicum, Fortis, osserv. cherso, ed. osero. p. 68. Lehm. schrift. gesell. berol. 2. p. 97. Picòtia Fortísii, Rœm. et Schultes, syst. 4. p. 87. Root woody. Flowers small, bluish white.

Fortis's Venus Navel-wort. Pl.?

Cult. All the species are elegant border flowers, and of the most easy culture. The perennial kinds grow well under the shade of trees or shrubs, and are increased by division. The seeds of annual species should be sown in spring, in the open border.

XXXIII. CYNOGLO'SSUM (from κυων κυνος, *kyon kunos*, a dog; and γλωσσα, *glossa*, a tongue; from the form of the leaves of most of the species; in English, however, the generic name is *Hound's-tongue*, instead of *Dog's-tongue*.) Tourn. inst. t. 57. Lin. gen. no. 183. Schreb. gen. no. 243. Juss. gen. 131. ed. Usteri, p. 147. Lam. ill. no. 256. t. 94. Gærtn. fruct. 1. no. 416. t. 67. f. 4. A. B. Lehm. asper. p. 134. exclusive of Máttia and Rindèra.

Lin. syst. *Pentándria, Monogýnia*. Calyx 5-parted. Corolla

funnel-shaped, or subrotate; throat furnished with erect processes. Stamens inclosed. Stigma nearly simple. Carpels 4, 1-celled, depressed, echinated, imperforated at the base, fixed to the central column.—Tall, robust, downy plants, soft to the touch. Leaves large, broadest at top. Racemes usually bractless, secund, terminal, simple, bifid, or twin. The prickles on the outside of the carpels are usually glochidate.

§ 1. *Stamens inclosed.*

1 C. pauciflòrum (Ruiz. et Pav. fl. per. 2. p. 6.) stem erect; leaves lanceolate, narrowed towards the base; peduncles usually 7-flowered; flowers on short pedicels. ⊙. H. Native of Chili, in fields about Conception. Lehm. asper. p. 139. Plant densely hispid, canescent. Peduncles axillary. Corolla twice as long as the calyx.

Few-flowered Hound's-tongue. Pl. 1 to 2 feet?

2 C. Japónicum (Thunb. fl. jap. p. 81. icon. dec. 3. t. 2.) stems prostrate; leaves oblong, stem-clasping, acute, villous, finely serrulated. ⊙. H. Native of Japan. Lehm. asper. p. 139. Root fibrous. Calyx villous. Corolla purple, longer than the calyx.

Japan Hound's-tongue. Pl. decumbent.

3 C. diffu'sum (Roxb. fl. ind. ed. Wall. 2. p. 7. Lehm. asper. p. 140.) stems ascending, diffuse; leaves obovate-spatulate, petiolate, strigosely pilose, terminated by a short acumen; racemes leafy. ⊙. H. Native of Bengal. Root fusiform, fibrous. Calyx pilose, with ovate-lanceolate, acuminated segments. Stems and pedicels canescent from long hairs. Corolla with a gibbous tube; its mouth contracted by 5 broad, emarginate scales. Carpels obovate, scabrous.

Diffuse Hound's-tongue. Pl. ascending.

4 C. prostra'tum (Hamilt. mss. ex D. Don, prod. fl. nep. p. 100.) plant hispid from bristles, prostrate; radical leaves obovate, on long petioles: cauline ones elliptic, sessile; flowers on short pedicels, generally extra-axillary; nuts muricate. ⊙. H. Native of Nipaul, at Baguanpur.

Prostrate Hound's-tongue. Pl. prostrate.

5 C. furca'tum (Wall. in Roxb. fl. ind. 2. p. 6. D. Don, prod. fl. nep. p. 100.) stem erect; leaves elliptic-oblong, acute, half stem-clasping, silky on both surfaces, as well as the stem; racemes erect, thin-flowered. ♃. F. Native of Upper Nipaul, at Suembu. C. cærùleum, Ham. mss. Racemes twin, woolly, bractless. Calycine segments ovate, obtuse, bristly. Corolla blue. Carpels glochidate. Very like a species of *Myosòtis*.

Forked-racemed Hound's-tongue. Pl. 1½ foot.

6 C. marifòlium (Roxb. fl. ind. ed. Wall. 2. p. 8.) plant diffuse, hairy; leaves bifarious, oblong; flowers solitary, between the leaves; corolla half the length of the calyx. ⊙. H. Native of Bengal. Leaves ½ inch long. Flowers on short pedicels, of a pale, whitish blue. Stigma emarginate. Nuts rough, round, almost hid by the calyx.

Marum-leaved Hound's-tongue. Pl. procumbent.

7 C. panicula'tum (Hook. et Arn. in Beech. bot. p. 37.) plant clothed with adpressed hairs; leaves lanceolate, very acute, gradually tapering into the petioles, ciliated, shining, clothed with hoary, silky down beneath; racemes terminal, panicled, loose, few-flowered, bracteate; fruit bearing pedicels, very long, spreadingly deflexed; carpels glochidate. ♂.? F. Native of Chili, at Conception; and of Peru, in Murilla Bay.—The base of the plant is frutescent. Leaves 3-4 inches long, with slightly revolute edges.

Panicled Hound's-tongue. Pl. 1½ to 2 feet.

8 C. cheirifòlium (Roy. lugdb. p. 406. Lin. spec. p. 193.) stem erect; leaves lanceolate, obtuse, tomentose, hoary; racemes bracteate; corolla twice as long as the calyx. ♂.? ♃. F.? Native of the South of Europe, Levant, and Barbary. Horn. hort. hafn. 1. p. 177. Lapeyr. abr. p. 87. Hoffm. et Link, fl. port. 1. p. 191. Vill. dauph. 2. p. 457. All. ped. 1. no. 171. Gouan. hort. monsp. p. 82. Lehm. asper. 141. C. argénteum, Lam. fl. fr. 2. p. 277.—Dalech. hist. 2. p. 1261. f. 1. Stems many from the same root, simple. Plant hoary from fine tomentum. Racemes terminal, simple, rarely bifid. Calycine segments lanceolate, bluntish. Corolla rose-coloured; processes of the throat deep red. Carpels covered with glochidate prickles.

Var. β, lanàtum (Lehm. asper. p. 141.) leaves villous; calyxes hairy; stamens rather longer than the corolla. ♂. F. Native of Barbary. Anchùsa lanàta, Lin. spec. p. 192. Desf. fl. atl. 1. p. 158. Willd. spec. 1. p. 758. Lam. ill. gen. no. 1813.

Var. γ, calcaràtum (D. C. fl. fr. 6. p. 422.) ♂. H. Native of France.

Wall-flower-leaved Hound's-tongue. Fl. June, July. Clt. 1596. Pl. ½ to 1 foot.

9 C. decu'rrens (Ruiz. et Pav. fl. per. 2. p. 6. no. 1.) stem erect, angularly winged; leaves broad, lanceolate, acute, decurrent, veiny, hispid. ⊙. H. Native of Chili, in groves. Lehm. asper. p. 143. Feulle, chil. 2. t. 49. Hook. et Arn. in Beech. voy. pt. bot. p. 37. Plant hispid. Flowers distant. Corollas whitish-blue. Carpels echinated with glochidate bristles. Racemes terminal, leafy.

Decurrent-leaved Hound's-tongue. Pl. 1 to 2 feet?

10 C. Mexica'num (Cham. in Linnæa, 5. p. 114.) stem erect, hairy, leafy, branched at the top; radical leaves elliptic, mucronate, on long petioles, clothed with hair-like down, rough above: cauline leaves similar to the radical ones: uppermost ones lanceolate, sessile; racemes loose, panicled; carpels furnished with glochidate prickles on the outer sides. ♂. H. Native of Mexico, on Mount Macultipec. Flowers blue. Nuts size of grains of pepper.

Mexican Hound's-tongue. Pl. 2 to 3 feet.

11 hi'spidum (Thunb. in Schrad. journ. 1. p. 1806. p. 46. prod. p. 34.) stem erect; lower leaves oblong-lanceolate, obtuse: upper ones lanceolate, acute, hispid; racemes bractless, usually 3-flowered; stamens shorter than the corolla, which is ventricose. ⊙. H. Native of the Cape of Good Hope. Lehm. asper. p. 143. Stem hispid from adpressed hairs. Racemes constituting a terminal panicle. Calyx hispid; segments oblong, obtuse. Corolla rufescent; processes of the throat fleshy.

Hispid Hound's-tongue. Pl. 1 to 1½ foot.

12 C. tomentòsum (Lehm. asper. p. 144.) stem erect; lower leaves oblong-lanceolate, bluntish: superior ones linear-lanceolate, half stem-clasping, clothed with dense, yellow, golden tomentum; racemes terminal, bractless, many-flowered. ♃. H. Native of Italy. Stems angular, canescent. Radical leaves 3-4 inches long. Racemes twin, terminal. Calycine segments oblong-lanceolate, obtuse. Carpels covered with short glochidate prickles.

Tomentose Hound's-tongue. Pl. ½ to 1 foot.

13 C. lanceola'tum (Forsk. descr. p. 41.) stem erect; leaves sessile, lanceolate, acute, entire, attenuated at the base, hairy, veined, downy beneath; racemes solitary, bractless; stamens inclosed. ⊙. H. Native of the Cape of Good Hope, and Arabia. Vahl, symb. 2. p. 34. Willd. spec. 1. p. 761. Lehm. asper. p. 145. C. hirsùtum, Thunb. in Schrad. journ. 1. p. 1806. p. 47—48. prod. fl. cap. p. 34. Willd. spec. 1. p. 763. Stems hairy, canescent. Young branches densely clothed with yellow hairs. Leaves hairy or strigose above.

Racemes simple, hairy. Calycine segments oblong, obtuse. Tube of corolla length of calyx. Carpels covered with glochidate bristles.

Lanceolate-leaved Hound's-tongue. Pl. 1 to 1½ foot.

14 C. vesiculòsum (Wall. cat. no. 920.) hispid from strigæ; stem much branched; leaves oval, attenuated at both ends; racemes terminal, solitary or twin, slender; calycine segments ovate, acute; carpels beset with glochidate prickles on the margins, and smooth in the centre. ♂. H. Native of Nipaul. Corollas rather small, white. Racemes bractless.

Bladdery Hound's-tongue. Pl. 2 to 3 feet.

15 C. He'ynei; plant hispid from strigæ; leaves ovate-lanceolate, acuminated; racemes slender, terminal twin, or axillary solitary; carpels beset with glochidate prickles along the margins, and tubercled in the centre, shorter than the calycine segments, which are bluntish. ♂. H. Native of the East Indies, at Dindigul. C. lanceolàtum, Heyne, herb. ex Wall. cat. no. 921. but not of Forsk. Racemes bractless.

Heyne's Hound's-tongue. Pl. 1 to 2 feet.

16 C. Walli'chii; stem erect, angular, rather strigose; leaves oblong-lanceolate, 3-nerved; racemes twin or solitary, elongated, terminal, or from the axils of the upper leaves; flowers distant; calyx spreading, longer than the carpels, with ovate, mucronate segments; carpels beset with glochidate prickles along the margins, and tubercles in the centre. ♂. F. Native of Nipaul, in Gosainsthan. C. calycìnum, Wall. cat. no. 923. but not of Meyer. Leaves 3-5-nerved. Racemes bractless.

Wallich's Hound's-tongue. Pl. 2 to 3 feet.

17 C. cane'scens (Horn. hort. hafn. 1. p. 177. Willd. enum. 1. p. 180.) stem erect, branched at top; cauline leaves lanceolate, acute, petiolate, erosely denticulated, hairy, clothed with soft hairs beneath, somewhat 3-nerved; racemes conjugate, divaricate, bractless. ⊙. H. Native of the East Indies. Lehm. asper. p. 144. C. micránthum, Desf. pl. hort. par. 1804. p. 220. C. hirsùtum, Jacq. hort. schœnbr. 4. t. 489. exclusive of the synonymes. C. racemòsum, Roxb. fl. ind. ed. Wall. 2. p. 6. ex Lehm. Plant hispid. Flowers secund. Calycine segments ovate, obtuse. Corolla white; throat and scales blue. Carpels ovate, clothed with glochidate prickles.

Canescent Hound's-tongue. Fl. June, Aug. Clt. 1819. Pl. 2 feet.

18 C. hirsutíssimum (Lehm. asper. p. 145.) stem erect, simple; leaves narrow-lanceolate, half stem-clasping, acute, papillosely-hairy on both surfaces; hairs spreading; racemes solitary, elongated, bractless. ⊙. ? H. Native of Africa. Stem very hairy. Peduncles hairy, terminal and lateral, racemiferous. Calyx hairy, with oblong, obtuse segments. Carpels beset with glochidate prickles.

Very-hairy Hound's-tongue. Pl. 1 to 1½ foot.

19 C. revolu'tum (Ruiz. et Pav. fl. per. 2. p. 6. no. 3.) stem erect, branched; leaves lanceolate, acute: cauline ones sessile, hispid; racemes subspicate, leafy, revolute at apex; pedicels lateral. ⊙. H. Native of Peru, in Huassa-Huassi, in shady places. Pers. ench. 1. p. 160. Lehm. asper. p. 148. Plant hispid. Stem angular. Pedicels drooping. Corolla whitish-blue. Carpels beset with glochidate prickles.

Revolute-racemed Hound's-tongue. Pl. 3 feet

20 C. suave'olens (R. Br. prod. p. 495. Lehm. asper. p. 148.) leaves lanceolate, strigose; those of the branches half stem-clasping; racemes bracteate; carpels echinated with equal glochidate prickles.—Native of New Holland.

Sweet-scented-flowered Hound's-tongue. Pl.

21 C. Austra'le (R. Br. l. c.) stems erect; leaves lanceolate, strigose on both surfaces; racemes bractless; carpels echinated with glochidate prickles: the prickles on the back fewer, and with a single row of longer ones along the margin.—Native of New Holland.

Southern Hound's-tongue. Pl.?

22 C. lanuginòsum (Lehm. asper. p. 148.) stem erect; leaves linear-lanceolate, acute, half stem-clasping, woolly, and hoary; racemes terminal, loose, bractless.—Native country unknown. Stem furrowed, simple, white from wool. Calyx woolly, with lanceolate, bluntish segments. Corolla very like that of *C. officinàle*. Carpels ovate, covered with glochidate prickles.

Woolly Hound's-tongue. Pl. 1 to 2 feet.

23 C. clandesti'num (Desf. fl. atl. 1. p. 159. t. 42.) stem erect; leaves narrow-lanceolate, bluntish, half stem-clasping, hairy; racemes bractless; corolla villous at top. ♂. H. Native of Portugal and Algiers. Hoffm. et Link. fl. port. 1. p. 190. Horn. hort. hafn. 1. p. 117. Lehm. asper. p. 149. C. officinàle, Brot. fl. lus. 1. p. 295. C. fúlvum, Rudolph. in Schrad. journ. 1795. p. 295. Pers. ench. under *Auchùsa Itálica*. Root fusiform. Plant pilose. Pedicels and calyxes clothed with dense, yellow, silky hairs. Calycine segments lanceolate, obtuse. Corolla violaceous, hardly longer than the calyx; limb tomentosely villous at apex. Carpels ovate, covered with glochidate prickles.

Clandestine Hound's-tongue. Fl. June, Aug. Clt. 1821. Pl. 1 to 2 feet.

24 C. Dioscóridis (Vill. dauph. 2. p. 457. prosp. p. 21. exclusive of the synonymes. Lehm. asper. p. 150.) stem erect; leaves narrow-lanceolate, acuminated, dilated at the base, rather hispid; racemes elongated, bractless, loose. ♂ H. Native of Dauphiny. C. elongàtum, Horn. hort. hafn. 2. p. 956. C. Virgínicum, Willd. enum. 1. p. 180. exclusive of the synonymes. C. remòtum, Mœnch, meth. p. 419. Root fusiform. Stem simple, canescent, beset with retrograde hairs. Racemes pilose, terminal and axillary in the spontaneous plant; but terminating the stem and branches in the cultivated plant. Calycine segments ovate, obtuse. Corolla red or flesh-coloured, with deeper veins. Carpels ovate, clothed with short glochidate bristles.

Dioscorides's Hound's-tongue. Fl. June, Aug. Clt. 1820. Pl. 1½ to 2 feet.

25 C. officina'le (Lin. spec. p. 192. fl. suec. 162. hort. cliff. 47.) stem erect, leafy; lower leaves broad-lanceolate: superior ones broadest at the base, acute, canescent from downy tomentum; racemes bractless, panicled at the time the flowers are open. ♂. H. Native of Europe, Asia, Africa, and North America, in waste places, and by way sides and margins of fields, and particularly near towns; in Britain, in like situations, but a doubtful native. Scop. fl. carn. ed. 2d. p. 124. Vill. dauph. 2. p. 456. All. ped. 1. no. 124. Desf. fl. atl. 1. p. 158. Suter, fl. helv. 1. p. 105. Smith, engl. bot. t. 921. Oed. fl. dan. t. 1147. Curt. fl. lond. t. 149. Regnault, bot. 3. t. 364. Sturm, fl. germ. fasc. 9. icone. Baumg. fl. trans. 1. p. 122. Pursh. fl. 1. p. 123. Mayrhoff, fl. mon. t. 23. Led. fl. alt. 1. p. 196.—Blackw. herb. t. 249.—Plenck. icon. t. 76. Stem sulcately angular, branched at top, beset with soft, incumbent hairs. Flowers nutant, secund. Racemes terminating the stem and branches, canescent, villous. Calycine segments oblong, connivent. Corolla reddish; processes of the throat purple. Carpels ovate, densely clothed with glochidate prickles. The whole plant has a disagreeable smell, like most of the species, much resembling that of mice. It is suspected to possess narcotic qualities. It has formerly been used in medicine; and Mr. Ray informs us, from Dr. Hulse, that a decoction of the roots inwardly, and cataplasms of them outwardly,

were used in strumose and scrophulous cases. It is, however, discarded from the present practice. All animals are said to dislike it, and leave it untouched. The large Dutch Hound's-tongue is only a variety of this.

Var. β, bícolor (Lehm. asper. p. 153.) leaves lanceolate, narrowed at the base, downy: upper ones sessile, cordate. ♂. H. Native of Germany and Siberia. Corolla white; with the processes in the throat red, and the limb marked with 5 red spots. C. hýbridum, Thuill. fl. par. 1. p. 94. C. angustifòlium, Hort. C. officinàle, var. flore albo, Roth, tent. fl. germ. 2. p. 170.

Officinal, or Common Hound's-tongue. Fl. June, July. Britain. Pl. 2 feet.

26 C. píctum (Ait. hort. kew. ed. 1. vol. 1. p. 179.) stem erect, leafy; leaves lanceolate, acute: upper ones ovate-lanceolate, cordate, finely tomentose; racemes bractless; limb of corolla dilated, veiny. ♂. H. Native of the South of Europe, Iberia, Barbary, and Madeira. Vahl, symb. 2. p. 34. Willd. spec. 1. p. 761. Willd. enum. 1. p. 180. Lehm. asper. 154. Hoffm. et Link. fl. port. 1. p. 189. t. 24. Bieb. fl. cauc. 1. p. 128. Sims, bot. mag. t. 2134. Mœnch, suppl. 147. C. amplexicaúle, Lam. ill. no. 1794. C. cheirifòlium, Jacq. coll. 3. p. 30. Scop. fl. carn. ed. 2d. vol. 1. p. 125. Pall. ind. taur. C. Créticum, All. auct. p. 4. Vill. dauph. 2. p. 457.—Clus. hist. 2. p. 162. f. 2. C. variegàtum, Hort. Root fusiform, Stem bluntly angular, furnished with axillary, racemiferous branches at top, and canescent from short, soft, retrograde hairs. Leaves canescent. Calyx clothed with incumbent hairs; segments oblong-lanceolate, bluntish. Corolla a little longer than the calyx, purple or blue, elegantly marked with deeper dichotomous veins, which are branched at top. Carpels covered with glochidate prickles.

Painted-flowered Hound's-tongue. Fl. Aug. Clt. 1658. Pl. 2 feet.

27 C. cilia'tum (Dougl. mss. ex Lehm. pug. 2. p. 24.) stem erect, simple, hairy; leaves linear, acute, elongated, 3-nerved, clothed with hair-like tomentum, ciliated; racemes terminal, bracteate, secund; stamens inclosed. ♂. H. Native of North-west America. Stem terete, canescent; hairs on the base of the stem retrograde, but those at its top are spreading. Racemes subcorymbose. Calyx villous; with lanceolate, obtuse segments. Corolla blue, one half longer than the calyx.

Ciliated-leaved Hound's-tongue. Pl. 1½ foot.

28 C. gra'nde (Dougl. mss. ex Lehm. pug. 2. p. 25.) stem erect, glabrous, naked above; leaves petiolate, pilose beneath: lower ones large, cordate-ovate, undulated: superior ones oblong-lanceolate; racemes bractless, glabrous, pedunculate, few-flowered; calyx villous. ♂. H. Native of North-west America. Stem rather angular, destitute of leaves at top. Leaves acute, ciliated, beset with adpressed hairs above, and paler beneath, 9 inches long, and 4 lines broad. Racemes constituting a loose, terminal panicle. Pedicels glabrous, pilose at top. Calycine segments elliptic-lanceolate, obtuse. Corolla blue, twice as long as the calyx, larger than those of *C. officinàle*.

Great Hound's-tongue. Pl. 2 to 3 feet.

29 C. Virgínicum (Gron. virg. p. 19. Lin. spec. p. 193.) stem erect; leaves oval-oblong, acute: upper ones cordate at the base, stem-clasping, veiny, hairy; racemes short, corymbose, bractless. ♃. H. Native of Virginia and Pennsylvania; and Arkansas, in woods. C. amplexicaúle, Michx. fl. amer. bor. 1. p. 132. Pursh, fl. 1. p. 133. Pers. ench. 1. p. 159. Stems terete, beset with retrograde hairs, branched at top. Leaves green. Racemes canescent from hairs. Calycine segments oblong-lanceolate, bluntish. Corolla blue, twice as long as the calyx. Carpels ovate, furnished with glochidate prickles.

Virginian Hound's-tongue. Fl. May, July. Clt. 1812. Pl. 2 to 3 feet.

30 C. pilòsum (Nutt. gen. amer. 1. p. 114.) erect and hairy; radical leaves spatulate-oblong, obtuse; the rest lanceolate-oblong, obtuse; flowers axillary, almost spiked, unilateral; stamens very short, inclosed; carpels scabrous, depressed, oblong, acute, muricate on the margins. ♃. ? H. Native of Missouri, on arid hills above Rapid River. Flowers small, white.

Pilose Hound's-tongue. Pl. erect.

31 C. sylva'ticum (Smith, fl. brit. 1. p. 216. engl. bot. t. 1642.) stem erect; lower leaves somewhat spatulate-lanceolate: superior ones half stem-clasping, ovate-oblong, acute, smoothish above and shining, but scabrous beneath; racemes bractless. ♂. H. Native throughout Europe, in shady places, in elevated situations; in England, about hedges in several parts, especially in Essex; but, like many other biennials and annuals, changes its abode; it is also found in like situations in North America. Gmel. fl. bad. 1. p. 421. Sut. fl. helv. 1. p. 105. Hænke, in. Jacq. coll. 2. p. 77. Baumg. fl. trans. 1. p. 122. Pursh, fl. 1. p. 133. C. officinàle, β, sylváticum, Willd. spec. 1. p. 760. C. montànum, Lam. fl. fr. 2. p. 277. (exclusive of the syn. of Lin.) dict. 2. p. 237. Horn. hort. hafn. 1. p. 177. Pers. ench. 1. p. 159. exclusive of the synonymes. Lam. ill. no. 1794. exclusive of the syn. of Lin. D. C. fl. fr. syn. no. 2737. C. Virgínicum, Lin. syst. ed. 13th. p. 157. but not of his spec. Willd. spec. 1. p. 762. exclusive of the syn. of Gron. C. officinàle, var. γ, Lin. spec. 193. C. Apennìnum, Roth, tent. fl. germ. 2. p. 219. exclusive of the synonymes. C. vírens, Schreb. spec. fl. lips. no. 162. C. Germánicum, Jacq. obs. 2. p. 31. under Arenària mucronàta.—Hall. helv. no. 588.—Column. ecphr. 176. t. 175. C. folio virente, Bauh. hist. 3. p. 600. Root fusiform, fibrous. Stems many from the same root, hairy, branched at top. Leaves pale green. Calyx rather hairy, with oblong, obtuse segments. Corolla a little longer than the calyx, purplish-blue, with deeper coloured veins; processes of the throat obtuse, with white, pilose edges. Carpels ovate, beset with glochidate prickles.

Wood Hound's-tongue. Fl. June, July. Britain. Pl. 2 to 3 feet.

32 C. Hæ'nkii (Schultes, oestr. fl. ed. 2d. vol. 1. p. 362. syst. 4. p. 74.) plant of a hoary green; leaves lanceolate, scabrous on both surfaces, flat, nearly sessile, remote; carpels rugged. ♂. H. Native of Bohemia, Galicia, and Hungary, in hedges and margins of woods. C. sylváticum, Schmidt, fl. boh. no. 219. Hænke, in Jacq. coll. 2. p. 77. Bess. fl. gal. 1. p. 149. C. officinàle, β, Willd. spec. 1. p. 760. C. hýbridum, Thuill. fl. par. 1. p. 94. ? C. officinàle, β, D. C. fl. fr. no. 2736. ? This plant is said to differ from *C. officinàle* in the character given above; in the stem being more humble; in the flowers being smaller, blue, verging to red or purple. Perhaps not distinct from *C. Dioscóridis*, or *C. sylváticum*.

Hænke's Hound's-tongue. Fl. June, Aug. Clt. 1819. Pl. 1½ to 2 feet.

33 C. clava'tum (Viv. fl. libyc. p. 11. t. 5. f. 2.) hoary; cauline leaves half stem-clasping: racemes secund, leafy; processes in the throat of the corolla cylindrically clavate, emarginate, equal in length to the limb; style permanent, elongated, subulate, exceeding the calyx. ♂. H. Native of Libya. Stem branched, terete. Floral leaves lanceolate-linear, longer than the flowers. Calycine segments lanceolate, acuminated. Corolla glabrous. Carpels beset with stellate, glochidate bristles.

Clavate-appendaged Hound's-tongue. Pl. erect.

34 C. viridiflòrum (Willd. herb. ex Lehm. asper. p. 160. Ledeb. fl. alt. 1. p. 196. fl. ross. alt. ill. t. 106.) stem erect, simple; leaves oblong, acute: lower ones petiolate: upper ones sessile, attenuated at the base, glabrous, and pale green

above, tomentose or downy beneath; racemes erect, loose, panicled: lower ones bracteate: upper ones bractless. ♂.? H. Native near Schemanaika and Schulba, in sandy places. Stems simple, glabrous. Racemes constituting a terminal, pyramidal panicle, a foot or a foot and a half long. Calyx and pedicels grey from silky hairs. Calycine segments obtuse. Corolla salver-shaped, twice as long as the calyx, yellowish green. Carpels ovate, densely beset with glochidate prickles.

Green-flowered Hound's-tongue. Pl. 4 to 6 feet.

35 C. calyci'num (Meyer. verz. pflanz. p. 100.) annual, glaucous; stems branched, assurgent; leaves sessile, thick, oblong, bluntish, entire; racemes bracteate; corollas small; calyx in the fructiferous state large, with ovate, connivent lobes; carpels oblong, convex, scabrous; style marcescent. ⊙. H. Native of Caucasus, near the Caravansarai Koete-Koili, in the desert between Baku and Sallian. Corollas blue.

Large-calyxed Hound's-tongue. Pl. assurgent.

36 C. divarica'tum (Steph. in litt. ex Lehm. asper. p. 161.) stem erect, branched; branches divaricate; lower leaves oval, petiolate: superior ones sessile, lanceolate, attenuated at both ends, nearly glabrous above, and downy beneath; racemes bracteate. ♃. H. Native of Siberia. Root perpendicular. Stems beset with incumbent hairs. Pedicels and calyxes hairy, cinereous. Leaves pale green. Calycine segments ovate, bluntish, a little shorter than the corolla, which is small. Carpels ovate, densely covered with glochidate prickles.

Divaricate Hound's-tongue. Pl. 1½ to 2 feet.

37 C. latifòlium (R. Br. prod. p. 496.) stem prickly; floral leaves ovate, on short petioles, acuminated, scabrous; peduncles extra-axillary. ♂.? H. Native of New Holland.

Broad-leaved Hound's-tongue. Pl.

38 C. Ròylei (Wall. cat. no. 917.) rough from strigæ; radical leaves wanting in the specimens examined: cauline ones cordate, petiolate, acuminated, nerved, and canescent from down; racemes short, canescent, bracteate. ♂. H. Native on Choor Mount.

Royle's Hound's-tongue. Pl.

39 C. la'xum; stem erect, branched at top; leaves ovate, acuminated, 7-nerved, all petiolate, and beset with short strigæ, as well as the upper part of the stem and branches; racemes terminating the stem and branches, twin, loose, few-flowered, with a solitary flower in the fork; corolla rotate; carpels compressed, beset with glochidate prickles outside. ♂. H. Native of Emodus and Gosainsthan, in Nipaul. Rindèra glochidàta, Wall. cat. no. 926. Picòtia glochidàta, Wall. mss. Perhaps a species of *Máttia*, or *Omphalòdes*. Corolla blue. Leaves distant. Racemes bracteate at the base.

Loose Hound's-tongue. Pl. 3 to 5 feet.

§. 2. *Stamens exserted. Perhaps a distinct genus.*

40 C. longiflòrum (Lehm. asper. p. 162.) stem erect; leaves lanceolate, acute, strigosely muricated, scabrous; racemes bracteate, few-flowered; pedicels in the axils of the bracteas; tube of corolla twice as long as the calyx; and the segments of the limb linear; stamens equal in length to the corolla. ♂.? H. Native of Syria, about Aleppo. Lycópsis Dioscóridis nondum cognita, Rauwolf, trav. syr. 1. ch. 9. p. 120. t. 22.? Stem glabrous. Pedicels nutant. Calycine segments lanceolate, having the margins and keel tubercularly ciliated. Corolla glabrous. Anthers beyond the throat of the corolla. Carpels ovate, beset with glochidate prickles.

Long-flowered Hound's-tongue. Pl. 2 feet?

41 C. Stamíneum (Desf. am. mus. 10. p. 431. t. 36. journ. bot. par. 1. p. 358.) stem erect, simple; cauline leaves lanceolate, obtuse, sessile, silky above, and finely tomentose beneath; flowers minute, disposed in short, bractless racemes, the whole forming a terminal panicle; stamens twice as long as the corolla. ♂.? H. Native of Syria and Cappadocia. Cynoglóssum Orientàle vulgari simile, flore minimo longis staminibus donato, Tourn. cor. p. 7. Stem tomentose. Calyx tomentose, with linear-lanceolate segments. Corolla salver-shaped, rose-coloured; length of calyx; limb length of tube, with bluntish segments. Stamens inserted in the throat of the corolla, rather unequal. Anthers incumbent. Carpels ovate, prickly on the outer side. Habit of a species of *E'chium*.

Long-stamened Hound's-tongue. Pl. 2 to 3 feet.

42 C. Apenni'num (Lin. spec. p. 193.) stem erect, leafy; cauline leaves linear-lanceolate, attenuated at the base, sessile, acute, very long, rather villous; racemes bractless, compact before expansion; stamens a little longer than the corolla. ♂. H. Native of the South of Europe; as of Italy, in subalpine places. Lehm. asper. p. 164. Lapeyr. abr. p. 87. Smith, prod. fl. græc. 1. p. 118. Willd. spec. 1. p. 762. Gærtn. fruct. 1. p. 324. t. 67. f. 4. Sabb. hort. rom. 2. t. 36. Willd. enum. 1. p. 181. D. C. fl. fr. syn. no. 2740.—Column. ecphr. 1. p. 168. t. 170. Stem simple, villous. Racemes forming large, dense, ovate, leafy, terminal panicles. Pedicels and calyxes hoary and villous. Calycine segments lanceolate-acute. Corolla length of calyx, at first red, afterwards violaceous, with short segments. Anthers incumbent. Nuts not seen.

Apennine Hound's-tongue. Fl. April, July. Clt. 1731. Pl. 1 to 3 feet.

43 C. molli'ssimum (Lehm. asper. p. 165.) stem erect; leaves oblong, on long petioles, almost glabrous above, and downy beneath; flowers in short, compact, bractless racemes, the whole forming a terminal panicle; stamens twice as long as the corolla. ♂. H. Native of Persia, in the province of Djilan. Root perpendicular. Stem hoary, pilosely tomentose. Pedicels and calyxes canescent from villi. Calycine segments oblong, obtuse. Corolla a little longer than the calyx, veined. Stamens fleshy, alternating with the bearded processes of the throat. Habit of *C. Apennìnum*.

Very soft Hound's-tongue. Pl. 1½ foot.

† *Species hardly known.*

44 C. Borbónicum (Bory. St. Vinc. trav. p. 383.) leaves lanceolate, acute, pilose; branches forked; seeds rough.—Native of the Island of Bourbon.

Var. α; leaves broader, oblong. Bory. l. c.

Var. β; leaves narrower, linear. Bory. l. c.

Bourbon Hound's-tongue. Pl.?

45 C. Lime'nse (Willd. spec. 1. p. 762. Lehm. asper. p. 177.) leaves oblong, acuminated, sessile, glabrous. ♂.? G. Native of Peru, in the valley called Ylo, near Lima. Poir. suppl. 2. p. 432. Cynogl. foliis nervosis acutissimis, Feuille, per. 1. p. 71. t. 49. Plant pale green. Racemes terminal, simple. Calyx glabrous, with ovate, acute segments. Corolla having the margin white, and the centre blue. Carpels tubercled.

Lima Hound's-tongue. Pl. 1 to 1½ foot.

46 C. Valenti'num (Lag. gen. et spec. nov. p. 10. no. 133.) leaves narrow-linear, hairy: cauline ones sessile; calycine segments ovate; spikes or racemes bractless. ♂.? H. Native of Spain, in Valentia, Cavanilles. Plant herbaceous, with the habit of *Anchùsa angustifòlia*.

Valentia Hound's-tongue. Pl.

47 C. Lusita'nicum (Lin. spec. 193. exclusive of the synonymes.) leaves linear-lanceolate, scabrous.—According to Hoffmansegg and Link, the plant named *C. Lusitánicum*, by Linnæus,

is not a native of Portugal, but of Siberia, according to the Linnean herbarium. See Schrad. new. journ. bot. p. 183. If the plant should prove distinct, it is undoubtedly referrible to the genus *Omphalòdes*.

Portugal Hound's-tongue. Pl.

48 C. pellu'cidum (Lapeyr. abr. suppl. p. 28.) lower leaves on long petioles: cauline and rameal ones half stem-clasping; all lanceolate and acute; calyxes pellucid; peduncles axillary, elongated; flowers secund. ♂. H. Native of the Pyrenees. Stem erect, simple, furnished with a few white hairs. Cauline leaves ciliated, diaphanous, furnished with some callous warts. Peduncles naked, or furnished with leaves. Calycine segments spatulate. Corolla blue, almost inclosed in the calyx. Carpels prickly.

Pellucid Hound's-tongue. Pl. 2 to 3 feet.

49 C. holoseríceum (Stev. in act. mosq. p. 12.) clothed with silky tomentum; leaves oblong-lanceolate; racemes terminal, simple; flowers drooping; segments of corolla blunt. ♃. H. Native of Caucasus, on the tops of the alps of Chinalug and Wander. Corolla rose-colour. Carpels muricate.

Silky Hound's-tongue. Fl. June, Aug. Clt. 1821. Pl. 2 feet?.

50 C. Baicale'nse (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 764.) leaves spatulate, hispid; racemes of flowers capitate; stamens longer than the corolla. ♃?. H. Native of Siberia, at Lake Baical. Stem a little longer than the radical leaves, which are obtuse and petiolate, furnished with 4-5 sessile leaves. Calyx densely woolly. Corolla tubular, hardly longer than the calyx. Stamens filiform. Carpels marginate, inclosed in the calyx. Perhaps a species of *Rindèra* or *Máttia*.

Baical Hound's-tongue. Pl. ½ foot.

51 C. rugòsum (Sestini, in Willd. herb. ex Rœm. et Schultes, syst. 4. p. 764.) leaves lanceolate, strigose; carpels rugose from impressed dots.—Native of Galatia, Sestini.

Rugose-fruited Hound's-tongue. Pl.

Cult. All the species are coarse growing plants, but the flowers of some of them are very pretty. They are of the most easy culture, growing in any soil or situation. They are generally increased by seed, which should be sown in spring in the open border. The greater number of the species are biennial, and none are perhaps truly perennial.

XXXIV. ASPERU'GO (from *asper*, rough; from the asperity of the whole plant.) Tourn. inst. t. 54. Lin. gen. no. 189. Schreb. gen. no. 249. Juss. gen. p. 131. Lam. ill. no. 264. t. 94. Schkuhr, handb. t. 31. Lehm. asper. p. 208. Schrad. comm. asper. f. 9.

Lin. syst. *Pentándria, Monogýnia.* Calyx compressed in the fruit-bearing state, with plano-parallel, sinuately-toothed segments. Corolla funnel-shaped; throat closed by vaulted processes. Carpels 4, 1-celled, ovate, compressed, smooth, glabrous, not perforated at the base, fixed to the central column, which is 4 winged.—An annual, rough, procumbent plant: with nearly opposite, distant, oblong, obtuse leaves; and lateral, usually solitary, small blue flowers, on short pedicels.

1. A. procu'mbens (Lin. fl. lapp. 778. spec. 198.) ☉. H. Native throughout Europe and Siberia, by way-sides, hedges, and on walls, and among rubbish. In Britain, at Wangford, near Brandon, and about Newmarket church; also in Durham, as well as in Scotland, about Dunbar and near Edinburgh. Hall. helv. no. 606. All. ped. 1. no. 171. Roth. tent. fl. germ. 2. p. 217. Willd. spec. 1. p. 778. Smith, fl. græc. t. 177. engl. bot. t. 661. Œder, fl. dan. t. 552. Fl. Bat. t. 152. Bieb. cauc. 1. p. 134. Ledeb. fl. alt. 1. p. 192. Wahl. fl. lapp. p. 57. Lapeyr. abr. p. 89. Baumg. fl. trans. 1. p. 128. A. vulgàris, Tourn. inst. p. 135.—Mor. hist. 3. sect. 11. t. 26. t. 13.—Column. ecphr. p. 183. f. 2. Stem branched, tetragonal, beset with small hooked spines or bristles. Leaves alternate, but nevertheless nearly opposite, attenuated at the base, beset with hispid pili on both surfaces, having the margin and midrib furnished with hooked hairs. Corolla with a cylindrical white tube; and obovate, roundish, blue segments. Calyx hairy, terete when in flower, deeply 5-cleft; with lanceolate, distant segments, intersected by teeth.

Procumbent German Madwort, or Great Goose-grass. Fl. April, May. Britain. Pl. procumbent.

Cult. This is a weed-like, rough plant, of no beauty. The seeds only require to be sown in the open border.

Tribe V.

HELIOTRO'PEÆ (this tribe contains plants agreeing with *Heliotròpium* in the characters indicated below.) D. Don, in edinb. phil. journ. Corolla salver-shaped, or funnel-shaped, having the throat naked or bearded, and the limb plicate. Carpels 4, 1-celled, combined into a single fruit, closed at the base, not perforated, without any manifest torus or receptacle.

XXXV. HELIOTRO'PIUM (from ἡλιος, *helios*, the sun; and τροπη, *trope*, a turning; the spikes of flowers are circinnate, and face outwardly.) Tourn. inst. t. 57. Lin. gen. no. 179. Schreb. gen. no. 239. Juss. gen. p. 130. ed. Usteri. p. 145. Lam. ill. no. 253. t. 91. Gærtn. fruct. 1. p. 423. t. 68. f. 2. Schkuhr, handb. t. 29. Lehm. asper. p. 19.

Lin. syst. *Pentándria, Monogýnia.* Corolla salver-shaped; throat usually naked, but in some bearded; segments of the limb furnished with a simple plicature, or a tooth between each. Stigma sub-conical. Carpels 4, 1-celled, combined, closed at the base, without any manifest receptacle.—Strigose, annual, or shrubby plants with alternate leaves, and circinnate, secund spikes of small blue or white flowers.

Sect. I. Gyróstachys (from γυρος, *gyros*, curved or bent; and σταχυς, *stachys*, a spike; in reference to the spikes being spirally revolute.) Spikes of flowers bractless, spirally revolute in the young state.

1 H. amplexicau'le (Vahl. symb. 3. p. 31.) stem shrubby; leaves half stem-clasping, lanceolate, obtuse, obsoletely repand, rather canescent; spikes terminal, aggregate; tube of corolla twice as long as the calyx. ♄. S. Native of Brazil. Willd. spec. 1. p. 740. Lehm. asper. p. 25. Habit of *H. Peruviànum*. Branches pilosely tomentose. Leaves 2 inches long, greenish grey. Peduncles pilose, 2 or 3 times forked. Corollas large.

Stem-clasping-leaved Heliotrope, or Turnsole. Shrub 1 to 3 feet.

2 H. Peruvia'num (Lin. spec. p. 187.) stem shrubby; leaves petiolate, oblong-lanceolate, wrinkled, repand; spikes terminal, branched; tube of corolla hardly the length of the calyx. ♄. G. Native of Peru. Ruiz. et Pav. fl. per. 2. p. 2. no. 1. Willd. spec. 1. p. 740. Lehm. asper. p. 26. Curt. bot. mag. t. 141. Mill. fig. t. 144. H. odoràtum, Mœnch. meth. 415. Stems hairy. Leaves clothed with soft hairs above, and somewhat canescent beneath. Spikes by threes and fours rarely compound. Flowers sweet-scented, smelling like vanilla. Corolla intersected by 5 plicatures of a purple-lilac colour, with a greenish throat.

Var. β, *hýbridum;* flowers larger. This hybrid was raised from seed by Mr. More, of the King's Road, London.

Peruvian Heliotrope, or Turnsole. Fl. May. Sept. Clt. 1757. Shrub 1 to 2 feet.

FIG. 37.

3 H. corymbòsum (Ruiz. et Pav. fl. per. 2. p. 2. no. 1. t. 107. f. a.) stem shrubby; leaves oblong-lanceolate, attenuated at the base, acute, deflexed; spikes collected into corymbs; tube of corolla twice as long as the calyx. ♄. G. Native of Peru. Bonpl. malm. t. 32. Sims bot. mag. t. 1609. H. grandiflòrum, Schrank, hort. mon. fasc. 1. p. 2. t. 2. Branches downy. Leaves white from hairs beneath, and downy above, but in the cultivated plant they are hairy on both surfaces, and not white beneath. Corolla of a lilac-purple colour, with 5 plicatures, and greenish throat.

Corymbose-flowered Heliotrope, or Turnsole. Fl. May, Sept. Clt. 1808. Shrub 2 to 6 feet.

4 H. oppositifòlium (Ruiz. et Pav. fl. per. 2. p. 2. no. 2. t. 108. f. b.) stem shrubby; leaves broad-ovate, acute, quite entire, clothed with retrograde asperities; spikes dichotomously corymbose. ♄. G. Native of Peru, in arid places in Muna. Lehm. asper. p. 28. Plant densely hispid. Branches clothed with rusty tomentum. Calyx small. Corollas white, hispid outside, twice as long as the calyx.

Opposite-leaved Turnsole. Shrub 3 to 6 feet.

5 H. inca'num (Ruiz. et Pav. fl. per. 2. p. 2. no. 4. t. 108. f. a.) stem shrubby; leaves thick, ovate, acute, crenulated, very much wrinkled above, and lined with retrograde asperities, but softer and hoary beneath; spikes dichotomously corymbose. ♄. G. Native of Peru, at Huanuca, on arid hills. Lehm. asper. p. 29. Branches villous, hoary. Peduncles hairy. Calyx villous. Corolla white, twice as long as the calyx, rather hispid outside. Carpels wrinkled.

Hoary Turnsole. Shrub 2 to 3 feet.

6 H. viridiflòrum (Lehm. asper. p. 30.) stem shrubby, erect, rather hispid; leaves thickish, petiolate, ovate, quite entire, rather scabrous above, and velvety beneath; peduncles bifid, divaricate; spikes terminal, sub-corymbose. ♄. S. Native of the East Indies. Lithospérmum viridiflòrum, Roxb. Calyx hispid. Corolla green, nearly twice as long as the calyx, densely clothed with hairs outside.

Green-flowered Turnsole. Shrub

7 H. lanceola'tum (Ruiz. et Pav. fl. per. 2. p. 4. no. 9. t. 111. f. a.) stem shrubby, erect; leaves on short petioles, lanceolate, wrinkled, rough; spikes terminal, dichotomously corymbose. ♄. G. Native of Peru, in the groves of Pillao and Huanaco. Lehm. asper. p. 31. Plant hispid. Corolla twice as long as the calyx, pale blue.

Lanceolate-leaved Turnsole. Shrub

8 H. citrifòlium (Lehm. asper. p. 32.) stem shrubby, erect, glabrous; leaves thick, petiolate, oblong, glabrous, shining above; spikes terminal, aggregate, disposed in sub-capitate corymbs. ♄. S. Native of South America. Corolla twice or thrice as long as the calyx, hairy outside.

Citron-leaved Turnsole, or Heliotrope. Shrub.

9 H. latifòlium (Willd. herb. ex Lehm. asper. p. 33.) stem shrubby, erect, glabrous; leaves alternate, on very short petioles, ovate, acute, nearly glabrous, narrowed at the base, ciliated; spikes elongated, conjugate and solitary, terminal and lateral. ♄. S. Native of Cumana, in arid places. H. scorpioìdes, H. B. et Kunth, nov. gen. 3. p. 89. Stem branched, angular at top, beset with adpressed hairs. Leaves nearly opposite and alternate, green above and paler beneath, beset with adpressed hairs. Peduncles and calyxes hispid. Corollas small, white. Carpels roundish, scabrous.

Broad-leaved Heliotrope, or Turnsole. Shrub 1 to 1½ foot.

10 H. stenophy'llum (Hook. et Arn. in Beech. voy. pt. bot. p. 38.) shrubby, densely leafy; leaves in fascicles, very narrow-linear, fleshy, obtuse, with revolute edges, scabrous from short strigæ; spikes conjugate, bractless, hardly longer than the superior leaves. ♄. F. Native of Chili, about Coquimbo. Allied to *H. Curassávicum*, but that has plane and somewhat spatulate, glaucous leaves, and is quite glabrous.

Narrow-leaved Heliotrope or Turnsole. Shrub.

11 H. Curassa'vicum (Lin. spec. 188.) stem herbaceous; leaves nearly opposite and alternate, narrow-lanceolate, or oblong-lanceolate, obsoletely veined, glabrous, glaucous; spikes conjugate, compound, or solitary. ⊙. H. Native of South America, by the sea-side; Sandwich Islands; North America, on the sandy banks of the great salt river, and similar situations on those of the Arkansas.—Forsk. fl. arab. p. 38. Swartz. obs. bot. p. 56. Desf. fl. atl. 1. p. 153. Ruiz. et Pav. fl. per. 2. p. 4. no. 10. Horn. hort. hafn. 1 p. 172. Willd. enum. 1. p. 175. Lehm. asper. p. 34. H. glaucophýllum, Mœnch. meth. suppl. p. 147.—Sloane. hist. 1. t. 132. f. 3. —Mor. hist. 3. sect. 11. t. 31. f. 12. Plant quite glabrous, glaucous-green. Corolla a little longer than the calyx, white, with a yellowish-green bottom. Carpels ovate, rugose.

Var. β, *chenopodioìdes* (Lehm. l. c.) leaves lanceolate, spatulate, glaucous, glabrous, obsoletely veined, opposite and alternate; spikes conjugate. ⊙. H. H. chenopodioìdes, Humb. et Bonp. ex Horn. hort. hafn. 2. p. 956. Willd. enum. 1. p. 175.—Pluk. alm. t. 36. f. 3.—Herm. par. bat. t. 138.

Curaçoa Heliotrope, or Turnsole. Fl. June, July. Clt. 1731, β, 1823. Pl. procumbent, or ½ to 1 foot.

12 H. cane'scens (H. B. et Kunth, nov. gen. amer. 3. p. 88.) erect, clothed with adpressed villi; leaves obovate, obtuse; spikes terminal and lateral, by threes. ♃. S. Native near Cumana, Bordones, and Cumanacoa, in woody places. Plant canescent. Leaves having the veins and nerves prominent beneath. Spikes woolly. Corolla white. Very nearly allied to *H. Coromandelìana*, Retz.

Canescent Turnsole, or Heliotrope. Pl. erect.

13 H. cine'reum (H. B. et Kunth, nov. gen. amer. 3. p. 89. t. 206.) erect?, clothed with spreading villi; leaves petiolate, obovate, obtuse; spikes terminal and lateral by threes, bractless. ♃. S. Native on the banks of the river Apures, near Arichuna. Stem branched. Branches and leaves white from villi. Calyx hispid, unequal. Corollas small, white. Fruit hispid.

Grey Turnsole, or Heliotrope. Pl. erect?

14 H. Partibilce'nse (H. B. et Kunth, l. c. p. 87.) erect?; leaves oblong-lanceolate, acute, hispid from pili on both surfaces; spikes terminal and lateral, solitary or twin. ♃. S. Native on the shores of the Pacific Ocean, between Santa and Partibilca. Stem and branches hispid. Calyx sub-strigose. Corolla pilose outside. Fruit bipartible, scabrous.

Partibilca Turnsole or Heliotrope. Pl. erect.

15 H. lana'tum (H. B. et Kunth, l. c. p. 89.) shrubby, clothed with white wool; leaves ovate, acute, nearly sessile; peduncles lateral, dichotomously multifid, of many spikes. ♄. S. Native of New Granada, near Loxa and Gonzanama, on the eastern declivities of the Andes, at the altitude of 1000 hexapods. H. argénteum, Willd. herb. ex Lehm. asper. p. 73. Corollas unknown. Perhaps a species of *Tournefórtia*.

Woolly Turnsole, or Heliotrope. Shrub

16 H. coria'ceum (Lehm. pug. 1. p. 20.) stems shrubby, erect; leaves petiolate, broad-lanceolate, acute, scabrous, canescent beneath, coriaceous; spikes terminal, aggregate; tube of corolla 3 times longer than the calyx. ♄. G. Native of Mexico. Stem branched. Spikes sub-corymbose, many-flowered; flowers sessile, secund, aggregate. Calycine segments linear. Corolla lilac. Segments roundish, obtuse. Carpels 4, oblong, wrinkled.

Coriaceous-leaved Heliotrope. Shrub

17 H. linifòlium (Lehm. in act. soc. scrut. hal. 3. p. 8.) stems shrubby, panicled, glabrous; leaves linear, nearly glabrous; spikes racemose, solitary, filiform, lateral and terminal, elongated; flowers distant, pedicellate. ♄. G. Native of the Cape of Good Hope. Myosòtis fruticòsa, Lin. mant. p. 201. Willd. spec. 1. p. 748. Lam. ill. 1. p. 395. no. 1773. Lehm. asper. p. 35. Leaves glaucous green, beset with minute, incumbent strigæ on both surfaces. Corolla white, twice or thrice longer than the calyx. Fruit hispid. This differs from *H. Zeylánicum*, particularly in the stem and leaves being nearly glabrous, and in the flowers being pedicellate.

Flax-leaved Heliotrope, or Turnsole. Fl. June, Sept. Clt. 1815. Shrub 1 to 2 feet.

18 H. Zeyla'nicum (Lam. dict. 3. p. 94. ill. p. 393. no. 1762.) stem shrubby, branched, pilose; leaves linear, scabrous above and villous beneath; spikes terminal, filiform, solitary, elongated; flowers sessile. ♄. S. Native of Ceylon and Arabia Felix. Willd. spec. 1. p. 744. Lehm. asper. p. 37. H. Curassávicum, *β*, Zeylánicum, Burm. ind. p. 41. t. 16. f. 2. H. fruticòsum, Forsk. descr. p. 38. Flowers small, white.

Ceylon Turnsole. Fl. July, Aug. Clt. 1818. Shrub 1 foot.

19 H. Willdenòwii; stem shrubby, erect; leaves lanceolate, narrowed at the base, mucronate at the apex, clothed with strigose down, hoary while young; spikes conjugate, or by threes, axillary. ♄. S. Native of Brazil. H. canéscens, Willd. herb. ex Lehm. asper. p. 38. but not of Kunth. Stem strigose above; young branches hoary. Corollas small, white. Carpels rather hispid.

Willdenow's Heliotrope, or Turnsole. Shrub.

20 H. inunda'tum (Swartz, prod. p. 40. fl. ind. occ. 1. p. 343.) stem frutescent; leaves oblong, obtuse, canescent from hairs; spikes terminal, erect, by fours. ♄. S. Native of the West Indies, Mexico, and Brazil, along the sea-shore. Willd. spec. 1. p. 741. Lehm. asper. p. 39. H. procúmbens, Lehm. H. canéscens, Willd. and H. cinèreum, Willd. are said to be the same, ex Cham. in Linnæa, 4. p. 456. Stem and branches canescent from adpressed villi. Spikes sessile. Flowers white?

Inundated Turnsole, or Heliotrope. Shrub.

21 H. decu'mbens (Lehm. in act. nat. scrut. hal. 3. p. 16.) stem shrubby, decumbent; leaves elliptic, roundish-obovate, obtuse, strigose; spikes filiform, solitary, conjugate, or by threes, lateral or terminal. ♄. S. Native of Cumana, Bardones, and Cumanocoa, in woody places, where it is called *Rava de Alaras*. Lehm. asper. p. 39. H. procúmbens, H. B. et Kunth, nov. gen. amer. 3. p. 88. Stem and branches beset with incumbent hairs at top, as well as the leaves. Calyx unequal. Flowers small, white, much crowded. Carpels rugose, hispid.

Decumbent Heliotrope, or Turnsole. Shrub decumbent.

22 H. gra'cile (R. Br. prod. p. 493.) stem erect; leaves oblong-lanceolate, flat, acutish, greyish on both surfaces from adpressed hairs; spikes conjugate or solitary; calyxes unequal. ♄. S. Native of New Holland, and of Brazil, on the sea-shore. Lehm. asper. p. 40. The var. *β*, depréssum, Cham. in Linnæa, 4. p. 457. a native of Brazil, may be a distinct species. Stem decumbent.

Slender Turnsole, or Heliotrope. Shrub erect.

23 H. syenìtes (Spreng. syst. 1. p. 539.) stem shrubby, branched, very villous; leaves ovate-oblong, attenuated at both ends, entire, villous, on long petioles; spikes conjugate, lateral; tube of corolla equal in length to the calyx. ♄. F. Native of Upper Egypt. H. villòsum, Sieb. H. cinèreum, R. Br. H. Kúnzii, Lehm.

Syenite Heliotrope. Shrub.

24 H. pilòsum (Ruiz. et Pav. fl. per. 2. p. 3. no. 7. t. 110. f. a.) stem suffruticose, procumbent; leaves broad-lanceolate, pubescently pilose; spikes short, usually by fours. ♄. G. Native of Peru, on arid hills about Lima. Lehm. asper. p. 41. Plant canescent. Spikes lateral and terminal. Calyxes unequal. Corolla white; tube pilose outside, longer than calyx. Fruit hispid.

Pilose Turnsole, or Heliotrope. Pl. procumbent.

25 H. microca'lyx (Ruiz. et Pav. fl. per. 2. p. 3. no. 5. t. 109. f. b.) stem shrubby, erect; leaves oblong-lanceolate, subacuminated; spikes dichotomous, opposite the leaves; calyx small, 5-toothed. ♄. G. Native of Peru, on hills. Lehm. asper. p. 42. Plant very downy. Corolla white, twice as long as the calyx.

Small-calyxed Turnsole, or Heliotrope. Shrub erect.

26 H. hu'mile (Lam. ill. p. 393. no. 1757. Lehm. in act. nat. scrut. hal. 3. p. 11.) stem suffruticose, depressed; leaves petiolate, lanceolate-ovate, acute, repand, villous; spikes solitary, lateral, pedunculate. ♄. S. Native of the West Indies. Lehm. asper. p. 43. Branches pilose. Leaves green above, and paler beneath. Flowers crowded. Corolla white; tube length of calyx. Nut rugose from numerous dots.

Humble Turnsole, or Heliotrope. Fl. May, June. Clt. 1752. Shrub 1 foot.

27 H. parviflòrum (Lin. mant. p. 201.) stem herbaceous, erect; leaves opposite, petiolate, oblong-ovate, hairy; spikes solitary and conjugate; flowers small. ⊙. S. Native of the East Indies, and of the West Indies, in St. Thomas, by waysides. Willd. spec. 1. p. 741. enum. 1. p. 174. Horn. hort. hafn. 1. p. 172. H. angiospérmum, Murr. prod. goett. p. 217. —Dill. elth. p. 178. t. 146. f. 175. Stem pilose. Lateral spikes usually solitary: terminal ones conjugate. Calyxes unequal. Corollas small, a little longer than the calyx; tube green, ventricose; limb white; segments intersected by plicæ; throat pilose. Carpels rugose and hispid.

Small-flowered Turnsole, or Heliotrope. Fl. July, Sept. Clt. 1732. Pl. 1½ foot.

28 H. Coromandelia'na (Retz. obs. 2. p. 9. Vahl. symb. 1. p. 13.) stems herbaceous, prostrate; leaves petiolate, obovate-oblong, canescent from incumbent hairs; spikes solitary or conjugate, lateral or terminal; calyxes unequal. ⊙. S. Native of Coromandel and Bengal. Willd. spec. 1. p. 743. Lehm. asper. p. 46. Roxb. in Wall. fl. ind. 2. p. 2. Root simple, woody. Stems many from the same root, at first prostrate, then ascending, grey from adpressed hairs. Spikes and calyxes pilose. Corolla white, pilose outside; tube longer than the calyx.

Var. β, ovalifòlium (Lehm. asper. p. 47.) leaves oval, villous, silky; spikes conjugate and simple; calyxes unequal; stigma nearly sessile, bearded at apex; stem erect or decumbent. ⊙. H. Native of Arabia Felix, and New Holland, within the tropic. H. ovalifòlium, Forsk. descrip. p. 38. R. Br. prod. p. 493. This variety differs from the species in its larger stature; in the branches and leaves being densely villous and silky; and in the carpels being pilose. Perhaps a distinct species.

Coromandel Turnsole, or Heliotrope. Fl. July, Nov. Clt. 1812. Pl. prostrate.

29 H. Cape'nse (Swartz, in litt. Lehm. in act. nat. scrut. hal. 3. p. 13, asper. p. 50.) stem herbaceous, erect, branched; leaves

ovate-roundish, plicate, strigose above, and rather tomentose beneath; spikes pedunculate, solitary, and conjugate; calyx closed, with 5 short connivent segments, falling off in the fruit-bearing state. ⊙. H. Native of the Cape of Good Hope. Plant hoary and downy. Leaves undulately plicate. Spikes axillary. Carpels large, wrinkled, glabrous.

Cape Turnsole. Fl. June, July. Clt. 1824. Pl. 1 to 2 feet.

30 H. EUROPÆ'UM (Lin. spec. p. 187. hort. ups. p. 33.) stem herbaceous, erect; leaves ovate, flat, lined, finely tomentose; lateral spikes solitary: terminal ones conjugate; calyx stellately spreading in the fruit-bearing state. ⊙. H. Native of the South of Europe, and in the regions of Caucasus. Gmel. sib. 4. p. 74. no. 11. Scop. fl. carn. ed. 2d. vol. 1. p. 120. Poll. pal. 1. p. 177. All. ped. 1. no. 187. Vill. dauph. 2. p. 450. Jacq. fl. austr. 3. p. 4. t. 207. Sabb. hort. rom. 2. t. 33. Regn. bot. 1. t. 32. Roth. tent. fl. germ. 2. p. 211. Sut. fl. helv. 1. p. 101. Bieb. fl. cauc. 1. p. 118. Lapeyr. fl. pyr. p. 84. Baumg. fl. trans. 1. p. 115. Hoffm. et Link. fl. port. 1. p. 166. D. C. fl. fr. no. 2705. H. supìnum, Pall. ind. taur. H. canéscens, Mœnch. meth. p. 415. H. eréctum, Lam. fl. fr. 2. p. 281.—Hall. helv. no. 593.—Plenck. off. t. 74.—Mor. hist. 3. sect. 11. t. 31. f. 7. Tourn. inst. p. 139. Stem grey from villi. Leaves smoothish above, canescent, obtuse or terminated by a small acumen. Corolla white, plicate above, intersected by 5 teeth. Stigma bifid at top. Carpels rugose, warted.

Var. β; flowers larger, sweet-scented. ⊙. H. Native of Caucasus, Tauria, and Switzerland. Bieb. fl. cauc. 1. p. 118. Suter, l. c. Haller, l. c. H. Europæ'um, Pall. ind. taur.

European Turnsole, or Heliotrope. Fl. June, Oct. Clt. 1562. Pl. ¼ to ½ foot.

31 H. OBLONGIFÒLIUM (Link. enum. 1. p. 163.) leaves petiolate, oblong, obtuse, quite entire, rough, beset with scattered hairs. ⊙. H. Native of the South of Europe. Very like *H. Europæ'um*, and hardly distinct. Corolla white.

Oblong-leaved Heliotrope, or Turnsole. Fl. June, Oct. Clt. 1824. Pl. ½ to 1 foot.

32 H. ÆGYPTI'ACUM (Lehm. in. sem. hort. hamb. 1820. p. 8.) stem erect, branched, soft, downy, pale green; branches spreading; leaves elliptic, or ovate, quite entire, clothed with fine tomentum; spikes terminal, much branched. ⊙. H. Native of Egypt. H. pállens, Cailliaud voy. pl. meroe. no 55. t. 3. f. 4. Habit of *H. Europæ'um* and *H. suavèolens*, but differs in the much greater stature. Corollas large, white. Nuts glabrous, reticulated, scabrous, ex Cailliaud.

Egyptian Heliotrope. Fl. June, July. Clt.? Pl.

33 H. COMMUTA'TUM (Rœm. et Schultes. syst. 4. p. 29.) leaves ovate, wrinkled, petiolate; corolline segments obtuse. ⊙. H. Native of Galicia. H. hùmile, Schultes, obs. bot. p. 27. This is much smaller than *H. Europæ'um*, but otherwise much like it.

Changed Turnsole. Fl. June, Oct. Clt. 1800. Pl. ¼ foot.

34 H. VILLÒSUM (Willd. spec. 1. p. 744.) stem herbaceous, erect, very villous; leaves ovate, flat, villous; spikes lateral and terminal, solitary and conjugate; corollas large; calyx spreading in the fruit-bearing state. ⊙. H. Native of the Islands in the Archipelago. Desf. ann. mus. 10. p. 427. t. 33. Lehm. asper. p. 53. H. hirsutíssimum, Weber, pl. kil. 1783. no. 1. Heliotr. màjus, flore magno inodoro, Tourn. cor. inst. p. 7. Habit of *H. Europæ'um*. Plant densely villous; hairs yellowish. Corollas large, white, with a yellow throat, densely villous outside. Fruit wrinkled, glabrous.

Villous Turnsole, or Heliotrope. Pl. 2 feet.

35 H. BOCCÒNI (Guss. sem. hort. Bocc. 1825. ex Linnæa, 4. p. 37.) perhaps the same as *H. suavèolens*, from Buccone's synonymes, but in Gussone's the leaves and calyxes are tomentose. ⊙. H. Native of the South of Europe. Calyxes not subulate, nor the stem less divaricate, and the seeds smaller than in *H. Europæ'um*.

Boccone's Heliotrope or Turnsole. Pl. ½ foot.

36 H. OBOVA'TUM (Roxb. mss. ex D. Don. prod. fl. nep. p. 101.) herbaceous; stem decumbent, divided; leaves obovate, petiolate, nerveless, flat, silky on both surfaces; spikes conjugate; calyx shorter than the tube of the corolla. ⊙. H. Native of Nipaul, towards the banks of the river Morshidabad.

Obovate-leaved Turnsole, or Heliotrope. Fl. May, June. Clt. 1825. Pl. decumbent.

37 H. GLANDULÒSUM (R. Br. prod. p. 493.) stem suffruticose; leaves oval, obtuse, wrinkled, tomentose; spikes conjugate; calyx glandular. ♄. G. Native of New Holland, on the south coast.

Glandular-calyxed Turnsole, or Heliotrope. Shrub.

38 H. ERÒSUM (Lehm. in act. nat. scrut. hal. 3. p. 15. asper. p. 54.) stem suffruticose, decumbent; leaves oblong, obtuse, tapering into the petioles, erosely denticulated, beset with retrograde stiff hairs; spikes terminal, conjugate, rarely by threes. ♄. G. Native of Teneriffe. Plant canescent. Spikes compact. Peduncles and calyxes hairy. Corolla white; tube longer than the calyx, pilose; limb curled. Fruit glabrous.

Erose-leaved Heliotrope, or Turnsole. Shrub decumbent.

39 H. ERIOCA'RPUM (Delile, in litt. ex Lehm. asper. p. 55.) stem shrubby, erect, much branched, hoary; leaves sessile, ovate, villous, warted, with waved, repand, revolute margins; spikes conjugate. ♄. G. Native of Egypt. Lithospérmum dígynum, Forsk. fl. arab. descrip. p. 40. H. lineàtum, Delile, fl. ægypt. p. 37. t. 16. f. 2. but not of Vahl. Branches dichotomously divided, hoary, tomentose at top, spinescent and naked in summer. Leaves canescent. Spikes sessile, terminal. Calyx villous. Corolla glabrous, red?; tube ventricose above. Carpels hoary from very long villi.

Hairy-fruited Turnsole, or Heliotrope. Shrub.

40 H. UNDULA'TUM (Vahl. symb. 1. p. 13.) stem shrubby, procumbent; leaves lanceolate, hispid, with undulately curled margins; spikes conjugate, axillary and terminal. ♄. G. Native of Egypt, in sandy places. Willd. spec. 1. p. 743. H. críspum, Desf. fl. atl. 1. p. 151. t. 41. Lithospérmum híspidum, Forsk. descr. p. 38. no. 24. Branches grey from short tomentum. Leaves rather cinereous. Calyx pilose. Corolla small, white, pilose outside, longer than the calyx, with teeth-formed plicæ between the segments of the limb. Carpels clothed with white villi.

Undulated-leaved Turnsole, or Heliotrope. Fl. July, Aug. Clt. 1820. Shrub procumbent.

41 H. LINEA'TUM (Vahl. symb. 1. p. 13.) stem shrubby, procumbent; leaves petiolate, elliptic, villous, flat, with revolute margins; spikes conjugate, bracteolate, lateral and terminal. ♄. G. Native of Egypt. Willd. spec. 1. p. 743. Lehm. asper. p. 58. Lithospérmum heliotropioìdes, Forsk, descr. p. 39. no. 25. Branches villous, tomentose above. Bracteas linear, acute. Calyx villous. Corolla glabrous, longer than the calyx, having teeth between the segments of the limb. Carpels villous. Stigma entire.

Lined-leaved Turnsole, or Heliotrope. Shrub procumbent.

42 H. ASPE'RRIMUM (R. Br. prod. p. 493.) plant strigose, very rough; spikes capitate; leaves oblong, obtuse, sessile, with revolute, undulated margins; stem erect. ♄?. G. Native of New Holland, on the south coast. Lehm. asper. p. 56.

Very-rough Turnsole, or Heliotrope. Pl. erect.

43 H. MOROCCA'NUM (Lehm. asper. p. 56.) stem shrubby,

erect, strict; leaves lanceolate, beset with incumbent hairs, with undulated, revolute margins; spikes conjugate and compound, lateral and terminal. ♄. G. Native of the kingdom of Morocco. Stem hispid. Branches beset with incumbent pili, as well as the leaves, rather hispid. Spikes at first horizontal. Calyx grey, hispid, with ciliated segments. Corolla large; tube nearly twice as long as the calyx, beset with white hairs above; limb undulately curled. Carpels wrinkled, glabrous. Nearly allied to *H. undulàtum*.

Morocco Turnsole, or Heliotrope. Fl. June, July. Clt. 1823. Shrub 1 to 2 feet.

44 H. Ambaine'nse (Fres. fl. egypt. et arab. p. 168.) plant clothed with glandular hairs; stem shrubby at the base, branched, clothed with canescent villi; leaves petiolate, ovate-lanceolate, pilose, with undulated margins; spikes almost solitary, bractless, spiral while young; tube of corolla twice as long as the calyx. ♄. G. Native of Arabia, at Thal Ambain.

Ambain Heliotrope, or Turnsole. Shrub.

Sect. II. Orthóstachys (from *ορθος, orthos,* straight; and *σταχυς, stachys,* a spike; the spikes of flowers are straight at first, not circinnate or revolute as in the preceding section.) R. Br. prod. p. 493. Spikes generally solitary, bracteate or leafy, not spiral or circinnate in the young state. Bracteas opposite the flowers, or nearly so.

45 H. brevifòlium (Wall. fl. ind. 2. p. 2.) plant suffruticose, covered with adpressed greyish hairs; stems prostrate, densely tufted; leaves approximate, sessile, narrow-linear, somewhat falcate, with recurved margins, canescent; racemes solitary, terminal, slender, straight: with short, ovate bracteas, opposite to, and equalling the pedicels, linear; calyx and nuts strigose. ♂?. F. Native of Nipaul, in the vicinity of Katmandu and Gosainsthan. H. compáctum, D. Don, prod. fl. nep. p. 101. Plant greyish. Racemes at first slightly recurved. Corolla white, twice as long as the calyx, with a yellow tube; limb plicate; segments slightly crenulated.

Short-leaved Turnsole, or Heliotrope. Fl. June, July. Clt. 1824. Pl. prostrate.

46 H. salicoìdes (Cham. in Linnæa, 4. p. 117.) plant shrubby, canescent from silky strigæ; branches terete, slender; leaves scattered, nearly sessile, oblong, ovate-lanceolate, acute, keeled from the nerve, with reflexed margins; spikes simple, terminal, revolute, sometimes lateral, and opposite the leaves, bracteolate, dense flowered; flowers sessile; calycine segments ovate, acute, nearly equal; tube of corolla equal in height to the calyx; limb strigose outside; carpels strigose, shorter than the calyx; anthers connivent and cohering at top. ♄. S. Native of Brazil. A small trailing or creeping shrub, with the habit of *Sàlix incubàcea*, and *S. rèpens*. Said to be nearly allied to *H. Ottònis* and *H. fruticòsum*.

Willow-like Heliotrope. Shrub creeping.

47 H. Ottònis (Lehm. asper. p. 59.) stem shrubby; leaves linear-lanceolate, erect, with revolute edges, canescent from somewhat silky, incumbent hairs, or strigæ; spikes solitary, terminal, elongated, bracteate. ♄. S. Native of Caraccas. H. stríctum, H. B. et Kunth, nov. gen. amer. 3. p. 87. Tournefórtia monostàchya, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 540. Stem branched at top. Carpels rather hispid. Branches linear, acuminated, hispid. Calyxes unequal.

Otto's Heliotrope. Shrub 1½ foot.

48 H. fruticòsum (Lin. spec. p. 187. amœn. 4. p. 394.) stem shrubby; leaves linear-lanceolate, pilose, recurved at apex; spikes lateral, nearly sessile, solitary, bracteolate. ♄. S. Native of South America. Lam. ill. no. 1766. Lehm. asper. p. 60. Tournefórtia hùmilis, Swartz. obs. bot. p. 55, exclusive of the syn. of Lin. Willd. spec. 1. p. 793. H. demíssum, Rœm. et Schultes, syst. 4. p. 27.—Plum. pl. amer. t. 227. f. 2.—Sloane, hist. t. 132. f. 4. Stem much branched; branches scabrous. Leaves with revolute edges, green above, and hoary beneath, from the hairs being more copious. Bracteas linear. Flowers on short pedicels. Peduncles and calyxes pilose. Corolla white. Stigma capitate. Carpels rather hispid.

Shrubby Heliotrope. Shrub 2 feet.

49 H. terna'tum (Vahl. symb. 3. p. 21.) stem shrubby; leaves lanceolate, 3 in a whorl, those on the younger branches alternate, hoary beneath; spikes terminal, pedunculate, conjugate; bracteas linear. ♄. S. Native of the West Indies. Willd. spec. 1. p. 745. Lehm. asper. p. 61. Branches canescent from soft hairs. Leaves beset with white callous dots above. Lateral spikes, if any, usually simple. Flowers on short pedicels. Calyx pilose. Corolla white, large; tube longer than the calyx, pilose above; limb plicate.

Ternate-leaved Heliotrope. Shrub.

50 H. hírtum (Willd. herb. no. 3247. Lehm. in act. nat. scrut. hal. 3. p. 10. asper. p. 62.) stem shrubby, hairy; leaves linear-lanceolate, hairy, hoary beneath, rather soft; spikes lateral and terminal, solitary, bracteolate. ♄. S. Native of Cumana, and New Andalusia, and Brazil, in sandy places. H. híspidum, H. B. et Kunth, nov. gen. amer. 3. p. 87. Branches canescent, pilose. Leaves with revolute edges. Spikes compact. Bracteas minute. Calyx hairy; tube of corolla longer than the calyx, villous under the limb. Carpels rather hispid.

Hairy Heliotrope. Shrub.

51 H. polyphy'llum (Lehm. l. c. p. 9. asper. p. 63.) stem shrubby, erect, or prostrate; leaves linear-lanceolate, strigosely pilose; spikes terminal, solitary, leafy, recurved at top. ♄. S. Native about the Orinoco, and of Brazil. Cham. in Linnæa, 4. p. 462. H. foliòsum, Willd. herb. no. 3252. Branches strigose, when young canescent. Leaves very numerous, on short petioles. Flowers nearly sessile, opposite the leaves or interfoliaceous. Calyx strigose, unequal. Tube of corolla length of calyx, rather pilose; segments acute, lanceolate. Carpels rather hispid.

Many-leaved Heliotrope. Shrub.

52 H. folia'tum (R. Br. prod. p. 493.) plant annual, strigose from decumbent hairs; branches ascending; leaves lanceolate, flat; spikes few-flowered; bracteas lanceolate, on short petioles, twice as long as the calyx. ⊙. H. Native of New Holland, within the tropic.

Leafy-spiked Heliotrope. Pl. ascending.

53 H. Africa'num (Schum. pl. guin. p. 87.) leaves ovate, acuminated at both ends, glabrous; spikes solitary; corollas 3 times longer than the calyx, with a narrow neck. ⊙. H. Native of Guinea. Stem procumbent, branched, pilose. Corollas pale blue.

African Heliotrope. Pl. erect.

54 H. strigòsum (Willd. spec. 1. p. 743. Pers. ench. 1. p. 743. Schum. pl. guin. 86.) stem shrubby, ascending; leaves linear-lanceolate, strigosely papillose; spikes leafy: lateral ones solitary: terminal ones conjugate. ♄. S. Native of Guinea. Lehm. asper. p. 64. Root fusiform. Stem covered with adpressed white hairs, branched. Leaves on short petioles, beset with white adpressed hairs on both surfaces, which rise from papillæ. Bracteas sessile, lanceolate, length of flowers, which are distant. Corolla white, with a tooth between each of the segments. Carpels strigose.

Strigose Heliotrope. Shrub ½ to 1 foot.

55 H. myosotoìdes (Lehm. in act. nat. scrut. hal. 3. p. 18. asper. p. 65.) stem frutescent, erect, purplish; leaves linear,

sessile, strigose; spikes solitary, bracteate; bracteas longer than the calyx. ♄. F. Native of the Levant. Habit of *Myosòtis*. Stem beset with adpressed, stiff hairs, as well as the calyx and pedicels. Young branches hoary from copious hairs. Leaves deep green. Spikes lateral and terminal. Flowers pedicellate. Carpels rather hispid.

Mouse-ear-like Heliotrope. Shrub erect.

56 H. Rottle'ri (Lehm. asper. p. 66.) stem shrubby, erect; leaves oval-lanceolate, hispid; spikes lateral and terminal, solitary; bracteas lanceolate, nearly the length of the calyx. ♄. S. Native of the East Indies. Root fusiform, woody, with horizontal fibres. Stems many from the same root, beset with small white hairs or strigæ. Flowers on short pedicels. Calyx hispid, length of the tube of the corolla. Corolla pilose outside. Carpels hispid when examined by a lens.

Rottler's Heliotrope. Shrub ½ to 1 foot.

57 H. thymifòlium (Vahl, in litt. ex Lehm. in act. nat. scrut. hal. 3. p. 17.) stem shrubby, depressed; leaves oblong, strigose; spikes solitary, terminal, elongated, leafy. ♄. S. Native country unknown. Lehm. asper. p. 67. Stem hispid at top; branches floriferous. Bracteas lanceolate, on short petioles, length of the cauline leaves. Calyx hispid, length of the tube of the corolla. Corolla small, downy outside. Nuts rather villous.

Thyme-leaved Heliotrope. Shrub depressed.

58 H. pauciflòrum (R. Br. prod. 493.) annual, erect, much branched, strigose; hairs decumbent; leaves lanceolate, linear, shorter than half an inch, with recurved margins; spikes few-flowered; bracteas linear, length of calyx, equalling the tube of the corolla, which is acutish. ⊙. H. Native of New Holland, within the tropic.

Few-flowered Heliotrope. Pl. erect.

59 H. Pe'rsicum (Lam. dict. 3. p. 94. ill. p. 393. no. 1761.) stem shrubby, branched; leaves linear-lanceolate, oblique, recurved, silky, hoary; spikes terminal, leafy. ♄. F. Native of Persia. Lehm. asper. p. 68. Heliotròpium Persicum incanum, floribus variegatis, Burm. fl. ind. p. 41. t. 19. f. 1. Branches grey from adpressed hairs. Leaves hoary from copious, prostrate hairs. Flowers on short pedicels. Carpels minute, rather hispid.

Persian Heliotrope. Shrub ½ to 1 foot.

60 H. fasciula'tum (R. Br. prod. p. 494.) suffruticose, much branched, strigose; hairs spreading; leaves linear, acute, sessile, with recurved margins, a line and a half long, in fascicles; flowers scattered. ♄. G. Native of New Holland, within the tropic.

Fascicled-leaved Heliotrope. Shrub.

61 H. Campechia'num (Willd. herb. ex Lehm. asper. p. 69. H. B. et Kunth, nov. gen. amer. 3. p. 86.) stem shrubby, branched, procumbent; leaves lanceolate, strigose, acute at both ends; spikes terminal, solitary, elongated, leafy; calyx subbilabiate, with unequal segments. ♄. or ♃. S. Native about Campeachy. Branches filiform, strigose. Lower flowers on short pedicels: upper ones sessile. Tube of corolla length of the larger calycine segments, pilose outside; segments acutish. Carpels hispid when examined by a lens.

Campeachy Heliotrope. Shrub procumbent.

62 H. bractea'tum (R. Br. prod. p. 493.) annual, strigose from decumbent hairs; branches erect; leaves lanceolate, flat; spikes few-flowered; bracteas lanceolate, nearly sessile, a little longer than the calyx. ⊙. H. Native of New Holland, within the tropic, on the sea-shore.

Bracteate-flowered Heliotrope. Pl. erect.

63 H. marifòlium (Retz. obs. 2. p. 8-9. no. 8.) stem fruticulose, procumbent, filiform; leaves petiolate, lanceolate, acute, pilose; spikes usually solitary; bracteas linear-lanceolate, shorter than the calyx. ♄. S. Native of India. Willd. spec. 1. p. 742. Lehm. asper. p. 70. Stem beset with incumbent hairs. Leaves figure of those of *Teùcrium Màrum*, but narrower and smaller. Flowers distant, on short pedicels. Nuts hispid, or prickly at the base.

Cat-thyme-leaved Heliotrope. Shrub procumbent.

64 H. sca'brum (Retz, obs. 2. p. 8. no. 7.) stem herbaceous, depressed, branched; leaves linear-lanceolate, oblique, strigose, with revolute edges; spikes solitary, lateral and terminal; bracteas lanceolate, longer than the calyx. ⊙. H. Native of India, in rice-fields. Lehm. asper. p. 70. Plant small. Root fusiform, simple. Stem nearly simple, strigose from adpressed hairs. Leaves nearly sessile: upper ones opposite. Flowers small, distant. Calyx hispid. Carpels villous at apex.

Var. β, hùmile (Lehm. asper. p. 71.) stem more humble and more branched. ⊙. H. Native of India, in waste places.

Scabrous Heliotrope. Pl. small.

65 H. ventricòsum (R. Br. prod. p. 494.) annual, erect, branched, strigose from rather spreading hairs; leaves linear, acute, with recurved margins; spikes many-flowered; bracteas equalling the acuminated calyxes; tube of corolla exserted near the top, and ventricose. ⊙. H. Native of New Holland, within the tropic, on the sea-shore.

Ventricose-flowered Heliotrope. Pl. erect.

66 H. panicula'tum (R. Br. prod. p. 494.) suffruticose, much branched, strigose from rather adpressed pili; leaves narrow-linear, with recurved margins; spikes alternate, panicled; bracteas shorter than the acute calyxes. ♄. S. Native of New Holland, within the tropic, on the sea-shore.

Panicled-spiked Heliotrope. Shrub.

67 H. tenuifòlium (R. Br. l. c.) plant erect, clothed with hoary tomentum; leaves linear-filiform; spikes alternate or solitary; bracteas subulate, shorter than the calyx, which is silky. ⊙. H. Native of New Holland, on the sea-shore, within the tropic.

Thin-leaved Heliotrope. Pl. erect.

68 H. glabe'llum (R. Br. l. c.) suffruticose, much branched, glabrous; leaves linear-filiform, with recurved margins, beset with a few hairs beneath; spikes few; bracteas subulate, hardly equalling the calyxes, which are ciliated; limb of corolla shorter than the tube. ♄. S. Native of New Holland, within the tropic.

Glabrous Heliotrope. Shrub.

69 H. prostra'tum (R. Br. l. c.) annual, prostrate, strigose from adpressed pili; leaves lanceolate, acuminated, flat, nearly sessile; bracteas hardly equal in length to the calyx. ⊙. H. Native of New Holland, within the tropic, on the sea-shore.

Prostrate Heliotrope. Fl. June, July. Clt. 1826. Pl. prostrate.

70 H. humistra'tum (Cham. in Linnæa, 4. p. 462.) tufted and trailing; stems simple, many from the same root, villous; leaves densely imbricate, villous, lanceolate, acute; racemes leafy; flowers pedicellate, extrafoliaceous, equal in length to the leaves; pedicels length of calyx. ⊙. F. Native of tropical Brazil, in argillaceous soil. Habit of *Paronychia*, or *Herniària*. Flowers size of those of *H. parviflòrum*. Calycine segments equal, lanceolate, acute, rather villous. Corolla villous outside, bearded in the throat. Anthers bearded at apex.

Trailing Heliotrope. Pl. trailing.

71 H. ocella'tum (Cham. in Linnæa, 4. p. 463.) erect, cinereous, strigose; leaves lanceolate, bluntish, sub-cuneated, petiolate; spikes simple, terminal, bracteate; bracteas equalling or exceeding the flowers. ⊙. H. Native of Brazil. The whole

plant is greyish from strigæ. Leaves ½ an inch long. Flowers small, size of those of *H. parviflòrum*. Calycine segments unequal, lanceolate, acute. Corolla slender, pale, strigose outside; tube shorter than the calyx; limb with a tooth between each lobe. Carpels smooth.

Ocellate-fruited Heliotrope. Pl. ½ to ¾ foot.

72 H. humifu'sum (H. B. et Kunth, nov. gen. amer. 3. p. 85. t. 205.) plant suffruticose, creeping, leafy; leaves crowded, lanceolate-oblong, acute, 1-nerved, stiff, hispid; flowers in the axils of the superior leaves. ♄. S. Native of Cuba, near Havana, in dry places. Lithospérmum humifûsum, Spreng. syst. 1. p. 548. Leaves 3 lines long, on short petioles, which are dilated and sheathing at the base. Calyx hispid, rather unequal. Corollas size of those of *Myosòtis arvénsis*, hispid outside; tube inflated in the middle, hardly equal in length to the calyx; limb plicate, 5-lobed. Stigma capitate, depressed. Fruit hispid. Said to be nearly allied to *H. orientàle*, Lin. Perhaps a proper genus.

Trailing Heliotrope. Shrub creeping.

73 H. filifórme (H. B. et Kunth, l. c. p. 86. t. 204.) procumbent, hispid from strigæ; leaves lanceolate-spatulate, obtuse; spikes terminal and lateral, solitary and conjugate, filiform, bracteate; bracteas minute, linear. ♃. S. Native on the sandy banks of the river Apures, between El Diamante and San Fernando. H. tènue, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 737. Stems diffuse. Leaves ½ inch long, with the petioles. Spikes revolute at top. Calyx unequal, hispid. Corolla white; tube about equal in length to the calyx. Carpels downy.

Filiform Heliotrope. Pl. procumbent.

Sect. III. Heliotrophy'tum (derivation the same as that of the genus, with the addition of *φυτον*, *phyton*, a plant.) Cham. in Linnæa, 4. p. 458. Carpels 2, 2-celled, 2-seeded. This section joins this genus with *Tournefórtia*.

74 H. tomentòsum (Poir. suppl. 3. p. 23.) plant clothed with white tomentum; stem shrubby; leaves ovate, obtuse, on long petioles, nerveless; spikes lateral, twin, bracteate. ♄. S. Native of the East Indies. Rœm. et Schultes, syst. 4. p. 39. Stem branched from the base. Leaves 8-10 lines long. Spikes an inch long, a little revolute at apex. Calyx hispid, acute, a little shorter than the corolla, which is small.

Tomentose Heliotrope. Shrub.

75 H ?. nicotianæfòlia (Poir. suppl. 3. p. 23.) stem herbaceous, villous; leaves broad-lanceolate, nearly glabrous, with undulated margins; spikes twin, terminal, bracteate. ⊙ ?. H. Native of Buenos Ayres. Leaves petiolate, 3-4 inches long, and 2 broad; petioles an inch long, pilose, with usually a pair of smaller leaves in the axils of the larger ones. Peduncles compressed, pilose, length of petioles. Calyx hispid, a little smaller than the corolla, which is small. Perhaps a species of *Tiarídium*.

Tobacco-leaved Heliotrope. Pl. 1 to 2 feet ?

76 H ?. anchusæfòlium (Poir. suppl. 3. p. 23.) stem shrubby; leaves stem-clasping, linear-lanceolate, roughish; peduncles terminal, solitary; spikes bifid, or trifid; flowers spicately capitate, bracteate. ♄. S. Native of Buenos Ayres, and Brazil. Rœm. et Schultes, syst. 4. p. 40. The whole plant is velvety from strigose canescent tomentum. Leaves crowded, 2 inches long, and 6-8 lines broad, obtuse. Peduncles villous. Spikes 2-3 together, crowded into a head. Calyx hispid. Corollas blue, size and form of those of *H. Peruviànum;* tube clothed with viscid villi outside. Perhaps the same as *H. amplexicaùle*, Vahl. symb. 3. p. 21.

Bugloss-leaved Heliotrope. Shrub ½ to 1½ foot.

77 H ?. polysta'chyum (Poir. suppl. 3. p. 23.) plant yellow; leaves ovate-lanceolate, on long petioles, tomentose beneath; spikes numerous, terminal. ♄. S. Native of Pondicherry. Commerson in herb. Desf. Rœm. et Schultes, syst. 4. p. 40. Branches spreading, villous. Leaves thickish, 1-2 inches long, rather pilose above. Spikes 3-4 together, unequal, very long. Calyx hispid. Corolla small, white. Carpels involucrated by the undurated angular calyx, form of a capsular pericarp.

Many-spiked Heliotrope. Shrub.

78 H. sidæfòlium (Cham. in Linnæa, 4. p. 460.) stem shrubby; leaves lanceolate and ovate-lanceolate, petiolate, acute, or bluntish; spikes terminal, and from the axils of the upper leaves. ♄. F. Native of Brazil. This species agrees with *H. anchusæfòlium* in the stature, habit, hairiness, inflorescence, flowers, and fruit, but differs in the leaves. Plant strigose. Flowers nearly sessile. Corolla hairy outside. Fruit tubercled.

Sida-leaved Heliotrope. Shrub ½ to 1½ foot.

79 H. phylicoìdes (Cham. in Linnæa, 4. p. 460.) shrubby, clothed with white villi; lower leaves ovate, acute, becoming narrower as they ascend, until they are almost linear; spikes terminal, trifid, or twice bifid. ♄. F. Native of the South of Brazil. Leaves with reflexed margins. Corolla having the tube villous outside; limb blue. Stigma depressedly conical. Carpels tubercular. Very nearly allied to *H. anchusæfòlium*.

Phylica-like Heliotrope. Shrub ½ to 1½ foot.

† *Species hardly known.*

80 H ?. anómalum (Hook. et Arn. in Beech. voy. pt. bot. p. 66.) plant suffruticose; leaves linear-lanceolate, attenuated at the base, hispid from strigæ; racemes glomerate; calycine segments very unequal; carpels 5. ♄. G. Native of the Society Islands. Root fusiform. Racemes usually bifid. Plant strigose. Corolla 5-6 cleft, plicate. Stamens 5-6. Stigma capitate, pencilled. Perhaps the same as *Lithospérmum incànum*, Forst. or perhaps a new genus. Two of the calycine segments are spatulate, the others linear.

Anomalous Heliotrope. Shrub.

81 H. tomentòsum (Burm. prod. fl. cap. p. 4. Lehm. asper. p. 73.) stem shrubby; leaves linear, repand, villous; spikes lateral, conjugate. ♄. G. Native of the Cape of Good Hope.

Tomentose Heliotrope. Shrub.

82 H. orienta'le (Houtt. pfl. syst. 5. p. 402.) leaves linear, glabrous, veinless; flowers scattered, lateral. ⊙. H. Native of Asia. Lin. spec. 1. p. 188. Willd. spec. 1. p. 745. Lithospérmum Javánicum, Spreng. syst. 1. p. 547. Plant small, procumbent, creeping. Flowers nearly sessile, solitary among the leaves.

Eastern Heliotrope. Pl. procumbent.

83 H. baccíferum (Forsk. descrip. p. 38.) stem frutescent, prostrate; leaves oblong, or roundish, hispid, with reflexed margins; spikes bracteate. ♄. G. Native of Arabia. Vittm. summ. 1. p. 379. Lehm. asper. p. 74. H. villòsum, Spreng. syst. 1. p. 541. Corolla with a yellowish tube, which is twice as long as the calyx; limb white; throat naked. Style thickened in the middle with a broad ring under the bifid stigma. Seeds contained in an umbonate 4-angled berry.

Berry-bearing Heliotrope. Shrub.

84 H. tetra'ndrum (Lour. coch. p. 103. ed. Willd. 1. p. 183.) leaves ovate-lanceolate, glabrous, opposite; spikes crowded, terminal. ♃. F. Native of Cochinchina, among luxuriant herbs. Stems erect, multiple, diffuse, whitish, bluntly tetragonal. Flowers reddish, in long dense spikes. Corolla campanulate, 5-cleft. Stamens 4, about equal in length to the

corolla. Stigma bifid. Seeds 4, naked. Calyx small, 5-cleft. Perhaps a species of *Verbèna*.

Tetrandrous-flowered Heliotrope. Pl. 1 foot.

N.B. In Salt's trav. in abys. p. 475, there are 3 species enumerated, but without any diagnosis. 1. H. cinèreum, R. Br. 2. H. ellípticum, R. Br. and H. dùbium, R. Br.

Cult. Several of the species of *Heliotropium*, or *Turnsole*, are valued on account of the fragrance of their blossoms, so that a few of them are to be met with in almost every collection of plants. The shrubby and perennial kinds thrive in any kind of rich, light soil; and young cuttings of them root readily under a hand-glass. The European annual species should be treated as other hardy annuals, by sowing the seeds in the open ground: the tropical species, like other tender annuals, by being reared on a hot-bed, and afterwards planted out.

XXXVI. PIPTOCLA'INA (from *πιπτω, pipto*, to fall; and *κλαινα, klaina*, a cloak; in reference to the calyx being deciduous.) Heliotròpium, species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, 5-toothed, deciduous. Corolla salver-shaped; throat furnished with a tooth between each of the segments. Stamens inclosed. Stigma simple. Carpels solitary, or 4, 1-celled.—Diffuse or canescent annual plants. Leaves petiolate, alternate. Flowers disposed in solitary, or twin spikes.

1 S. Malaba'rica; stems herbaceous, depressed; leaves ovate, plicate, entire, clothed with hoary tomentum on both surfaces, pilose; spikes lateral and terminal, generally solitary; calyx large, deciduous in the fruit-bearing state. ⊙. H. Native of Malabar. Heliotròpium Malabáricum, Retz. obs. 4. p. 24. Willd. spec. 1. p. 742. Lehm. asper. p. 48. H. Europæ'um, Forsk. descr. p. 38. H. Europæ'um, var. Malabáricum, Burm. ind. p. 40 ?. Plant soft to the touch. Spikes sometimes conjugate. Corolla white, longer than the calyx. Carpels rugose, glabrous. Calycine teeth short, connivent.

Malabar Piptoclaina. Pl. trailing.

2 S. supìna; stems herbaceous, decumbent; leaves oval, obtuse, plicate, with the margins a little reflexed, and obsoletely crenulated, hoary beneath, villous; spikes generally solitary, seldom conjugate, usually lateral; calyx closed, deciduous in the fruit-bearing state. ⊙. H. Native of Portugal, South of France, Islands of the Archipelago, Barbary, Arabia, and the Cape of Good Hope. Heliotròpium supìnum, Lin. spec. 187. Lehm. asper. p. 48. Gouan. hort. monsp. p. 17. t. 1. Desf. fl. atl. 1. p. 152. Sibth et Smith, fl. græc. t. 157. Lapeyr. abr. suppl. 27. D. C. fl. fr. no. 2706. Thunb. fl. cap. prod. p. 33. Hoffm. et Link. fl. port. 1. p. 167. Heliotròpium humifùsum, flore minore, &c. Tourn. cor. p. 7. voy. 1. p. 342. t. 23.—Mor. hist. 3. sect. 11. t. 31. f. 10. Stems many from the same root, hairy, canescent. Calycine teeth linear. Corolla with a yellow tube, length of the calyx, and a short white limb; segments of the limb reniform, intersected by teeth, which hardly close the throat. Carpels scabrous, solitary, the other 3 being abortive.

Trailing Piptoclaina. Fl. June, July. Clt. 1640. Pl. trailing.

Cult. This species of the genus being annuals, the seeds only require to be sown on a hot-bed in spring, and about the end of May the plants should be planted out in the open border, in a sheltered situation.

XXXVII. TIARI'DIUM (from *τιαρα, tiara*, a Persian diadem; and *ειδος, eidos*, like; in reference to the form of the capsule.) Lehm. asper. p. 13. Blum. bijdr. 845.—Heliotròpium species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft, or 5-parted. Corolla salver-shaped; tube angular; throat coarctate, 5-rayed; segments of the limb undulated. Style very short. Stigma capitate. Carpels 4, 2-celled, mitre-formed, acuminated, cohering, closed at the base, without any manifest receptacle.—Plant with the habit of *Heliotròpium*.

1 T. I'ndicum (Lehm. asper. p. 14. Blum. bijdr. p. 846.) stem herbaceous, erect, hairy; leaves ovate-cordate, acuminated, hairy at the base; tube of corolla twice as long as the calyx. ⊙. H. Native of both Indies and North America, in rather dry places. Heliotròpium I'ndicum, Lin. spec. 187. Swartz. obs. p. 54. Willd. spec. 1. p. 740. Willd. enum. 1. p. 174. Pursh. fl. amer. sept. 1. p. 130. Horn. hort. hafn. 1. p. 172. Michx. fl. bor. amer. 1. p. 129. Sims bot. mag. t. 1837. Heliotròpium cordifòlium, Mœnch. meth. p. 415.—Sabb. hort. rom. 2. t. 34.—Mor. hist. 3. sect. 11. t. 28. f. 1.—Plukn. phyt. 245. f. 4. Plant scabrous. Stem branched. Leaves running into the petioles at the base, 3 inches long, and 2 broad, subserrate. Spikes terminal, solitary, hairy, reflexed at first. Calycine segments rather unequal. Corolla with a white tube, a cream-coloured throat, and a lilac or bluish limb. In spontaneous specimens of this plant the leaves are nearly opposite, and the spikes terminal; but in cultivated specimens the leaves are often alternate, and the spikes conjugate. "Nuts 2-celled," ex Cham. in Linnæa.

Indian Tiaridium. Fl. June, July. Clt. 1820. Pl. 1 to 2 feet.

2 T. anisophy'llum; stem branched, hardly villous; leaves petiolate, ovate-lanceolate, glabrous, nearly entire, opposite, or alternate, unequal at the base; spikes solitary, terminal, and axillary. ⊙. H. Native of Guinea, on the gold coast. Heliotròpium anisophýllum, Beauv. fl. d'ow. 2. t. 94. Flowers white.

Unequal-leaved Tiaridium. Fl. June, July. Clt. 1823. Pl. 1 foot.

3 T. velutìnum (Lehm. asper. p. 15. Blum. bijdr. 846.) stem erect, herbaceous, villous; branches decumbent; leaves ovate, bluntish, undulated, canescent on both surfaces, velvety; tube of corolla a little longer than the calyx, villous outside. ⊙. H. Native of the East Indies. In Java this and *T. I'ndicum* are called *Bunta-tikus*. Bena-patsja, Rheed. mal. 10. p. 95. t. 48 ?. Leaves opposite, petiolate, obsoletely crenulated on the margins, hoary from tomentum while young, running obliquely into the petioles at the base. Spikes lateral and terminal, pilose, solitary, revolute before florescence.

Velvety Tiaridium. Fl. June, July. Clt. 1820. Pl. 1 foot.

4 T. elonga'tum (Lehm. asper. p. 18.) stem suffruticose, decumbent; leaves rhomb-lanceolate, acuminated, hairy; tube of corolla thrice as long as the calyx, hairy outside. ♄. G. Native of Brazil, in sandy places. Heliotròpium elongàtum, Willd. herb. no. 3228. Stem woody at the base, herbaceous and hairy at top. Leaves tapering into the petioles at the base, obsoletely crenulated. Spikes lateral and terminal, solitary, very long, pedunculate at first, revolute. Calycine segments incurved. Carpels 1-celled, ex Cham. in Linnæa, 4. p. 452.

Elongated-spiked Tiaridium. Shrub decumbent.

5 T. heliotropioi'des (Cham. in Linnæa, 4. p. 453.) shrubby, beset with adpressed pili; leaves nearly opposite and attenuate, broad, lanceolate, acute at both ends, strigose above, downy beneath; tube of corolla exceeding the calyx. ♄. G. Native of the South of Brazil, Sello. Heliotròpium tiaridioìdes, Cham. in Linnæa, 4. p. 453. Leaves $2\frac{1}{2}$ to 4 inches long, and 1 to $1\frac{1}{3}$ broad. Spikes twin at first, terminal, bractless. Calycine segments narrow, acute. Corolla downy outside. Stigma conical. Fruit divisible into two 2-celled parts.

Heliotrope-like Tiaridium. Shrub $1\frac{1}{2}$ foot.

6 T. monosta'chyum (Cham. in Linnæa, 4. p. 455. under Heliotròpium); this species is very nearly allied to *T. heliotropioìdes*, but differs in the spikes being simple and solitary, never twin; and in the leaves not being so opposite; stem dichotomous; strigæ adpressed. ♄. S. Native of tropical Brazil. Leaves with the petioles, 4-4½ inches long, and 15 lines broad. Spikes half a foot long.

One-spiked Tiaridium. Shrub ½ to 1½ foot.

Cult. The three first species being annuals, the seeds of them should be sown on a hot-bed early in spring; and the plants may be planted out in the open border, in a warm, dry, sheltered situation, about the middle of May. The rest should be treated in the manner recommended for the shrubby species of *Heliotròpium*.

XXXVIII. COLDE'NIA (named by Linnæus in honour of Conwallades Colden, a North American botanist, who discovered many new plants; these are published in the Upsal Acts for 1743.) Lin. gen. no. 173. Schreb. gen. no. 233. Juss. gen. 130. edit. Usteri, p. 145. Lam. ill. no. 248. t. 89. Gærtn. fruct. 1. no. 424. t. 68. f. 3. Lehm. asper. p. 7.—Tiquília, Pers. ench. 1. p. 57.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped; throat wide, naked; limb flat; segments equal. Style bifid at apex. Carpels 4, 1-celled, convex outside, coherent, closed at the base, beaked, without any manifest receptacle.—Prostrate plants, with alternate leaves, and axillary flowers.

1 C. procu'mbens (Lin. fl. zeyl. p. 69. spec. p. 182.) leaves cuneiform, petiolate, having one of the sides shorter than the other, coarsely serrated, plicate; flowers axillary, usually solitary; carpels wrinkled. ⊙. S. Native of the East Indies. Willd. spec. 1. p. 712. Lehm. asper. p. 8. Lam. ill. t. 89.—Plukn. alm. t. 64. f. 6. Stem villous. Leaves ½ to 1 inch long, beset with adpressed hairs above, except in the plicæ, villous beneath. Flowers supra-axillary, sessile, white.

Procumbent Coldenia. Fl. July, Aug. Clt. 1699. Pl. procumbent.

2 C. dichótoma (Lehm. asper. p. 9.) leaves lanceolate, attenuated at the base, lined, hoary; flowers crowded; carpels smooth. ♄. S. Native of Peru, in sandy places about Lima. Lithospérmum dichótomum, Ruiz. et Pav. fl. per. 2. p. 5. t. 3. f. c. Tiquília dichótoma, Pers. ench. 1. p. 157. Plant hispid, hoary. Stems dichotomous, geniculate, hispid at top. Leaves rather plicate, pilose, with reflexed, subrepand margins. Flowers sessile, axillary, violaceous; segments of the limb emarginate.

Dichotomous Coldenia. Shrub procumbent.

Cult. For culture and propagation see *Tiarídium* above.

XXXIX. HALGA'NIA (named by Gaudichaud after Admiral Halgan, of the French navy.) Gaud. in Freyc. voy. pt. bot. p. 448. t. 59.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft, regular. Corolla funnel-shaped; tube short; segments spreading, obtuse. Stamens inclosed; anthers erect, fixed by the base, where they are cordate and cohering, drawn out each into a linear appendage at apex. Style longer than the stamens; stigma simple, obtuse. Fruit obliquely and tetragonally ovate, coriaceous, bipartible; divisions 2-celled; cells 1-seeded; premature seeds linear-reniform, suspended towards the middle of the inner parietes of the cell.—A branched, pilose shrub. Branches scattered. Leaves scattered, lanceolate, cuneated, a little toothed, 3-lobed at apex, and sometimes entire. Corymbs terminal, bractless. Flowers blue.

1 H. littora'lis (Gaud. l. c. p. 449.) ♄. G. Native of New Holland, on the western coast, along the shore in Shark's Bay.

Sea-shore Halgania. Shrub.

Cult. For culture and propagation see *Heliotròpium*, p. 364.

XL. PRESLÆ'A (named after J. and C. B. Presl, of Prague, brothers, experienced naturalists.) Mart. bras. 2. p. 75. t. 164.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped; limb 5-cleft, with a plica between each of the segments, which are falcate and bent inwards; throat furnished with 5 fascicles of pili just above the connivent anthers. Anthers appendiculate at the base. Style from the top of the ovarium; stigma from a conical disk. Fruit dry, divisible into 4 1-seeded parts or carpels.—A branched diffuse herb, with the habit of *Lithospérmum orientàle*, clothed with simple hairs. Leaves alternate, lanceolate. Flowers axillary, solitary, on short pedicels. Corollas yellow. Perhaps *Lithospérmum Orientàle* is a species of *Preslæ'a*.

1 P. paradóxa (Mart. l. c. p. 76.) stem much branched, diffuse, hoary and hispid; leaves narrow-lanceolate, acute. ♃. G. Native of Brazil, in the province of Bahia, on the sandy banks of the river St. Francisco, near Joazeiro. Ovarium ovate. Carpels perforated at the base, fixed to the central column? cohering.

Paradoxical Preslæa. Pl. diffuse.

Cult. For culture and propagation see *Heliotrópium*, p. 364.

XLI. EU'PLOCA (from *ευ, eu*, well; and *πλεκω, pleco*, to fold; in reference to the peculiar character of the corolla.) Nutt. in amer. phil. trans. n. s. 5. p. 189.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped; limb flat, plicate, 5-angled; throat naked. Genitals inclosed. Stigma annular, bearded at apex. Carpels 4, approximate, by pairs, angular, imperforated at the base, oblique, fixed to the calyx.—Herbaceous. Leaves rough, alternate. Flowers scattered, with a plicate limb, as in *Convolvulàceæ*. Said by Nuttall to be allied to *Messerschmídtia* and *Argùzia*, but the fruit is different.

1 E. convolvula'cea (Nutt. l. c. p. 190.) ⊙. H. Native of North America, on the sandy banks of the Arkansas. Stem angular, 4-6 inches high. Leaves scabrous from adpressed hairs: lower ones alternate. Flowers lateral, approximating, and nearly sessile. Corolla rough, pilose outside, size of those of *Quámoclit vulgàris*. Perhaps this plant ought to be united with *Tournefórtia Argùzia* of Siberia.

Convolvulaceous-flowered Euploca. Pl. ½ foot.

Cult. For culture and propagation see *Tiarídium* above.

XLII. TOURNEFO'RTIA (so named by Linnæus in memory of Joseph Pitton de Tournefort, the famous author of an elegant arrangement of plants, under the title of "Institutiones Rei Herbariæ," 1694, 8vo. and 1700, in 3 vols. 4to. with figures of all the genera then known; also author of "Corollarium Inst." &c. 1793; "Catalogue of the Plants about Paris," 1698; "Relation d'un Voyage du Levant," 1717, &c. The first-mentioned work is the foundation of the arrangement now followed, called the Jussieuan, or Natural System.) Lin. gen. no. 192. Schreb. gen. no. 253. Gærtn. fruct. 1. p. 365. t. 76. Juss. gen. 129. R. Br. prod. 496. H. B. et Kunth, nov. gen.

amer. 3. p. 78.—Messerschmídtia species, Lin.—Pittònia, Plum. gen. 5. icon. 227. f. 2.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla salver-shaped, or somewhat rotate, with a naked throat. Stamens inclosed. Stigma peltate, somewhat conical. Berry containing 2 nuts; nuts 2-seeded.—Twining, scandent, or erect shrubs. Leaves scabrous or tomentose, scattered, rarely by threes, petiolate. Peduncles usually terminal, rarely axillary or lateral, generally bearing many spikes, which are usually cymose. Spikes secund, revolute at top, bractless. Embryo inverted.

Sect. I. Pittònia (see genus for derivation). H. B. et Kunth, nov. gen. 3. p. 80. Limb of corolla plicately 5-cleft. Berry more or less globose, containing 2, 2-celled, 2-seeded nuts.

* *Species natives of America.*

1 T. cymòsa (Lin. spec. 202.) branches compressed, angular, glabrous; leaves ovate, acuminated at apex, and attenuated at the base, naked, glabrous; peduncles axillary and terminal, glabrous; spikes cymose. ♄. S. Native of Jamaica. Jacq. coll. 1. p. 96. icon. rar. t. 31. Swartz, obs. p. 57.—Sloane, jam. hist. 2. p. 109. t. 212. f. 2. T. macrophýlla, Lam. ill. p. 416. no. 1874. Poir. dict. 5. p. 356. Pers. ench. 1. p. 165. Leaves 6 inches long, and 1-2 broad, veiny. Spikes long, pendulous. Calycine segments narrow, acute. Corolla flesh-coloured, or pale red, short, rusty or greenish-white. Berries white.

Cymose-flowered Tournefortia. Fl. July. Clt. 1777. Shrub 8 to 10 feet.

2 T. fœtidíssima (Lin. spec. 201. hort. cliff. p. 48.) branches angular, hairy? leaves ovate-lanceolate; peduncles axillary and terminal; spikes pendulous, cymose. ♄. S. Native of Mexico, Jamaica, and other West India Islands. Willd. spec. 1. p. 792. T. cymòsa, var. β, Poir. dict. 5. p. 336. Pittònia racemòsa, nicotianæ foliis fœtidissimis, Plum. gen. 5. icon. 220.—Plukn. alm. 182. Leaves 5 inches long and 2 broad, hairy on the under side, fetid when bruised. Peduncles bearing 2-3-4, or 5 pendulous spikes. Flowers dirty white, crowded. It differs principally from *T. cymòsa* in the leaves being hairy or villous beneath.

Very fetid Tournefortia. Fl. July. Clt. 1739. Shrub 10 to 12 feet.

3 T. bícolor (Swartz, prod. p. 40. fl. ind. occ. 1. p. 344.) branches glabrous, compressed, rather angular; leaves ovate, acuminated, glabrous, veiny, wrinkled above; peduncles terminal, glabrous; spikes erect, cymose. ♄. S. Native of Jamaica, Martinico, and Guadaloupe. Willd. spec. 1. p. 793. T. lævigàta, Lam. ill. no. 1875.? Poir. dict. 5. p. 357. Leaves rarely rather hairy above, smooth and pale beneath, 3-4 inches long. Flowers dirty white, or greenish white, crowded; tube of corolla hairy.

Two-coloured-leaved Tournefortia. Fl. July. Clt. 1812. Shrub 5 to 6 feet.

4 T. undula'ta (Ruiz. et Pav. fl. per. 2. p. 25. t. 149. f. b.) branches angular, downy; leaves oblong-lanceolate, lined, wrinkled, rather downy, undulated; peduncles dichotomously corymbose, lateral and terminal; spikes short, numerous, recurved. ♄. S. Native of Peru, on hills in the province of Cumana. Shrub rather downy. Corolla white, downy outside. Berry white. Nuts cornute at the base.

Undulated-leaved Tournefortia. Shrub 6 to 7 feet.

5 T. angustiflòra (Ruiz. et Pav. fl. per. 2. p. 25.) glabrous; branches angular; leaves ovate, unequal at the base, with an oblique acumen; peduncles bifurcate, terminal and axillary, therefore the spikes are conjugate; flowers somewhat pedicellate; corollas narrow. ♄. S. Native of Peru, in woods. Spikes 2 inches long, hardly recurved. Calyx small. Corolla white, very long, rather downy outside; tube swollen at the base; limb spreading, reflexed. Stigma nearly sessile. Anthers linear. Berry white, globose, 2-seeded. Perhaps a species of *Messerschmídtia.*

Narrow-flowered Tournefortia. Shrub 4 to 5 feet.

6 T. virga'ta (Ruiz. et Pav. fl. per. 2. p. 25. t. 50. f. a.) stems terete, and are, as well as the branches, which are angular, hispid; leaves ovate-oblong, acuminated, hardly petiolate, hispid; peduncles terminal, subdichotomous, cymose; spikes few; flowers crowded. ♄. S. Native of Peru, in woods. Branches attenuated. Leaves alternate, or 3 in a whorl, rather wrinkled. Corolla white.

Twiggy Tournefortia. Shrub.

7 T. macula'ta (Jacq. amer. p. 47. Lam. ill. no. 416. Poir. dict. 5. p. 357.) glabrous; branches twiggy, rather angular; leaves ovate, acuminated, petiolate; peduncles of many spikes; spikes pendulous; flowers few, in a single row. ♄. S. Native of Carthagena, among bushes, and in hedges. Leaves 4 inches long, and 2 broad. Spikes short. Corolla yellow, with a long slender tube, and acute segments, ex Poir. Fruit yellow, with 4 roundish dark spots at the base.

Spotted-fruited Tournefortia. Shrub.

8 T. Caraccasa'na (H. B. et Kunth, nov. gen. amer. 3. p. 80.) branches terete, hairy when young, angular; leaves ovate-oblong, acuminated, narrowed at the base, strigose above, and clothed with hair-like, canescent tomentum beneath; peduncles lateral, dichotomously multifid, usually bearing 8 spikes; calyx strigosely downy, 4 times shorter than the tube of the corolla. ♄. S. Native near the town of Caraccas, on the banks of the river Anauco. T. acutifòlia, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 540. Leaves 4 inches long, and 2 broad. Peduncles downy. Spikes diffuse. Segments of calyx ovate, acute. Corolla with a green, downy, angular tube, and a white, blunt limb. Stigma sessile.

Caraccas Tournefortia. Shrub.

9 T. fuliginòsa (H. B. et Kunth, l. c. p. 81. t. 203.) branches compressedly tetragonal, clothed with rusty tomentum; leaves oblong, acute at both ends, wrinkled, hispid above, and clothed with rusty tomentum beneath; peduncles lateral, dichotomously multifid, of many spikes; calyx clothed with rusty tomentum, much shorter than the tube of the corolla; corolla also clothed with rusty tomentum; drupes glabrous. ♄. S. Native near Cumana and Bordones. T. rugòsa, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 540. Leaves 4-5 inches long, and 1½ to 2 broad. Peduncles clothed with rusty tomentum. Spikes narrow, 4 inches long. Calycine segments ovate, acute. Limb of corolla obtuse.

Sooty Tournefortia. Shrub.

10 T. suave'olens (H. B. et Kunth, l. c. p. 81.) branches angular, hispid; leaves ovate-oblong, acute at both ends, beset with adpressed hairs above, and soft hair-like tomentum beneath; peduncles terminal, somewhat dichotomously multifid, of many spikes; calyx, peduncles, and petioles hispid; calyx a little shorter than the tube of the corolla. ♄. S. Native of Peru. Leaves canescent beneath, 3 inches long, and 1½ inch broad. Spikes numerous, corymbose, short. Calycine segments linear. Corolla beset with adpressed hairs outside; lobes ovate, acute. Fruit not seen.

Sweet-scented-flowered Tournefortia. Shrub.

11 T. Loxe'nsis (H. B. et Kunth, l. c.) branches terete,

hairy; leaves ovate, acuminated, narrow at the base, strigose above, but clothed with fine tomentum beneath; peduncles terminal and lateral, dichotomous, of many spikes; calyx and peduncles clothed with hoary tomentum; calyx one half shorter than the tube of the corolla; drupes glabrous. ♄. S. Native of Quito, in woody places between Alto de Pulla and Loxa, at the elevation of 1100 hexapods. Shrub with a very grateful scent. Leaves 3 inches long. Spikes linear. Flowers crowded, about the size of those of *Heliotròpium Peruviànum*. Calycine segments ovate-oblong, acute. Corolla white, clothed with hispid tomentum outside; lobes roundish, curled. Berry 3-celled, 3-seeded.

Loxa Tournefortia. Shrub 10 to 12 feet.

12 T. CANE'SCENS (H. B. et Kunth, l. c. p. 82. Willd. mss. ex Rœm. et Schultes, syst. 4. p. 540.) branches nearly terete when young, angular and villous; leaves ovate-oblong, acuminated, angular at the base, nearly sessile, strigosely villous above, but clothed with hoary tomentum beneath; peduncles terminal, dichotomously multifid, of many spikes, clothed with hoary villi; calyx hispid; drupes glabrous. ♄. S. Native near Cumana. Corolla unknown. Berry nearly globose, 4-celled; cells 1-seeded. This and the preceding species are very nearly allied to *T. polystàchya*, Ruiz. et Pav., both of which are probably species of *Messerschmídtia*.

Canescent Tournefortia. Shrub.

13 T. HI'SPIDA (H. B. et Kunth, l. c. p. 82.) branches rather angular, hispid; leaves ovate, acuminated, narrowed at the base, hispid on both surfaces, but canescent beneath; peduncles terminal, hispid, dichotomously multifid, usually of 10 spikes; calyxes hispid, much shorter than the corolla. ♄. S. Native on the shady banks of the river Magdalena, near Teneriffe. Leaves $3\frac{1}{2}$ inches long, and 2 broad. Spikes thick. Flowers approximate. Calycine segments roundish, obtuse. Corolla strigose outside; lobes obtuse. Fruit unknown.

Hispid Tournefortia. Shrub.

14 T. SCA'BRIDA (H. B. et Kunth, l. c. p. 83.) branches terete, even, clothed with adpressed hairs; leaves oblong-elliptic, acute at both ends, scabrous above from strigæ, canescent and hairy beneath, as well as the peduncles, which are terminal, dichotomous, of about 6 spikes; calyxes and drupes strigosely pilose. ♄. S. Native on the shady banks of the river Magdalena, near Teneriffe. Leaves stiff, bullated above, $3\frac{1}{2}$ inches long, and 20-21 lines broad.

Scabrous Tournefortia. Shrub.

15 T. CUSPIDA'TA (H. B. et Kunth, l. c. p. 83.) branches terete, hairy; leaves oblong, acuminately cuspidate, acute at the base, pilose on both surfaces, hairy on the veins beneath; peduncles terminal, dichotomously multifid, of many spikes, hairy. ♄. S. Native of Guayaquil, on the sea shore. Leaves $6\frac{1}{2}$ inches long, silky and rusty while young.

Cuspidate-leaved Tournefortia. Shrub.

16 T. LÆVIGA'TA (Lam. ill. p. 419. H. B. et Kunth, nov. gen. amer. 3. p. 83.) branches rather angular, and rather scabrous; leaves ovate-elliptic, short-acuminated, rounded at the base, coriaceous, glabrous; peduncles terminal, paniculately multifid, of many spikes, beset with scattered hairs; calyxes downy; drupes glabrous. ♄. S. Native of Guadaloupe, Martinico, and on the banks of the river Magdalena, near Monpox. F. latifòlia, Willd. mss. ex Rœm. et Schultes, syst. 4. p. 540. Leaves 5-6 inches long, and 3 broad. Spikes 10-12 on each peduncle, an inch long, diffuse.

Smooth Tournefortia. Shrub.

17 T. NI'TIDA (H. B. et Kunth, l. c. p. 84.) branches angular, smooth, glabrous; leaves somewhat elliptic, acuminated, acute at the base, coriaceous, glabrous, shining above; corymbs terminal, sessile, of many spikes; calyx puberulous; drupes glabrous. ♄. ◡. S. Native on the western declivities of the Andes of Quindiu, near Carthage, at the altitude of 500 hexapods. Leaves 4 inches long, and 2 broad.

Nitid-leaved Tournefortia. Shrub twining.

18 T. CORNIFÒLIA (H. B. et Kunth, l. c. p. 84.) branches nearly terete, striated, beset with hairs; leaves obovate-oblong, acute, narrowed at the base, stiff, rather scabrous on both surfaces; peduncles terminal and lateral, bifid, smoothish, with generally about 6 spikes; calyxes rather scabrous; drupes glabrous. ♄. S. Native along with the preceding. Leaves about 3 inches long, and 1 broad.

Dogwood-leaved Tournefortia. Shrub.

19 T. LU'CIDA (Desv. herb. ex Ham. prod. p. 24.) branches twiggy, clothed with rusty tomentum; leaves ovate, acute, quite entire, shining above, and nearly glabrous beneath; flowers racemose, lateral, opposite the leaves. ♄. S. Native of the Antilles.

Shining-leaved Tournefortia. Shrub.

20 T. TERNIFÒLIA (H. B. et Kunth, l. c.) branches terete, beset with adpressed hairs; leaves 3 in a whorl, oblong, narrowed at both ends, acute, membranous, glabrous; spikes terminal, twin. ♄. S. Native on the banks of the river Amazon, near Tomependa, and Jaen de Bracamoros. Leaves about 7 inches long, and $2\frac{1}{2}$ broad, sometimes beset with adpressed hairs on the nerves beneath. Spikes about an inch long. Flowers pedicellate. Calycine segments linear-lanceolate. Corolla strigose outside, 3 times as long as the calyx.

Tern-leaved Tournefortia. Shrub.

21 T. LEUCOPHY'LLA (H. B. et Kunth, l. c. p. 85.) branches terete, clothed with fuscescent tomentum; leaves oblong-elliptic, acuminated, rounded at the base, glabrous above, and shining, but clothed with fine white tomentum beneath; peduncles terminal, dichotomously multifid, of many spikes, clothed with pale rusty tomentum; calyxes clothed with rusty tomentum. ♄. S. Native of New Granada, near Ibague. Leaves rather membranous, 4 inches long, and nearly 2 broad. Spikes 7-8 on each peduncle, $\frac{1}{2}$ to 1 inch long.

White-leaved Tournefortia. Shrub.

22 T. BRASILIE'NSIS (Poir. dict. 5. p. 357.) branches terete, fuscescent, striated, with a few hairs; leaves ovate-lanceolate, subsinuated, rough on both surfaces, white beneath; cymes short, reflexed, downy. ♄. S. Native of Brazil. Leaves 2-3 inches long, and 1 broad. Calycine segments acute, a little recurved, villous.

Brazil Tournefortia. Shrub.

23 T. SUFFRUTICÒSA (Lin. spec. p. 202.) stem suffruticose; branches downy, cinereous, twiggy; leaves sub-lanceolate, hoary beneath; spikes short, terminal and axillary, cymose. ♄. S. Native of Jamaica, and tropical America, near the sea. Browne, jam. p. 170. Lam. ill. no. 1880. t. 95. f. 3.—Sloane, hist. 2. p. 29. t. 162. f. 4. Leaves 2 inches long, and 1 broad, dark green above, sessile. Corollas white, twice as long as the calyx.

Suffruticose Tournefortia. Fl. June, July. Clt. 1759. Shrub 3 to 4 feet.

24 T. SCA'BRA (Lam. ill. no. 1883. Poir. dict. 5. p. 359.) branches elongated, striated, rather downy; leaves oblong or linear-lanceolate, obtuse, reflexed, very scabrous, denticulated; peduncles branched, terminal, scabrous, as well as the calyxes; berry conical. ♄. S. Native of St. Domingo. Leaves 1-2 inches long, and 4 lines broad, villous and wrinkled beneath. Teeth of calyx acute, spreading. Berry rufescent.

Var. β; leaves narrower, and very long. ♄. S. Native of St. Domingo. Leaves acute, green, acuminated, twice as long

as those of the species. Perhaps a proper species, ex Poir. l. c.

Scabrous Tournefortia. Shrub.

25 T. microphy'lla (Desv. herb. ex Ham. prod. p. 24.) stem erect, mutic, branched, quite glabrous; leaves small, ovate, obtuse, quite entire, almost glabrous; flowers spicate, sub-bifid. ♄. S. Native of the Antilles.

Small-leaved Tournefortia. Shrub.

26 T. sessilifòlia (Poir. dict. 5. p. 360.) stems terete, beset with stiff hairs; leaves sessile, lanceolate, linear, villous on both surfaces; flowers crowded, terminal. ♄. G. Native of Buenos Ayres, Commerson. Leaves obtuse, half stem-clasping at the base, an inch and more long, and 3 lines broad. Peduncles divided into 2 branches, having the flowers densely glomerate on the top of each branch. Corolla tubular; limb short, dilated, obtuse. Peduncles and calyxes beset with numerous glandular pili.

Sessile-leaved Tournefortia. Shrub.

27 T. inca'na; hoary, villous; stems herbaceous; leaves sessile, linear, with revolute edges. ♃. S. Native about Essequibo. Messerschmídtia incàna, Meyer, esseq. p. 92. Stems angular, woody, and rather naked at the base; branches simple, spreading; corymbs racemose, terminal, having the branches twice bifid. Corolla hairy, coloured, funnel-shaped; throat naked. Berry corky, containing 2, 2-seeded pyrenæ. Said by Meyer to be the same as the preceding.

Hoary Tournefortia. Pl. ½ to 1 foot.

28 T.? ferrugi'nea (Lam. ill. no. 1882.) branches terete, striated, climbing a little, beset with numerous, stiff, straight, rust-coloured hairs while young, as well as the petioles and nerves of leaves; leaves subcordate, acute, villous beneath; peduncles much branched, villous; spikes short; calyx villous, scabrous. ♄. ◡. S. Native of St. Domingo. Leaves scabrous above, a little ciliated, deep green, 2-3 inches long, and 1 broad. Corolla short, tubular. Said to be very nearly allied to *T. volùbilis*, but is less sarmentose.

Rusty Tournefortia. Shrub climbing.

29 T. Schiedea'na; leaves elliptic-lanceolate, acuminated, attenuated at the base, glabrous; peduncles 3-4 times dichotomous, puberulous, as well as the calyxes; tube of corolla 4 times as long as the calyx; fruit not seen. ♄. G. Native of Mexico, in the woods of Jalapa. Tourn. spec. nov. Cham. in Linnæa, 8. p. 514.

Schiede's Tournefortia. Shrub.

30 T.? tomentòsa (Mill. dict. no. 4.) stems twining; branches flexile; leaves cordate, tomentose beneath; spikes short, racemose. ♄. ◡. S. Native of South America, near Carthagena. Leaves 2 inches long, and 15 lines broad, on very short petioles. Flowers small, dirty white. Berry 2-3-4-seeded. Pittònia scándens racemòsa, foliis subrotundis, subtus incanis, Plum. Perhaps a species of *Messerschmídtia*.

Tomentose Tournefortia. Shrub 10 to 12 feet, twining.

31 T.? carnòsa (Mill. dict. no. 6.) leaves ovate, wrinkled, petiolate; spikes racemose, axillary. ♄. S. Native about Carthagena. Pittònia frutéscens, folio carnoso hirsuto et obtuso, Plum. gen. p. 5.? Stem and branches strong; branches pale brown. Leaves thick, 4 inches long, and 3 broad, scabrous, dark green, paler beneath. Flowers small, white. Berry containing 2-3 oblong nuts. Perhaps a species of *Messerschmídtia*.

Fleshy-leaved Tournefortia. Tree 20 feet.

* * *Species natives of the East Indies, New Holland, and Isle of France.*

32 T. muta'bilis (Vent. choix. t. 3.) branches roughish, densely tomentose towards the tops; leaves ovate, lanceolate, scabrous, downy; cymes terminal, narrow, dichotomous, downy as well as the calyxes; lobes of corolla crenulated. ♄. S. Native of Java, Lahaye. Leaves 4 inches long, and 2 broad. Peduncles terminal, solitary, bifurcate. Calycine segments lanceolate, acute. Corolla greenish white, with a cylindrical tube, and obtuse limb. Berry white, containing a nut which is divided into 2, 1-seeded cells.

Changeable Tournefortia. Shrub.

33 T. sarmentòsa (Lam. ill. no. 1877. Poir. dict. 5. p. 835.) branches terete, striated, beset with adpressed, white hairs; leaves ovate-oblong, acute, villous, white beneath; spikes branched, very short. ♄. ◡. S. Native of the Isle of France, Sonnerat. Leaves nearly glabrous above, but white and villous beneath, 2-3 inches long, and 1 broad. Flowers terminal, hairy. Calycine segments acute.

Sarmentose Tournefortia. Shrub climbing.

34 T. arbore'scens (Lam. ill. no. 1878. Poir. dict. 5. p. 357.) branches angular, rough, or hispid; leaves ovate-lanceolate, attenuated at both ends, scabrous, but rather tomentose beneath while young; peduncles rough, white; spikes branched, very short. ♄. S. Native of India, Sonnerat. Leaves 4-5 inches long, and 1½ broad; petioles rather villous. Calyx divided nearly to the base, into broad, acute, firm, permanent segments. Corolla tubular, with obtuse segments.

Arborescent Tournefortia. Tree.

35 T. arge'ntea (Lin. suppl. p. 133. R. Br. prod. p. 497. Blum. bijdr. 844.) erect, clothed with velvety, silky tomentum; leaves ovate, approximate at the tops of the branches: ultimate ones obovate; cymes decompound; corolla campanulately rotate; stigma sessile, semi-bifid. ♄. S. Native of Ceylon, Java, &c., on the sea shore; Island of Carnicobar; Isle of France, and New Holland, within the tropic. Wall. fl. ind. 2. p. 4. Buglóssum lanuginòsum, Rumph. amb. 4. p. 119. t. 55. Branches spreading, hairy. Leaves crowded in a rosulate manner at the tops of the branches, in the same way as those of *Sempervìvum Canariénse* and its allies, sessile, white on both surfaces from silky hairs. Flowers white, with a short tube and a recurved limb. This is the prettiest species of the genus.

Silvery Tournefortia. Fl. June, Nov. Clt. 1822. Shrub 5 to 6 feet.

36 T. bífida (Lam. ill. no. 417. Poir. dict. 5. p. 360.) leaves ovate, glabrous, petiolate; peduncles axillary, bifid; spikes divaricate. ♄. S. Native of the Isle of France, Commerson. Bark cinereous, wrinkled. Leaves coriaceous, with yellowish nerves. Peduncles bearing 2 horizontal spikes. Calyx short, with 5 blunt teeth. Corolla tubular, elongated, cream-coloured.

Bifid Tournefortia. Shrub.

37 T. Orienta'lis (R. Br. prod. p. 497.) twining; leaves broad, ovate, subacuminated; cymes dichotomous; limb of corolla 5-cleft, with plicate sinuses; nuts cellular. ♄. ◠. S. Native of New Holland, within the tropic.

Eastern Tournefortia, Shrub twining.

38 T. tetra'ndra (Blum. bijdr. p. 843.) stem sarmentose, scabrous; leaves ovate-oblong, acuminated, quite entire, glabrous above, but rather roughish beneath; cymes terminal, dichotomous, or multifid; flowers secund, sessile, tetrandrous; tube of corolla tetragonal; stigma sessile, bifid. ♄. ◡. S. Native of Java, among bushes on the mountains, where it is called *Ojot Sisier*.

Var. β, *hirsùta* (Blum. l. c.) branches, leaves, and peduncles hairy. ♄. S. Native of the Moluccas.

Tetrandrous Tournefortia. Fl. Dec. Shrub rambling.

39 T. Urvillea'na (Cham. et Schlecht, in Linnæa, 4. p. 465.)

twining? branches angular, scabrous; leaves ovate, acute, oblong-lanceolate, and obovate, equal, and rounded at the base, or unequal and subcordate; cymes bractless, many times dichotomous; limb of corolla 5-cleft, with plicate sinuses. ♄. ⌒. S. Native of the Island of Luçon. This species differs from *T. Orientàlis* in the leaves being pilose or scabrous; from *T. tetrándra* in the flowers being pentamerous; and from *T. arboréscens*, Link, in the leaves being shorter and broader, and never tomentose beneath. Spikes or branches of cyme elongated, pilose. Calycine segments ovate, acute. Drupes glabrous.

D'Urville's Tournefortia. Shrub twining?

40 T. ova'ta (Wall. cat. no. 908.) branches striated, downy; leaves ovate-elliptic, acuminated, rather strigose; cymes terminal, branched; flowers on short pedicels, tubular. ♄. S. Native of Rangoon. Very nearly allied to *Heliotròpium viridiflòrum*, Lehm.; the *T. viridiflòrum*, Wall.; and *Lithospérmum viridiflòrum*, Roxb.

Ovate-leaved Tournefortia. Shrub.

41 T. Heynea'na (Wall. cat. no. 910.) rather strigose, or nearly glabrous; leaves ovate-lanceolate or ovate, acuminated; cymes axillary, on long peduncles; flowers on short pedicels, unilateral; corollas tubular. ♄. S. Native of the East Indies.

Heyne's Tournefortia. Shrub.

Sect. II. Messerschmi'dtiæ antiquæ. The following species have been formed by Linnæus and others into a distinct genus. Corolla funnel-shaped; limb swollen towards the top. Berry round, depressed, girded by 5 prominent teeth in a circle, divisible into 2, 2-seeded nuts.

42 T. fruticòsa (R. Br. prod. p. 496. Rœm. et Schultes, syst. 4. p. 539.) scabrous, branched, hairy; leaves ovate, lanceolate, petiolate; calyx short. ♄. G. Native of Teneriffe, in sterile places. Messerschmídtia fruticòsa, Lin. syst. 190. suppl. 132. Lher. stirp. 2. t. 1. Willd. spec. 1. p. 789. Desf. arbr. 1. p. 175. Hairy in every part. Spikes cymose, dichotomous, terminating the branches and stem. Corolla funnel-shaped, or salver-shaped, with a flat limb, ex Lin. Corollas white.

Shrubby Tournefortia. Fl. June, July. Clt. 1800. Shrub 5 to 6 feet.

43 T. angustifòlia (R. Br. l. c. Rœm. et Schultes, l. c.) stems nearly glabrous; leaves petiolate, narrow-linear-lanceolate, glabrous; spikes as in *T. fruticòsa*. ♄. G. Native of the Canary Islands. Messerschmídtia angustifòlia, Lam. ill. no. 1872. Poir. suppl. 1. p. 449. Habit of *T. fruticòsa*; but differs in the stems being nearly glabrous. Leaves scabrous on both surfaces. Flowers bluish.

Narrow-leaved Tournefortia. Fl. June, Nov. Clt. 1820. Shrub 5 to 6 feet.

44 T. tuberculòsa (Cham. et Schlecht, in Linnæa, 4. p. 467.) herbaceous, erect, branched, very scabrous from strigæ all over; leaves lanceolate, sinuately undulated, acute, opaque, attenuated into the short petioles; cymes terminal, bifid, or spikes twin; calyx small. ♃. G. Native of the Cape of Good Hope, at Gamka river, where it was collected by Mundt and Maire. Stems angular, a little dilated towards the ramifications. Spikes filiform, few-flowered. Calycine segments ovate, acute, callously ciliated. Corolla tubularly salver-shaped; segments of the limb triangular, long-acuminated. Drupe nearly dry, tubercled; pyrenæ tubercularly echinated on the back. Habit of a species of *Chenopòdium* or *Atriplex*. It differs from all other species in the tubercled fruit.

Tubercled-fruited Tournefortia. Pl. 2 to 3 feet?

45 T. Sibi'rica (Lin. spec. 202. act. petrop. 1763. p. 315. t. 11.) root creeping; stems herbaceous, branched; leaves sessile, ovate-oblong, hoary from tomentum; corymbs or fascicles usually twin. ♃. H. Native of Dahuria, and Tauria, in gravelly places; and of China, about Pekin, and from that to the northern limits of the empire. Messerschmídtia Argùzia, Lin. syst. p. 190. suppl. 132. mant. 42. 334. hort. ups. p. 36. Argùzia montàna, Amm. ruth. 38. Corolla white, funnel-shaped, with a naked throat. Calyx shorter than the tube of the corolla. "Corollas larger than those of *T. fruticòsa*, with a plicate limb, and membranous sides," ex Lin.

Siberian Tournefortia. Fl. June, Oct. Clt. 1780. Pl. ½ to 1 foot.

Sect. III. Heliotropioi'des. The species contained in this section have been referred by authors to *Heliotròpium*, from their habit, but they have nothing peculiar in character.

46 T. gnaphalioìdes (R. Br. prod. p. 496.) frutescent; the whole plant white from tomentum; leaves linear, obtuse; peduncles terminal; spikes bifid or twin, short. ♄. S. Native of Barbadoes, Jamaica, Grand Cayman Island, &c., by the sea side. Heliotròpium gnaphalioìdes, Lin. spec. 189. Jacq. amer. p. 25. t. 173. f. 11. pict. t. 264. f. 97.—Mor. hist. 3. sect. 11. t. 28. f. 6.—Plukn. alm. 182. t. 193. f. 3. Shrub erect. Leaves crowded at the tops of the branches. Spikes secund, usually bifid. Corolla white, small.

Gnaphalium-like Tournefortia. Fl. July, Sept. Clt. 1824. Shrub 1 to 2 feet.

47 T. microsta'chya (Rœm. et Schultes, syst. 4. p. 538.) stems herbaceous, procumbent; leaves ovate-oblong, flat, downy, hoary beneath; lateral spikes nearly sessile: terminal ones pedunculate, usually by fours, short. ⊙. H Native of Peru, in arid places about Tarma. Heliotròpium microstàchyum, Ruiz. et Pav. fl. per. 2. p. 3. t. 110. f. b. Lehm. asper. 40. Stems angular, downy. Calyx pilose, with lanceolate, acute, equal segments. Leaves petiolate. Corollas small, white. Berry containing 2 2-celled, 2-seeded nuts, as in the other species.

Small-spiked Tournefortia. Pl. procumbent.

48 T. synzysta'chya (Rœm. et Schultes, syst. 4. p. 539.) plant herbaceous, procumbent; branches angularly furrowed; leaves opposite and alternate, ovate, wrinkled, pilose; lateral spikes solitary, very long: terminal ones twin, shorter. ⊙. S. Native of Peru, in fields about Lima. Heliotròpium synzystàchyum, Ruiz. et Pav. fl. per. 2. p. 3. no. 6. t. 109. f. a. b.? Plant villous. Leaves petiolate. Spikes 2-3 inches long: terminal ones 1-2 inches. Calycine segments linear, acute. Corolla funnel-shaped, white; tube longer than the calyx, villous inside above. Fruit as in the preceding species.

Twin-spiked Tournefortia. Pl. procumbent.

† *Species hardly known.*

49 T. rufe'scens (Willd. rel. in Rœm. et Schultes, syst. 4. p. 541.) leaves ovate-oblong, rugosely veined, clothed with rufous tomentum beneath. ♄. S. Native of South America. Humb. et Bonpl.

Rufescent Tournefortia. Shrub.

50 T. gla'bra (Aubl. guiana. 1. p. 118.) much branched, glabrous; berries white. ♄. S. Plum. mss. t. 6. f. 53. ex Vittm. summ. pl. 1. p. 402.?

Glabrous Tournefortia. Shrub.

N.B. What are *Tournefórtia lùcida*, and *T. angulòsa*, Desf. tabl. de l'Ecole de bot. 1815. p. 85.?

Cult. None of the species of *Tournefórtia* are worth cultivating for ornament; therefore the species are only to be seen

in botanical gardens. They are of the most easy culture, and are readily increased by cuttings under a hand-glass, in heat. *T. Sibírica*, being a rare, nearly hardy plant, should be grown in a pot, and placed among other alpine plants.

XLIII. MESSERSCHMI'DTIA (in honour of Daniel Gottlieb Messerschmidt, a traveller in Siberia.) Rœm. et Schultes, syst. 4. p. li. and p. 541.—Tournefórtia species of authors.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped; throat naked, swollen; segments of the limb usually subulate. Stigma conical. Berry 4-lobed, containing 4 1-seeded nuts, but often fewer by abortion.—Shrubs with the habit of *Tournefórtia*. This genus is principally distinguished from *Tournefórtia* by the berry containing 4 1-seeded nuts, instead of 2 2-seeded nuts. Berries generally white.

§ 1. *Segments of corolla linear-subulate. Berry 4-lobed; each lobe containing a 1-celled, 1-seeded nut. Embryo arched, with the cotyledons at the back of the cell, and the radicle in the front.—Twining shrubs.*

1 M. VOLU'BILIS (Rœm. et Schultes, syst. 4. p. 841.) branches strigose; leaves ovate, acuminated, nearly glabrous; petioles and peduncles hairy; cymes terminal; spikes much branched; berries hairy; segments of corolla subulate. ♄. ⌒. S. Native of Jamaica, St. Thomas, and Mexico. Tournefórtia volùbilis, Lin. spec. p. 201. Willd. enum. 1. p. 188. Lam. ill. t. 95. f. 2. Tourn. microphýlla, Bert. in Spreng. syst. 1. p. 644.—Sloane, hist. 1. p. 234. t. 143. f. 2.—Plukn. alm. 389. t. 235. f. 6. Branches weak, rufescent. Leaves an inch long, and 3-4 lines broad. Peduncles downy. Corollas greenish-yellow.

Twining Messerschmidtia. Fl. July, Aug. Clt. 1739. Shrub tw.

2 M. SCA'NDENS (Rœm. et Schultes, l. c. p. 542.) glabrous; leaves ovate-oblong, acuminated, reflexed; calyx campanulate, 5-toothed; segments of corolla subulate. ♄. ◡. S. Native of Peru, in groves. Tournefórtia scándens, Willd. enum. 1. p. 188. Tournefórtia volùbilis, Ruiz. et Pav. fl. per. 2. p. 24. t. 148. Tourn. Peruviàna, Poir. suppl. 4. p. 425. Flowers greenish-yellow, or whitish, corymbosely dichotomous. Very nearly allied to the preceding, but is 4 times the size in all its parts.

Climbing Messerschmidtia. Fl. July, Aug. Clt. 1816. Shrub climbing.

3 M. PANICULA'TA; branches obsoletely angled, downy at top; leaves ovate, rounded at the base, acuminated and acute at the apex, rather downy on both surfaces; panicles terminal, large, bractless, pyramidal, erect, decompound. ♄. S. Native of tropical Brazil, Sello. Tournefórtia paniculàta, Cham. et Schlecht, in Linnæa, 4. p. 468. This species differs from *M. scándens* in its downiness; in the pyrenæ being 1-seeded; and in the ample panicle. Calyxes downy and ciliated, acute.

Panicled-flowered Messerschmidtia. Shrub erect?

4 M. SUBSE'SSILIS (Cham. in Linnæa, 8. p. 118. under *Tournefórtia)* branches obsoletely angular, or nearly terete; leaves on short petioles, roundish or long, ovate, subcordate, acutely acuminated, glabrous and smooth above, and inconspicuously strigose beneath, with reflexed edges; panicles clothed with rufescent, velvety strigæ, composed of short, dense-flowered spikes; calyxes sessile, somewhat immersed in the dilated rachis. ♄. ⌒.? S. Native of Brazil, Sello. Nearly allied to *M. paniculàta* and *M. scándens*. Branches strigose at top. Calycine segments narrow, acute. Drupe glabrous; one or two of the pyrenæ usually abortive.

Subsessile-flowered Messerschmidtia. Shrub twining?

5 M. SERI'CEA (Rœm. et Schultes, l. c.) branches cinereous from villi at top; leaves ovate-lanceolate, clothed with silky tomentum beneath; spikes lateral and terminal, dichotomous, panicled; segments of corolla setaceous. ♄. ◡. S. Native of the Islands of Mont Serrat, St. Domingo and Jamaica. Tournefórtia serícea, Vahl, eclog. 1. p. 17. Willd. spec. 1. p. 749. Tourn. incàna, Lam., and Tourn. canéscens, Willd. ex herb. Balb.—Frùtex Marcgr. hist. p. 78. Habit of *M. volùbilis*. Leaves 1½ inch long, acute, glabrous above. Peduncles villous. Corollas small, villous outside.

Silky Messerschmidtia. Shrub climbing.

6 M. SYRINGÆFÒLIA (Rœm. et Schultes, l. c.) branches, petioles, ribs of leaves on both surfaces, veins beneath, and peduncles villous; leaves subcordate-ovate, acuminated, glabrous, except the nerves and veins; peduncles terminal, many times forked; spikes downy; segments of the corolla very narrow, somewhat setaceous. ♄. S. Native of Cayenne. Tournefórtia syringæfòlia, Vahl, symb. 2. p. 23. Willd. spec. 1. p. 792. Leaves 2 inches long, almost like those of *Syringa vulgàris*. Corolla villous outside.

Lilac-leaved Messerschmidtia. Shrub climbing? or erect?

7 M. PSILOSTA'CHYA; twining; branches terete, glabrous, but while young downy; leaves oblong, acuminated, acute at the base, strigose on both surfaces; peduncles terminal, usually of 5 spikes; calyx strigosely downy, one half shorter than the tube of the corolla; segments of corolla subulate. ♄. ⌒. S. Native on the shores of the Pacific, near the Port of Guayaquil. Tournefórtia psilostàchya, H. B. et Kunth, nov. gen. amer. 3. p. 78. Tourn. tristàchya, Willd. herb. no. 3433. Leaves 2 or 2½ inches long, and 1 broad. Peduncles downy. Spikes filiform, 1 to 1½ inch long. Corolla downy outside, with an inflated throat; stigma subconical.

Naked-spiked Messerschmidtia. Shrub twining.

8 M. FLORIBU'NDA; scandent; branches terete, clothed with hoary tomentum; leaves ovate-oblong, acuminated, rounded at the base, clothed with fine pubescence above, and hoary tomentum beneath; peduncles lateral, dichotomously multifid, of many spikes; calyx tomentose, one half shorter than the tube of the corolla; segments of the corolla linear-subulate: berries glabrous. ♄. ◡. S. Native of New Andalusia, near Cumana and Cumanacoa; also of Brazil. Tournefórtia floribúnda, H. B. et Kunth, nov. gen. amer. 3. p. 79. Willd. herb. no. 3434. Peduncles tomentose, bearing 20-24 filiform spikes, which are 3-4 inches long. Calycine segments ovate-lanceolate, acuminately subulate. Corolla downy outside.

Bundle-flowered Messerschmidtia. Clt. 1828. Shrub climbing.

9 M. VELUTÌNA; scandent, clothed with hoary tomentum all over; branches terete; leaves ovate-oblong, acuminated, rounded at the base, white beneath; peduncles terminal, dichotomously panicled, of many spikes; calyx villous, twice shorter than the tube of the corolla; berries hispid. ♄. ◡. S. Native of Mexico, near Acapulco. Tournefórtia velutìna, H. B. et Kunth, nov. gen. amer. 3. p. 79. t. 201. Leaves about 3 inches long, with an obtuse acumen. Spikes about 10 on each peduncle, filiform, about 3 inches long. This is a very elegant species.

Velvety Messerschmidtia. Shrub climbing.

10 M. PUNCTA'TA (Spreng. new entd. 3. p. 2.) stem scandent; leaves oblong, attenuated at both ends, ciliated, beset with white dots above, but smooth beneath; spikes panicled, axillary, dichotomous. ♄. ◡. S. Native of Martinico. Tournefórtia punctàta, Spreng. syst. 1. p. 643. Tourn. scándens, Sieb. mart. no. 63. Lobes of corolla unknown. Perhaps the same as *M. psilostàchya*.

Dotted-leaved Messerschmidtia. Shrub climbing.

11 M. umbella'ta; young branches angular, downy; leaves lanceolate-oblong, acute, narrowed at the base, undulated, beset with fine strigæ on both surfaces; peduncles terminal, of about 7 spikes; spikes subumbellate; calyxes downy, about equal in length to the tube of the corolla; segments of corolla linear, revolute. ♄. ◡. S. Native of Mexico, near Campeachy, along the shore. Tournefórtia umbellàta, H. B. et Kunth, nov. gen. amer. 3. p. 79. Leaves 2-4 inches long. Peduncles downy. Spikes linear, 2-3 inches long, spreading. Calycine segments linear-lanceolate.

Umbellate-spiked Messerschmidtia. Shrub climbing.

12 M. laurifòlia (Rœm. et Schultes, syst. 4. p. 543.) twining, glabrous; branches terete; leaves ovate-oblong, acute, repand, glabrous; petioles geniculated; peduncles terminal, bifurcate; spikes cymose; calyx glabrous, twice shorter than the tube of the corolla; segments of the corolla ovate, elongated at top, very acute. ♄. ◠. S. Native of Porto Rico, and the Island of St. Thomas. Tournefórtia laurifòlia, Vent. choix, t. 2. Poir. suppl. 4. p. 425. Leaves deep green above, but paler beneath, finely dotted, 4-6 inches long and 2 broad. Flowers pale yellow. Calycine segments very acute. Hairs on the corolla manifest. Berry glabrous, 4-furrowed.

Laurel-leaved Messerschmidtia. Fl. July. Clt. 1819. Shrub twining.

13 M. Mille'ri (Rœm. et Schultes, syst. 4. p. 544.) twining; leaves cordate, hairy; spikes racemose, reflexed. ♄. ◠. S. Native of Jamaica. Tournefórtia scándens, Mill. dict. no. 4. Poir. dict. 5. p. 360. Pittònia scándens racemòsa, flore fusco, Houst. mss. Leaves rather thin, 3 inches long, and 1½ broad, acute, on short petioles. Spikes slender. Flowers dirty brown. Berry small, fleshy, containing 4 1-seeded nuts.

Miller's Messerschmidtia. Shrub twining.

14 M. e'legans; leaves petiolate, from ovate-elliptic to lanceolate, attenuated at both ends, long-acuminated, downy from short scattered hairs on both surfaces; panicles terminal, with cymose branches; lower cymes generally bifid; the common peduncles furnished with a leaf; limb of corolla 5-cleft, expanded. ♄. S. Native of Brazil, Sello. Tournefórtia élegans, Cham. et Schlecht, in Linnæa, 4. p. 469. and 8. p. 118. Branches obsoletely angular, downy at top. Calyx minute, with narrow, acute, pilose, and erectly ciliated segments. Corolla tubularly salver-shaped, downy outside, with a slender tube and expanded segments, which are narrow-acute, from a broader base; having the sinuses intraplicate. Anthers a little exserted. Drupe 4-sided, depressed; pyrenæ spheroid, chartaceous, 1-seeded.

Elegant Messerschmidtia. Shrub.

15 M. piliòchros; stem scandent; leaves lanceolate, petiolate, rather villous above, and clothed with white wool beneath; spikes terminal, dichotomously panicled, divaricate; fruit scabrous. ♄. ◡. S. Native of Jamaica. Tournefórtia piliòchros, Spreng. syst. 1. p. 644. Flowers white?

Yellow-haired Messerschmidtia. Shrub climbing.

16 M. tomentòsa; stem twining; leaves cordate, oblong, green above, and very soft, but clothed with white stellate tomentum beneath; spikes short, dichotomous, divaricate, tomentose. ♄. ◠. S. Native of America, about Carthagena. Tournefórtia tomentòsa, Mill. dict. no. 4. Leaves 2 inches long. Flowers small, dirty white; lobes of corolla unknown. Berry containing 2-3, but usually 4 nuts.

Tomentose Messerschmidtia. Shrub twining.

17 M. corymbòsa; stem scandent; leaves oblong, attenuated at both ends, veiny, glabrous; spikes paniculately corymbose, coarctate, elongated, many-flowered; tube of corolla elongated: segments of the limb acuminated. ♄. ◡. S. Native of tropical America. Tournefórtia corymbòsa, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 540. Spreng. syst. 1. p. 644.

Corymbose Messerschmidtia. Shrub climbing.

18 M. ferrugi'nea; stem twining a little; leaves subcordate, ovate, acuminated, acute, entire, thickish, rather villous on both surfaces, green above; spikes terminal, branched, corymbose, clothed with rusty villi: branches short; corolla short, tubular: segments unknown. ♄. ◠. S. Native of St. Domingo. Tournefórtia ferrugínea, Lam. ill. no. 1882. Branches terete, striated, beset with rusty stiff hairs. Leaves 2-3 inches long, and an inch broad. Peduncles much branched, villous; spikes short. Flowers unilateral. Calyx scabrous, villous.

Rusty Messerschmidtia. Shrub twining.

§ 2. *Segments of the corolla short. Berry even, roundish, containing* 4 1-*celled*, 1-*seeded nuts. Embryo straight, with a superior radicle. Erect trees or shrubs.*

19 M. hirsuti'ssima (Rœm. et Schultes, syst. 4. p. 541.) branches terete, hispid; leaves ovate-oblong, acuminated, narrow at the base, hispid above, strigosely pubescent beneath; peduncles terminal and axillary, dichotomous, of many spikes; calyx one half shorter than the tube of the corolla, and are, as well as the berries, hispid; limb of corolla plicate, having the segments short, ovate, and acute. ♄. S. Native of America, especially near Cumana and Bordones; and of the Island of St. Thomas. Tournefórtia hirsutíssima, Swartz, obs. p. 56. Willd. spec. 1. p. 791. H. B. et Kunth, nov. gen. amer. 3. p. 80. Tourn. corymbòsa, Sieb. pl. trin. no. 439. Cordìa pellìta, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 800. Ehrètia cymòsa, Willd. herb. no. 4529. Pittònia hirsutíssima et ramosíssima, baccis albis, Plum. gen. 5. icon. 209. Heliotropii flore frutex baccifer ramosus, folio rugoso fœtido, &c. Sloane, jam. 173. hist. 2. p. 108. t. 212. f. 1. Leaves about 4 inches long. Peduncles hispid. Spikes linear, diffuse. "Berry 4-celled, bipartible; cells 1-seeded," ex Kunth, l. c. "Ovate, containing 4 1-seeded nuts," ex R. Br. prod. p. 496. Embryo straight, with a superior radicle.

Var. β, mìnus (Lam. ill. no. 1873.) smaller, hairy; spikes shorter. ♄. S. Native of South America. Stems nearly terete. Leaves pale green, nearly glabrous; fruit roundish, containing 4 oval-oblong nuts.

Very hairy Messerschmidtia. Fl. May, July. Clt. 1818. Tree 10 to 20 feet.

20 M. polysta'chya (Rœm. et Schultes, syst. 4. p. 542.) branches angular, compressed while young; leaves ovate, acute, wrinkled, hairy; peduncles terminal and lateral, corymbosely dichotomous, composed of loose spikes. ♄. S. Native of Peru. Tournefórtia polystàchya, Ruiz. et Pav. fl. per. 2. p. 24. t. 149. f. a. Leaves 4-5 inches long, and 3 broad. Corollas white; tube green, exceeding the calyx. Berry white, containing 4 1-seeded nuts.

Many-spiked Messerschmidtia. Shrub.

21 M. longifòlia (Rœm. et Schultes, syst. 4. p. 543.) branches angular, channelled; leaves oblong-lanceolate, oblique, very veiny, with subrevolute edges; peduncles corymbose, terminal; spikes few-flowered. ♄. S. Native of Peru, in woods. Tournefórtia longifòlia, Ruiz. et Pav. fl. per. 2. p. 25. t. 150. f. b. Shrub glabrous, very like in habit a large species of *Sýmphytum*. Leaves a foot long. Berry containing 4 trigonal nuts.

Long-leaved Messerschmidtia. Shrub or tree.

† *Species doubtful or hardly known.*

22 M.? MONTA'NA (Lour. coch. p. 122. ed. Willd. 1. p. 150. under *Tournefórtia*) branches scandent, hairy; leaves ovate-lanceolate, wrinkled, glabrous; spikes nearly simple, recurved, terminal. ♄. ⏑. G. Native of Cochinchina, in mountain woods. Leaves incurved, reflexed, on short petioles. Flowers pedicellate. Corolla white; tube urceolate at the base; limb acutely 5-cleft. Anthers and stigma sessile. Berry inversely pear-shaped, 2-celled, 2-seeded, imperforated at top.

Mountain Messerschmidtia. Shrub climbing.

23 M.? ROSMARINIFÒLIA (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 844.) stem branched, herbaceous, hispid from villi; leaves sessile, linear, with revolute edges; corollas funnel-shaped. ♃. F. Native of Siberia, Pallas. Lower leaves alternate: superior ones opposite: uppermost ones aggregate, pilose above, and clothed with white villi beneath. Cymes terminal, few-flowered. Calyx one half shorter than the corolla; calycine segments acute, villous. Tube of corolla downy; limb 5-parted, spreading. Fruit elliptic, globose, woody, striated, tomentose, 2-celled.

Rosemary-leaved Messerschmidtia. Pl. ½ foot.

24 M. MÌNOR; stem erect; leaves lanceolate-linear, obtuse, scabrous; spikes bifid, few-flowered. ♄. S. Native of Jamaica. Tournefórtia minùta, Bertero, ex Spreng. syst. 1. p. 644.

Smaller Messerschmidtia. Shrub small.

Cult. For culture and propagation see *Tournefórtia*, p. 369.

XLIV. CANA'LA (named in honour of Joseph Count Malabaila de Canal, Chamberlain, and one of the Privy Council to the King of Bavaria, a promoter of botany.) Pohl, pl. bras. 2. p. 62.

Lin. syst. *Pentándria, Monogy'nia.* Calyx 5-parted. Corolla tubularly ventricose, 5-toothed, constricted at the base into a short tube. Stamens inclosed; anthers sagittate. Style inclosed; stigma capitate, warted. Nuts 2, combined, stony, roundish. Seeds 4 in each cell.—Small shrubs. Leaves ovate or oblong, opposite, entire. Spikes axillary and terminal, unilateral, revolute at apex, bracteate. Flowers beautiful pure red or scarlet. The species have the habit of *Spigèlia.*

1 C. HELIOTROPIOI'DES (Pohl, pl. bras. 2. p. 63. t. 142.) leaves ovate, beset with stellate hairs above, and yellowish tomentum beneath; corolla 5-toothed; calyx beset with stellate hairs. ♄. S. Native of Brazil, in the province of Minas Geraes, in fields about Villa St. Joao d'el Rey. Flowers large, scarlet.

Turnsole-like Canala. Pl. 2 feet.

2 C. MACROCA'RPA (Pohl, l. c. p. 64.) leaves oblong, acute, glabrous above, and rather pilose beneath; corolla 5-toothed; calyxes pilose. ♄. S. Native of Brazil, about Rio Janeiro.

Large-fruited Canala. Shrub 2 feet.

3 C. RUBIÆFÒLIA (Pohl, l. c. p. 65.) leaves twin: superior ones 4 in a whorl, lanceolate, acuminated, and are, as well as the calyxes, glabrous; corolla 5-toothed. ♄. S. Native of Brazil, in the province of Goyaz, on Mount Clara, and on Serra de Cristaes.

Rubia-leaved Canala. Shrub 2 feet?

Cult. For culture and propagation see *Tournefórtia*, p. 369. All the species are extremely elegant when in blossom.

Additional Boragineous plants.

1 Merte'nsia alpìna; smoothish; stem simple, assurgent; leaves ovate-spatulate: lower ones acute: superior ones acuminated, rather pilose above, minutely ciliated on the margins; flowers in terminal fascicles, on short pedicels; corolla hardly twice as long as the calyx; calycine segments oblong, bluntish, ciliated. ♃. H. Native of the Rocky Mountains. Pulmonària alpìna, Torrey, in ann. lyc. 2. p. 224. Corolla sub-campanulate, with 5 minute scales in the throat; border 5-lobed; lobes obtuse. Stamens inclosed; anthers linear-oblong. This species is said to be nearly allied to *M. parviflòra.*

Alpine Mertensia. Pl. ½ foot assurgent.

2 Merte'nsia ciliа'ta; glabrous, erect? leaves ovate-lanceolate, attenuated at both ends, with ciliated margins; flowers fasciculately-panicled, pedicellate; corolla tubularly campanulate; calyx short, 5-parted, with ovate-obtuse segments. ♃. H. Native of the Rocky Mountains, in the crevices of rocks along streams. Pulmonària ciliàta, James, cat. ex Torrey, ann. lyc. 2. p. 224. Stems smooth, simple. Leaves dotted above. Corolla blue; border erect, 5-lobed; tube slightly ventricose; throat partially closed by 5 yellowish protuberances. Stamens inclosed; anthers linear. Allied to *M. paniculàta.*

Ciliated-leaved Mertensia. Pl. 1 foot.

3 Merte'nsia oblongifòlia; smooth; stem simple, erect; leaves lanceolate-oblong, bluntish: superior ones acute; flowers panicled, pedicellate; calyx short, with linear, acute, ciliated segments; corolla tubularly campanulate. ♃. H. Native of North America, towards the sources of the Columbia river. Pulmonària oblongifòlia, Nutt. in journ. acad. nat. sc. phil. 7. p. 43. Leaves all more or less pubescent above: upper ones sessile. Panicle formed of axillary approximate clusters of flowers. Corolla bright blue, similar to those of *M. Virgínica*, except in size; the lobes obtuse.

Oblong-leaved Mertensia. Pl. ½ to ¾ foot.

4 Ba'tschia pilòsa; simple, pilosely hairy; leaves linear, acuminated, sessile, approximate; flowers fascicled, sessile, small, yellow; segments of the corolla oblong, entire. ♃. H. Native of North America, at Flat Head river. Lithospérmum pilòsum, Nutt. in journ. acad. nat. sc. phil. 7. p. 43. Leaves almost hoary, strigosely pubescent. The flowers sessile, and similar to other species of the genus. Stem clothed with brown scales at the base, which gradually become the leaves as they ascend the stem.

Pilose Puccoon. Pl. ½ to ¾ foot.

5 Ba'tschia Torre'yi; plant strigosely hispid; leaves oblong-linear, bluntish, scattered; stem dwarf, branched; fascicles terminal, few-flowered; lobes of corolla oblong, entire. ♃. H. Native of North America, at Flat Head river; and of the Rocky Mountains. Lithospérmum decúmbens, Torrey, in ann. lyc. 2. p. 225, but not of Nutt. Lithospérmum Torrèyi, Nutt. l. c. Stem a span high, without any brown scales. Leaves less crowded than in the preceding; the stem at length branched, and not near so hairy. Segments of the calyx linear, a little shorter than the tube of the corolla.

Torrey's Batschia. Pl. ½ to ⅝ foot.

6 Nònea sórdida (Fisch. et Meyer. sem. cat. hort. petrop. 1836. p. 43.) annual, diffuse, clothed with glandular down, intermixed with stiff strigæ or bristles; leaves lanceolate, acute, a little toothed; tube of corolla 3 times shorter than the calyx, and hardly longer than the campanulate limb; carpels downy, depressed, sub-plicate at the base, and entire. ☉. H. Native of the eastern shore of the Caspian Sea. Very nearly allied to *N. pícta.* Corolla dirty, yellowish-red.

Dirty-flowered Nonea. Fl.? Clt. 1836. Pl. diffuse.

7 Myosòtis Califórnica (Fisch. et Meyer. sem. cat. hort. petrop. 1836. p. 42.) annual, strigose, much branched, procumbent; leaves linear, acute, ciliated; racemes elongated, leafy at

the base; pedicels very short; calyxes rather longer than the corolla, spreading in the fruit-bearing state; carpels wrinkled. ⊙. H. Native of New California, about the Russian colony, Ross. Corolla white, with 10 yellow glands at the throat; segments of the limb roundish, hardly emarginate. Very nearly allied to *M. Chorisiàna*, Cham.; but differs in the flowers being nearly sessile.

Californian Scorpion-grass. Fl.? Clt. 1836. Pl. ½ foot.

8 Myosòtis suffruticòsa (Torrey, in ann. lyc. 2. p. 225.) stem suffruticose, much branched, hairy; leaves linear-lanceolate, hispidly pilose; spikes terminal, numerous; flowers pedicellate; calyxes closed; nuts smooth, depressed. ♄. H. Native of North America, in barren deserts along the river Platte. Flowers unilateral, on short pedicels. Corolla as large as that of *M. palustris*, blue, salver-shaped; lobes obtuse, entire. This is the only frutescent species.

Suffruticose Scorpion Grass. Shrub ½ to ¾ foot.

9 Echinospe'rmum leioca'rpum (Fisch. et Meyer. cat. sem. hort. petrop. 1836. p. 36.) annual, branched, diffuse, rather hoary from erectly spreading hairs; leaves rather linear, obtuse; racemes leafy; fructiferous calyx closed; carpels unarmed, very smooth. ⊙. H. Native of New California, about the Russian colony, Ross. Flowers minute, white, with small yellow scales in the throat. This species differs from others in habit, and the closed calyx and smooth carpels.

Smooth-fruited Echinospermum. Fl.? Clt. 1836. Pl. ½ foot.

10 Echinospe'rmum Szovitsia'num (Fisch. et Meyer. sem. cat. hort. petrop. 1836. p. 36.) annual, hairy from spreading pili; leaves linear-lanceolate; racemes leafy; calyxes oblique, spreading while bearing the fruit, shorter than the spreading thickened pedicels; corollas length of calyx; carpels tubercled on the disk and sides, and furnished with a single row of glochidate prickles along the margins, which are dilated at the base, and often connate. ⊙. H. Native of the North of Persia, on the edges of fields. Very nearly allied to *E. mínimum;* but the prickles on the fruit are fewer, a little shorter, broader at the base, and often connate.

Szovits's Echinospermum. Fl.? Clt. 1836. Pl. ½ foot.

11 Echinospe'rmum pa'tens; strigosely pilose; leaves oblong-linear, bluntish; stem simple, nearly naked; floriferous branches spreading; flowers pedicellate, loose. ♃. H. Native of North America, at Flat Head river. Rochèlia pàtens, Nutt. in journ. acad. nat. sc. phil. 7. p. 43. Radical leaves on long petioles; those of the stem remote and sessile. Flowers in all respects almost similar to those of *Myosòtis scorpioìdes;* rather large, and apparently red. Calycine segments small, linear, obtuse. Nuts wrinkled.

Spreading Echinospermum. Pl.?

XLV. PLAGIOBO'TRYS (from πλαγιος, *plagios*, transverse; and βοθρυς, *bothrys*, a pit; in reference to the pits at the base of the carpels being transverse, and not longitudinal.) Fisch. et Meyer. cat. sem. hort. petrop. 1836. p. 46.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped; throat closed by 5 inclosed plicæ. Stamens inclosed. Stigma capitate, 2-lobed. Carpels 4, distinct, nearly ovate, 1-celled; having the insertion of the areola lateral, perforated; receptacle elevated, hemispherical. This genus is distinguished from *Lithospérmum* in the carpels being perforated, and the receptacle elevated; from *Anchùsa* and *Myosòtis*, in the lateral insertion of the areola; as well as in the elevated receptacle; and from *Cynoglóssum* and *Echinospérmum*, in the carpels being perforated.

1 P. rufe'scens (Fisch. et Meyer. l. c.) ⊙. H. Native of Chili.—An annual herb, with the habit of *Lithospérmum arvénse*, beset with spreading simple hairs. Leaves scattered, nearly linear, bluntish. Racemes terminal, conjugate, almost leafless. Flowers almost sessile, erect. Calyx beset with rufous hairs, conniving while bearing the fruit. Corolla white. Carpels very like those of *E'chium*, rugose, tubercled, marked by a lateral circular areola. Cotyledons flat, nearly orbicular, undivided.

Rufescent Plagiobothrys. Fl.? Clt. 1836. Pl. 1 foot.

Cult. For culture and propagation see *Amsínckia*, below.

XLVI. CRYPTA'NTHA (from κρυπτος, *cryptos*, hidden; and ανθος, *anthos*, a flower.) Lehm. sem. hort. hamb. 1832.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft, with ovate or lanceolate segments. Corolla funnel-shaped, shorter than the calyx; throat naked? Stamens inclosed. Carpels 4, 1-seeded, tubercled or nearly smooth, fixed to the bottom of the calyx, imperforated at the base?—Annual plants, with the habit of *Echinospérmum.*

1 C. glomera'ta (Lehm. ex Fisch. et Meyer, sem. cat. hort. petrop. 1836. p. 35.) leaves ovate-lanceolate, bluntish; calycine segments ovate; carpels obsoletely tubercled, or nearly smooth. ⊙. H. Native of Chili. Leaves pale green, broader than those of *C. microcárpa.*

Glomerate-flowered Cryptantha. Fl.? Clt. 1836. Pl.

2 C. microca'rpa (Fisch. et Meyer, l. c. p. 35.) leaves lanceolate, acute; calycine segments linear-lanceolate; carpels rough from acute tubercles. ⊙. H. Native of Chili. Lithospérmum clandestìnum, Trev. Echinospérmum cynoglossoìdes, Hort, but not of Lehm. Herb glaucescent. Carpels minute.

Small-fruited Cryptantha. Fl.? Clt. 1836. Pl. ½ foot.

Cult. For culture and propagation see *Amsínckia*, below.

XLVII. AMSI'NCKIA (meaning unknown to us.) Lehm. delect. sem. hort. hamb. 1831-2.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted; segments linear, gibbous. Corolla funnel-shaped; segments of the limb equal, roundish; throat naked. Stamens inclosed. Stigma capitate, emarginate. Nuts 4, 1-seeded, fixed to the bottom of the calyx, imperforated and ovate at the base, gibbous outside, conniving at top, wrinkled from tubercles.

1 A. lycopsoìdes (Lehm. l. c. Fisch. et Meyer, sem. cat. hort, petrop. 1836. p. 26.) throat of corolla bearded; limb 3 times shorter than the tube; stamens inserted a little above the base of the tube. ⊙. H. Native of America. Tube of corolla 3½ lines long. Limb 2 lines in diameter.

Lycopsis-like Amsinckia. Fl. June, July. Clt. 1836. Pl. ½ foot.

2 A. angustifòlia (Lehm. l. c. 1832. Fisch. et Meyer, l. c.) throat of corolla glabrous, naked; limb twice shorter than the tube; stamens inserted in the throat of the corolla. ⊙. H. Native of Chili. A. parviflòra, Bernh. sem. hort. erf. 1833. Lithospérmum calycìnum, Moris, enum. sem. hort. Taur. 1831, and in mem. acad. Torino, 37. p. 108. t. 22. Tube of corolla hardly 2 lines long; limb hardly 2 lines in diameter. This differs from the preceding in the smaller flowers, and distinct insertion of the stamens.

Narrow-leaved Amsinckia. Fl.? Clt. 1836. Pl. ½ foot.

3 A. interme'dia (Fisch. et Meyer, l. c.) throat of corolla glabrous, naked; limb rather shorter than the tube; stamens inserted in the throat of the corolla. ⊙. H. Native of New California, about the Russian colony, Ross. Tube of corolla 1½ lines long; limb nearly 3 lines in diameter, orange yellow, painted with 5 deeper spots. An intermediate species between

A. lycopsoides, and *A. spectábilis*. It differs from the first in the insertion of the stamens, and from the second in the corolla being smaller, and especially in the throat not being half closed by inclosed plicæ.

Intermediate Amsinckia. Fl.? Clt. 1836. Pl. ½ foot.

4 A. spectabilis (Fisch. et Meyer, l. c.) throat of corolla glabrous, half closed by thrust-in plicæ; limb length of tube: stamens inserted in the throat of the corolla. ⊙. H. Native of New California, about the Russian colony, Ross. Corolla beautiful yellow; limb 6 inches in diameter, furnished with 5 plicæ at the throat, which are similar to scales.

Showy Amsinckia. Fl. Clt. 1836. Pl. ½ foot.

Cult. The seeds of these plants only require to be sown in the open ground about the beginning of May in a dry, warm, sheltered situation. None of them are worth cultivation, except in botanical gardens.

Order CLXVII. CORDIA'CEÆ (the plants contained in this order agree with *Córdia* in the drupaceous fruit, and bifid or dichotomous style.)

Calyx 5-cleft, or 4-5-toothed. Corolla funnel-shaped; throat naked; limb 5-10-lobed. Stamens equal in number to the segments of the corolla, exserted or inclosed. Style semi-bifid, or dichotomous; stigmas obtuse. Berry or a drupe containing 2 2-celled, 2-seeded nuts, or 4 1-celled, 1-seeded nuts, or a 4-celled putamen, which is sometimes only 1-2-celled from abortion, partly or altogether covered by the calyx. Cotyledons plicate.—Trees or shrubs. Leaves entire, serrated, or cut. Inflorescence terminal, panicled, or corymbose, or spicate, usually bractless.

This order was formerly united with *Boragíneæ*, from which its habit, plaited cotyledons, and divided style, separate it. Little is known of the properties of the plants contained in it, except that the flesh of the fruit is emollient and mucilaginous. The nuts of *Córdia Sebestèna* are sometimes employed as laxatives.

Synopsis of the genera.

Tribe I.

Cordie'æ. Style [illegible]chotomous. Fruit drupaceous.

1. Córdia. Calyx 4-10-toothed. Limb of corolla 4-10-cleft. Stigmas 4. Drupe containing a 4-celled putamen, which is sometimes 1-3-celled by abortion.

2 Patagonu'la. Calyx 4-parted. Limb of corolla 4-cleft. Stigmas 4?. Drupe containing a 4-celled putamen.

Tribe II.

Ehretia'ceæ. Style semi-bifid; stigmas 2, obtuse. Berry containing 2-4, 2-celled, 2-seeded nuts, or 4, 1-celled, 1-seeded nuts. Cotyledons plicate?

3 Ehre'tia. Calyx 5-cleft. Corolla funnel-shaped, with a 5-lobed limb, and a naked throat. Stamens exserted. Berry containing 2 2-celled, 2-seeded nuts.

4 Beurre'ria. All as in *Ehrètia*, except that the berry contains 4 2-celled, 2-seeded nuts.

5 Corte'sia. Calyx 10-toothed. Corolla funnel-shaped; limb spreading, 5-lobed. Stamens 5, exserted. Style bifid at apex; stigmas peltately globose. Drupe containing 2 1-seeded? nuts.

6 Carmòna. Calyx 5-parted. Corolla campanulate, or rotate; limb 5-6-cleft. Stamens 5-6, inclosed. Styles 2, capillary; stigmas simple. Drupe containing a 5-6-celled putamen.

7 Lutróstylis. Calyx 5-parted. Corolla funnel-shaped, 5-cleft. Stamens a little shorter than the corolla. Styles 2, short; stigmas sub-capitate. Drupe small, containing 4 1-seeded nuts.

8 Rha'bdia. Calyx 5-parted. Corolla campanulate, 5-cleft. Stamens inclosed. Style simple; stigma 2-lobed. Drupe containing 4 1-seeded pyrenæ or nuts.

9 Morelòsia. Calyx 5-cleft. Corolla rotate, 5-cleft. Stamens exserted. Style forked; stigmas 2, capitate. Drupe containing a 4-celled, 4-seeded putamen.

Tribe III.

Erimata'leæ. Style hardly any. Stigma large, discoid, 5-grooved. Drupe containing only one 1-seeded nut.

10 Erysìbe. Calyx 5-parted. Corolla salver-shaped, 5-parted; segments of the limb bifid.

† *A genus not known whether belonging to the present order.*

11 Rochefórtia. Calyx 5-parted. Corolla funnel-shaped; limb spreading. Stamens inserted in the recesses between the lobes of the corolla. Styles 2, subulate; stigmas simple. Fruit globose, 2-celled; cells containing numerous angular seeds.

I. CO'RDIA (named after Euricius Cordius, whose true name was Henricus Urbanus, and Valerius his son, German botanists of the 16th century.) Plum. gen. 14. Lin. gen. no. 256. Schreb. gen. no. 350. Juss. gen. p. 128. ed. Usteri. p. 143. Gærtn. fruct. 1. t. 76. R. Br. prod. p. 498. Cordàna, Ruiz. et Pav. fl. per. 2. p. 47. t. 184. Sebestèna, Dill. elth. t. 255.

Lin. syst. *Tetra-Pentándria, Tretragýnia.* Calyx tubular, usually 5, rarely 3-4-6-10-toothed. Corolla funnel-shaped; limb from 4 to 10-cleft, but usually 5-cleft. Stamens equal in number to the divisions of the corolla. Style dichotomous; stigmas 4. Drupe partly or wholly covered by the calyx, containing a 4-celled putamen, which is sometimes only 1-3-celled by abortion. Cotyledons plicate.—Trees or shrubs. Leaves quite entire, or cut. Inflorescence terminal, panicled, corymbose, or spicate, bractless.

Sect. I. Sebeste'næ. Calyxes and fruit smooth. Inflorescence corymbose, or panicled. Segments of calyx acute. Throat of corolla glabrous. Flowers large.

1 C. Ru'mphii (Blum. bijdr. p. 843.) leaves on long petioles, ovate-oblong, acuminated, attenuated at the base, nearly equal, somewhat repand, smoothish above, but downy in the axils of the nerves beneath; corymbs length of petioles; segments of calyx without furrows, tridentate, tomentose inside. ♄. S. Native of the Moluccas. Novélla nìgra, Rumph. amb. 2. p. 226. t. 75. Allied to *C. Sebestèna*. Corollas orange-red.

Rumphius's Cordia. Fl. Aug. Sept. Tree.

2 C. dichótoma (Forst. prod. no. 110. R. Br. l. c.) leaves ovate, a little toothed, glabrous; cymes opposite the leaves,

pedunculate; flowers tetramerous; calyxes campanulate, and are, as well as the fruit, smooth. ♄. S. Native of New Holland, within the tropic.

Dichotomous Cordia. Clt. 1824. Tree 30 feet.

3 C. Sebeste'na (Jacq. amer. 42. ed. 2d. t. 44. Lin. spec. ed. 1. p. 1073.) leaves ovate, acute, or elliptic, quite entire, hispid, scabrous above; peduncles terminal, corymbose; calyx smooth, clothed with hispid tomentum; limb of corolla 7-cleft, with a glabrous throat. ♄. S. Native of Cuba, about the Havanna, St. Domingo, &c. Andr. bot. rep. t. 157. Curt. bot. mag. t. 794. Tratt. tab. t. 354. Lam. ill. no. 1898. t. 96. f. 1. C. juglandifòlia,, Jacq. amer. 43. C. speciòsa, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 799.—Plenck, icon. t. 115. —Plum. gen. 13. icon. 105.—Sloan, jam. 2. p. 20. t. 164. Branches glabrous in the adult state, but clothed with hispid tomentum while young. Leaves 4-5 inches long, rather unequal at the base. Calyx 2-6-toothed; teeth bluntish. Corolla funnel-shaped, orange coloured, or tawny yellow; limb spreading, 5-7 parted, with crenately undulated edges. Stamens exserted, glabrous. The young leaves are serrated, the full grown ones hardly repand, and the upper certainly quite entire. A small piece of the wood put on a pan of lighted coals will perfume the whole house with a most agreeable smell. The flower in Jacquin's figure is coloured like that of the bloody-wallflower. Browne says that the flower in the Jamaica plant is scarlet. Said by Cham. to be very nearly allied to *C. Abyssínica*.

Sebestena Cordia. Fl. June, Aug. Clt. 1728. Tree 10 to 35 feet.

4 C. Dille'nii (Spreng. syst. 1. p. 649.) leaves ovate-oblong, acutish, repandly serrated, scabrous on both surfaces; peduncles terminal, sub-corymbose; calyx tridentate; segments of corolla usually 7, roundish, undulated; stigmas revolute. ♄. S. Native of the Bahama Islands. C. Sebestèna, Willd. spec. 1. p. 1076.—Dill. elth, p. 341. t. 255. f. 331.—Catesb. car. p. 2. t. 91. Corolla orange-coloured or scarlet. Stamens exserted.

Dillenius's Cordia. Fl. June, July. Clt. 1728. Tree 10 to 30 feet.

5 C. læ'vis (Jacq. hort. schoenbr. 1. p. 39. t. 40.) leaves ovate, acuminated, smooth, repand; racemes short, branched; calyx glabrous, tubular, smooth; corolla wrinkled, with a 6-7-cleft, large spreading limb; stamens 6-7. ♄. S. Native about Caraccas. Habit of *Sebestèna*. Leaves shining above, 9 inches long. Corolla orange-red; segments semi-oval. Stamens exserted.

Smooth Cordia. Fl. June, Aug. Clt. 1826. Tree 14 to 20 feet.

6 C. Africa'na (Lam. ill. no. 1896.) leaves roundish, oval, entire, obtuse; panicles terminal; calyx turbinate; drupe containing a triquetrous putamen. ♄. S. Native of Abyssinia, Bruce. C. Sebestèna, β, Poir. suppl. 7. p. 45. C. Abyssínica, Salt. trav. p. 475, where there is also a species named *C. ovàlis*, but without any diagnosis. Wanzey Bruce, trav. 5. p. 54. t. 17. French. ed. p. 70. Perhaps the Sebestèna of Alpini. Branches inclinate. Leaves dark green, paler beneath. Corolla white. Stigma dark, bifid or trifid. Fruit at first soft and green, but at length bony and wrinkled.

African Cordia. Tree 18 to 20 feet.

7 C. subcorda'ta (Lam. ill. 1. p. 421. no. 1699.) leaves ovate subcordate, on long petioles, repand, acute, smooth; panicles lateral; calyx, stamens, and pistil almost like those of *C. Sebestèna;* corolla campanulate; drupe ovate, dry, hid in the calyx. ♄. S. Native of the East Indies, in various parts, Sandwich Islands, and of New Holland, within the tropic, &c. C. orientàlis, R. Br. prod. p. 498. C. campanulàta, Roxb. fl. ind. 2. p. 336. C. Rúmphii, Blum. bijdr. p. 843.? C. Sebestèna, Forst. prod. p. 18. no. 108. C. hexándra, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 799. Novella nìgra, Rumph. amb. 2. p. 226. t. 75.? Corolla large, white, suffused with red segments, 6-7, roundish, spreading. Calyx like that of a species of *Diánthus*. Stamens length of the tube of the corolla.

Subcordate-leaved Cordia. Tree.

8 C. latifòlia (Wall. cat. no. 893.) leaves broad, ovate-roundish, glabrous, with 5 nerves running from the base; panicles terminal and lateral, dichotomous; calyx smooth, cup-shaped, unequally toothed; drupe large, ovate, acuminated, surrounded by the calyx at the base. ♄. S. Native of Silhet. Flowers large.

Broad-leaved Cordia. Tree.

9 C. deca'ndra (Hook. et Arn. in Beech. voy. pt. bot. p. 38. t. 10.) leaves linear-lanceolate, attenuated, scabrous, sessile, with revolute edges, hoary from down; flowers disposed in a terminal leafy corymb; calyx 10-toothed, clothed with black down; corolla 10-lobed; stamens 10, inclosed. ♄. G. Native of Chili, about Coquimbo. Tops of branches scabrous. Flowers large, very showy white, fragrant. Stamens inclosed, pilose at the base. Capsule size of a filbert, covered by the calyx. The wood of this tree is very extensively employed in the production of charcoal, whence it is called *Carbon*, and likewise for fuel for smelting copper, as the withered stems of *Cáctus* are for refining metal.

Decandrous Cordia. Shrub 8 to 10 feet.

10 C. supe'rba (Cham. et Schlecht in Linnæa, 4. p. 474. and 8. p. 123.) leaves cuneate-oblong, to oblong-elliptic, acuminated, acute, toothed in front, glabrous above, except the nerves, which are strigose, but beset with short hairs beneath; cymes at first terminal, then lateral, pedunculate; calyx clavately tubular, irregularly cut at top, or with lacerated lobes, smooth; corolla campanulately funnel-shaped, 5-lobed: lobes roundish and acuminated. ♄. S. Native of Brazil, within the tropic, Sello. Young branches angular, scabrous from dense stiff short hairs. Leaves form of the leaflets of the horse-chestnut, firm and opaque, the largest $6\frac{1}{2}$ inches long, and $2\frac{1}{2}$ broad. Branches of cyme angular, compressed, and are, as well as the calyxes, scabrous from short dense stiff hairs. Flowers large, showy. Corolla glabrous, having the tube length of calyx, and the limb campanulate. Stamens 5, inclosed, hairy at the base. Stigmas lamellate.

Var. α, cuneàta (Cham. et Schlecht, l. c.) leaves cuneate, oblong.

Var. β, elliptica (Cham. et Schlecht, l. c.) leaves elliptic, obtuse at the base, and rounded, $8\frac{1}{2}$ inches long, and $4\frac{1}{2}$ broad.

Superb Cordia. Tree.

11 C. gla'bra (Cham. in Linnæa, 8. p. 124.) tops of branches, inflorescence, and petioles scabrous from small bristles, or stiff hairs, the rest glabrous; branches cinereous, terete; leaves scattered, opposite, and 3 in a whorl, on short petioles, lanceolate, narrowed at both ends, somewhat acuminated, acute, 6 inches long, membranous, flat; cymes scorpioid, terminal, but at length lateral; corolla campanulately funnel-shaped, glabrous. ♄. S. Native of Brazil, Sello. Leaves truncate and semi-erose, or sinuated on the margins. Cymes bifid or trifid. Corolla $1\frac{1}{2}$ inch long. Drupe inclosed, truncate at top.

Glabrous Cordia. Tree.

12 C. Molucca'na (Roxb. fl. ind. 2. p. 337.) leaves on long petioles, ovate-cordate, obtuse, entire, smooth; panicles axillary and terminal, shorter than the leaves; calyx gibbous, hairy inside; drupe pointed, and nearly hid in the calyx, containing a 4-celled nut. ♄. S. Native of the Moluccas. This species is often tetrandrous. The filaments are short and very hairy,

as is also the rim round the mouth of the gibbous tube of the corolla where they are inserted. Size of flowers not mentioned by Roxburgh.

Moluccas Cordia. Tree.

13 C. tomentòsa (Wall. in Roxb. fl. ind. 2. p. 339.) leaves round-ovate, more or less cordate at the base, repand, entire, smooth above, but very soft and tomentose beneath; calyx ovate, villous within. ♄. S. Native of the East Indies. C. oblìqua, var. Heyne, herb. The densely tomentose, soft, acute leaves distinguish this species from *C. Myxa*, of which *C. oblìqua*, Willd. is probably only a variety. *C. doméstica*, Roth, comes very near to this, but differs in the figure and comparative smoothness of the leaves. The flowers are largish.

Tomentose Cordia. Tree.

14 C. Collocócca (Lin. spec. 274.) leaves oblong-ovate, quite entire; corymbs loose, terminal, somewhat panicled; calyx tomentose inside. ♄. S. Native of Jamaica. C. glàbra, Lin. spec. ed. 1st. p. 191. Collocóccus foliis rugosis, &c. Browne, jam. p. 167.—Sloane, jam. p. 169. hist. 2. p. 95. t. 203. f. 2.—Plukn. phyt. t. 158. f. 1.? Leaves attenuated at the base, acuminated, wrinkled, nearly glabrous. Branches of corymb unequal. Corolla middle-sized, with deep green segments. Drupe red, clammy, villous, containing a wrinkled, lacunose putamen. Turkeys and other poultry feed much upon the fruit; the pulp is sweetish, and of a clammy consistence. In Jamaica it has the name of *Clammy-cherry* and *Turkey-berry tree*, ex Browne.

Neck-fruited Cordia. Fl.? Clt. 1759. Tree 20 to 50 feet.

15 C. tetraphy'lla (Aubl. guian. 1. p. 224. t. 88.) leaves obovate, narrowed at the base, 4 in a whorl, entire, glabrous; corymbs lateral, pedunculate; calyx smooth, with 5 acute teeth; drupe olive-formed, containing a 1-celled putamen. ♄. S. Native of Guiana, by the sea-side. Lam. ill. no. 1908. Willd. spec. 1. p. 1076. Branches nodose. Leaves nearly sessile, acutish. Corolla white, funnel-shaped: lobes 5, roundish, acutish. Stamens 5, exserted. Drupe yellowish, fleshy, size of an olive.

Four-leaved Cordia. Shrub 6 to 7 feet.

16 C. nodòsa (Lam. ill. no. 1905.) branchlets nodose, hispid; leaves ovate-oblong, acuminated, pilose, usually 3 in a whorl; calyx turbinate, villous, or bearded; corymbs terminal and axillary, hairy, pedunculate; drupe containing a 2-celled putamen. ♄. S. Native of Guiana and Cayenne, in woods. C. collocóccus, Aubl. guian. 1. p. 219. t. 86, but not of Willd. C. hirsùta, Willd. spec. 1. p. 1076. Meyer esseq. p. 114. Leaves sessile, green, pilose on both surfaces. Corymbs beset with rufescent hairs. Calyx 5-toothed, teeth very short. Corolla white, having the tube thickened at the throat. This species differs from *C. collocócca* in the characters given above, and in the narrower leaves; coarctate subumbellate corymbs, not dichotomous and divaricate; and in the white, oblique, acuminated fruit. The stamens are exserted.

Knotted-branched Cordia. Fl. June, July. Clt. 1803. Shrub 6 feet.

17 C. ellíptica (Swartz. prod. p. 47. fl. ind. occ. 1. p. 461.) leaves petiolate, oblong, entire, attenuated at apex, rather coriaceous, glabrous; racemes terminal, dichotomous, compound, diffuse; calyx coriaceous, tubular, glabrous, 2-5-toothed; drupe acuminated, nearly inclosed. ♄. S. Native of Jamaica and St. Domingo. Leaves shining above. Flowers rather large. Corolla white; tube hardly longer than the calyx, gibbous at the base; segments of the limb linear-lanceolate, reflexed. Filaments bearded in the tube of the corolla; anthers glandular at top. Putamen wrinkled.

Elliptic-leaved Cordia. Clt. 1804. Tree 30 to 50 feet.

18 C. aspe'rrima (Spreng. syst. 1. p. 649.) leaves ovate-oblong, obtuse, crenulated, rough from dots above, and hispid and tomentose beneath: floral ones obovate, entire, clothed with fulvous tomentum; peduncles cymose, panicled; calyx campanulate. ♄. S. Native of Brazil.

Very-rough Cordia. Shrub or Tree.

19 C. strigòsa (Spreng. syst. 1. p. 649.) leaves rhomboid, coarsely toothed, strigose on both surfaces; peduncles cymose, elongated; calyx strigose, campanulate, with subulate segments. ♄. S. Native of St. Domingo.

Strigose Cordia. Shrub or Tree.

Sect. II. Micra'nthæ (from μικρος, *micros*, small; and ανθος, *anthos*, a flower. The flowers are small compared with those of the preceding section.) Cham. et Schlecht in Linnæa, 4. p. 476. and 8. p. 124. All as in the preceding section, but the flowers are small.

* *Species natives of America.*

20 C. magnoliæfòlia (Cham. et Schlecht in Linnæa, 4. p. 476.) leaves on short petioles, cuneated at the base, elliptic, acuminated, acute, mucronate, entire, rarely furnished with an accessary tooth near the acumen, rather coriaceous, with reflexed margins, quite glabrous in the adult state, but when young rather strigose, as well as the buds and branches of inflorescence; inflorescence terminal, sessile; panicle subfastigiate, composed of 3-5 tri-dichotomous branches; calyx pilose outside; corolla salver-shaped, glabrous: tube length of calyx: segments narrow-elliptic, obtuse, one-half longer than the tube; drupe size of a cherry. ♄. S. Native of the south of Brazil, Sello. Branches densely leafy, bluntly, many angled from the decurrent insertion of the petioles, pilose at the internodes. Calyx irregularly 3-4-lobed. Stamens much exserted. Stigmas lanceolate. Leaves 9 inches long, and $2\frac{1}{2}$ broad, sometimes somewhat tricuspidate at apex.

Magnolia-leaved Cordia. Tree.

21 C. diospyrifòlia (Cham. et Schlecht, l. c. p. 477.) leaves on short petioles, elliptic or obovate, sometimes oblong, attenuated at the base, and acute, undulated on the margins, bluntly acuminated at the apex, mucronate, rather coriaceous, beset with a few scattered hairs on both surfaces, shining beneath, and more opaque above; panicles expanded, convex, on short or long peduncles, more pilose towards the top; calyx pilose outside and inside, usually 5-cleft; tube of corolla cylindrical; stamens shorter than the segments of the corolla. ♄. S. Native of the south of Brazil, Sello. This species is nearly allied to the preceding, but differs from it in the leaves being smaller, elliptic, or obovate, beset with scattered hairs on both surfaces; in the stamens being about equal in length to the segments of the corolla, not exceeding them.

Date-plum-leaved Cordia. Tree.

22 C. Sellowia'na (Cham. et Schlecht, l. c. p. 478.) leaves on short petioles, ovate, entire, bluntly cuneated at the base, and attenuated at the apex, acuminated, at first downy, in the adult state scabrous and shining above, but clothed with velvety tomentum beneath; inflorescence lateral; cymes large, 3-6 trichotomous and dichotomous, tomentose: calyx campanulate, 5-toothed: teeth acute; corolla salver-shaped, glabrous; stamens much exserted. ♄. S. Native of the south of Brazil. Very nearly allied to *C. macrophýlla*, Lin. and *C. pubéscens*, Willd. herb. Rœm. et Schultes, syst. 4. p. 803. See Desf. ann. mus. 1. p. 205. Branches terete, clothed with rufescent tomentum. Leaves 10 inches long. Corolla having the tube length of calyx; segments shorter, obtuse, reflexed. Stamens villous at the base, as well as the tube of the corolla at their insertion. Ovarium globose, glabrous; style hairy.

Sello's Cordia. Tree.

23 C. HETEROPHY'LLA (Willd. herb. 5474. Cham. et Schlecht, l. c. p. 480.) leaves form of those of *C. pubéscens*, tomentose, as in the preceding species; cymes pedunculate, terminal, lateral, and extra-axillary; calyx narrow, clavate, not globose; corolla narrower: segments short, exceeding the calyx a little; stamens rarely equal in length to the segments of the corolla; throat of corolla and filaments glabrous; ovarium oblong-elliptic, hairy on the top, as in *C. Sellowiàna*. ♄. S. Native of Cayenne.

Various-leaved Cordia. Tree.

24 C. OBSCU'RA (Cham. et Schlecht, in Linnæa, 4. p. 480.) very nearly allied to the preceding, but is distinguished by the nearly sessile, pergamaceous, less silky leaves, which are furnished on both surfaces with more numerous stiff short hairs, with the vascular rete finer, and more prominent on the upper surface; cymes smaller, on shorter peduncles, terminal, lateral, and axillary. ♄. S. Native of Brazil, within the tropic, Sello. Young branches angular, beset with brown hairs, as well as bark. Leaves 2 inches to ½ foot long, and 2½ inches broad. Cymes fastigiate. Calyx downy. Segments of the corolla obtuse, a little shorter than the tube. Stamens exserted, hardly the length of the segments of the corolla, inserted in the throat, where it is very villous.

Obscure Cordia. Tree.

25 C. SALICIFÒLIA (Cham. et Schlecht in Linnæa, 4. p. 481.) leaves thin, firm, hardly pellucid, lanceolate, acuminated, acute, tapering into the petioles; cymes lateral, on short peduncles, nearly sessile, or on long peduncles, erect, sub-fastigiate, beset with short hairs; flowers pedicellate; calyx short, campanulate, irregularly lobed, glabrous outside, but pilose inside; corolla salver-shaped; tube length of calyx; limb 5-cleft; segments reflexed, narrow-elliptic, obtuse, one-half the length of the tube, or a little longer; stamens much exserted, twice as long as the segments of the corolla. ♄. S. Native of the south of Brazil, Sello. Besides the buds, the tops of the inflorescence and branchlets are glabrous. Leaves 5 inches long, and an inch broad.

Willow-leaved Cordia. Tree.

26 C. AMBÍGUA (Cham. in Linnæa, 8. p. 125.) beset with stiff hairs all over, the upper surfaces of the leaves scabrous, and the inflorescence tomentose; branches angular and furrowed; leaves nearly opposite and scattered, 6-8 inches long, firm, membranous, flat, elliptic, drawn out into the petioles at the base, acute, obtuse and few-toothed at the apex, or acuminated, acute, and nearly entire; cymes small, terminal; calyx closed, clavate at first, at length obconically tubular, irregularly 5-toothed; corolla salver-shaped, having the tube dilated upwards, and the segments oblong, length of tube, a little dilated, and undulately plicate at top; drupe half-closed in the calyx. ♄. S. Native of Brazil, Sello. Córdia Anabaptísta, Cham. Very like *C. supérba, var. ellíptica*, but the flowers are much smaller. Stamens exserted. Drupe containing a 3-celled, 3 or 1 seeded putamen.

Ambiguous Cordia. Tree.

27 C. PUBE'SCENS (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 803. Cham. in Linnæa, 8. p. 127, and 4. p. 479.) leaves on short petioles, ovate, or ovate-oblong, somewhat unequal-sided, rounded at the base, and subcordate, drawn out at apex into a fine tail-like acumen; others are nearly orbicular, acutely acuminated, on very short petioles, all are entire and discoloured, when young rather silky and shining above, and strigulose and velvety beneath, when old strigulose above and downy beneath; inflorescence cymosely panicled, sub-fastigiate, loose; calyx with 5 acutish, erect teeth, clothed with velvety tomentum inside; corolla salver-shaped: tube length of calyx: segments obtuse, reflexed; filaments bearded at their insertion, hardly exceeding the segments of the corolla; ovarium hairy at top; stigmas not dilated. ♄. S. Native of Brazil. Branches angular, tomentose, or villous. Leaves 10-12 inches long, and 4-5 broad. Calyx downy outside.

Downy Cordia. Tree.

28 C. CORDIFÒLIA (H. B. et Kunth, nov. gen. 3. p. 70.) leaves oblong, obtuse, cordate, quite entire, glabrous above, and pubescent beneath; corymbs terminal, dichotomous, diffuse; flowers sessile, glomerate; calyx campanulate, downy, smooth, with acute teeth; limb of corolla 5-cleft, with linear, reflexed segments; stamens pilose at the base. ♄. S. Native of the islands in the river Apures, near El. Diamante and Arichuna. Willd. rel. ex Rœm. et Schultes, syst. 4. p. 800. Branches terete, glabrous, white. Leaves 3-4 inches long, and 2 or more broad. Flowers sessile, size of those of *Myòsotis scorpioìdes*. Corollas white. Stamens much exserted. Style inclosed.

Heart-leaved Cordia. Tree or Shrub.

29 C. EHRETIOÌDES (Lam. ill. no. 1902.) leaves oblong-ovate, acute at the base, quite entire, glabrous; panicles lateral, shorter than the leaves. ♄. S. Native of Jamaica. C. collocócca, *β*, Poir. dict. 7. p. 42.?—Sloane, hist. 2. t. 203. f. 2. Flowers small. This differs from *C. collocócca* in the leaves not being cordate at the base. Said to be the same as *C. flavéscens*, by Spreng.

Ehretia-like Cordia. Tree.

30 C. FLAVE'SCENS (Aubl. guian. 1. p. 226. t. 89.) leaves oblong, acuminated, quite entire, glabrous; racemes simple, axillary; peduncles very long; calyx deeply divided into 5-6 rounded, acute segments; drupe dry, greenish-yellow, cherry-formed. ♄. S. Native of Guiana and Cayenne, on the edges of fields. C. sarmentòsa, Lam. ill. no. 1907. Stems many, sarmentose. Leaves sub-petiolate, 6-7 inches long, and 3 broad. Corolla yellowish, with rounded lobes. Stamens 5-6, exserted; anthers sagittate.

Yellowish-fruited Cordia. Clt. 1823. Shrub sarmentose, 8 to 9 feet.

31 C. TETRA'NDRA (Aubl. guian. 1. p. 222. t. 87.) leaves ovate, acute, somewhat cordate at the base, rough beneath, and glabrous above; corymbs or cymes terminal; calyx turbinate, with 4 rounded, acute teeth; limb of corolla of 4 rounded, acutish segments; stamens 4, inserted under the divisions of the limb, exserted; drupes small, containing 4 1-seeded nuts. ♄. S. Native of Guiana and Cayenne, on the banks of rivers, and on the sea-shore. Leaves 8-10 inches long, and 3-4 broad, sub-undulated. Cymes like those of *Sambùcus;* peduncles dichotomous. Corolla small, funnel-shaped, green; tube short.

Tetrandrous Cordia. Tree 40 to 50 feet.

32 C. TOQUE'VE (Aubl. guian. 1. p. 228. t. 90.) leaves cordate-ovate, acuminated, entire, villous; corymbs panicled, terminal, racemose; calyx tubular, 5-toothed; corolla with a short tube, and 5 roundish, spreading lobes. ♄. S. Native of Guiana, in woods near Sinemari. The whole plant villous, much branched. Leaves 4-6 inches long, and 3-4 broad. Common peduncles long and villous. Corolla white. Stamens exserted. Drupe oblong, 1-seeded, yellowish. *Toqueve* is the Guiana name of the shrub, ex Aublet.

Toqueve Cordia. Shrub 5 to 6 feet.

33 C. MACROPHY'LLA (Lin. spec. p. 273. Mill. dict. no. 3. Willd. spec. 1. p. 1075.) leaves ovate-oblong, villous, entire, or a little denticulated; racemes corymbose, small, villous; calyx villous, cup-shaped, with 5 obtuse teeth; corolla having the tube villous inside, and the segments of the limb deflexed and curled; drupe reddish, containing a 2-celled, 2-seeded putamen. ♄. S. Native of the Antilles, Jamaica, Porto Rico, St.

Domingo, &c. Lam. ill. no. 1901. Desf. ann. mus. 1. p. 205. Red. pict. mus. par. Prùnus racemòsa, &c. Sloane, jam. p. 184. hist. 2. p. 130. t. 221. f. 1. Branches inclinate, bitrifurcate, cinereous, downy, or villous. Leaves on short petioles, 1½ foot long. Racemes girded by 2-3 small leaves from the forks. Drupe size of a pea.

Long-leaved Cordia. Clt. 1752. Tree 40 to 60 feet.

34 C. salvifòlia (Juss. ex Poir. dict. 7. p. 46.) leaves ovate-lanceolate, obtuse, wrinkled, very rough, coriaceous; racemes lateral, small, with villous divisions. ♄. S. Native country unknown, but most probably of some part of tropical America. Branches cinereous, or yellowish, striated, rather downy while young. Leaves petiolate, very firm, beset with copious white dots above, 2 inches long, and 1 inch broad.

Sage-leaved Cordia. Tree or Shrub.

35 C. Domingen'sis (Lam. ill. no. 1900.) leaves ovate, entire, scabrous on both surfaces, whitish beneath; panicles terminal, downy; calyx tubular, with obtuse teeth, rufescent. ♄. S. Native of St. Domingo. Branches angular, very rough, blackish brown, downy at top. Leaves dark green above: upper ones 8-10 inches long, and 4-5 broad. Racemes shorter than the leaves, with short terete scabrous branches. Corolla unknown.

St. Domingo Cordia. Tree or Shrub.

36 C. ? buxifòlia (Juss. ex Poir. dict. 7. p. 45.) leaves coriaceous, ovate-cuneated, entire, nearly sessile, obtuse, scabrous; panicles corymbose, downy, lateral and terminal; calyx short, ovate, tubular, with 5 obtuse lobes. ♄. S. Native country unknown, but probably of some part of tropical America. Habit of *Ehrètia buxifòlia*. Branches terete, grey, glabrous. Leaves numerous, hardly an inch long, beset with copious white dots above. Corolla funnel-shaped, having the tube cylindrical and longer than the calyx, and the limb middle-sized and spreading. Style bifid, each division bearing a solitary capitate stigma, and is therefore probably a species of *Lutrostylis*.

Box-leaved Cordia. Shrub.

37 C. exalta'ta (Lam. ill. no. 1910. Poir. dict. 7. p. 47.) leaves ovate, acute at the base, rough, entire, coriaceous, on very short petioles; corymbs a little longer than the leaves, glabrous, terminal; calyx small, glabrous, campanulate, with 5 small acute teeth; limb of corolla 5-cleft. ♄. S. Native of Guiana, Richard. Branches glabrous, striated. Leaves almost shining above, and paler beneath, 4 inches long, and 2 broad. Branches of corymb diffuse. Pedicels thick, very short, 1-flowered. Drupe globose, size of a pea, containing a 2-celled, 2-seeded putamen.

Tall Cordia. Tree 60 feet.

38 C. nervòsa (Lam. ill. no. 1906. Poir. dict. 7. p. 47.) leaves alternate and opposite, ovate-oblong, acuminated, shining and dark green above, but pale yellow, and rather downy beneath, on short petioles; corymbs glabrous, short; bracteas subulate; calyx glabrous, with short, ovate, bluntish teeth. ♄. S. Native of Guiana, Richard. Nearly allied to *C. flavéscens*, Aubl. Branches scabrous, cinereous, angular. Leaves nearly glabrous, 8-10 inches long, and 4 broad; petioles nodose at the base. Corymb having the first branches somewhat dichotomous, the rest short and thick, rather woody. Corolla and fruit unknown.

Nerved-leaved Cordia. Clt. 1820. Shrub or tree.

39 C. reticula'ta (Vahl. eclog. amer. 3. p. 5.) leaves ovate-oblong, long-acuminated, reticulated, shining, scabrous beneath, and smooth above; racemes terminal, erect, branched, dichotomous, and are, as well as the calyxes, clothed with rusty tomentum; flowers 4-5 at the top of each peduncle, hardly pedicellate; calyx smooth, not striated, campanulate in the fruit-bearing state, trifid, with oblong, obtuse segments; stamens length of corolla; segments of the limb of the corolla oblong, bluntish. ♄. S. Native of Montserrat, Ryan. Branches terete, glabrous, but clothed with rusty tomentum at top. Leaves petiolate, glabrous, shining on both surfaces. Branches of raceme twice dichotomous. Tube of corolla length of calyx. Stigmas dilated, transverse. Drupe obovate, glabrous, larger than a pea.

Reticulated-leaved Cordia. Tree.

40 C. calophy'lla (Vahl. eclog. amer. 3. p. 5.) leaves elliptic-lanceolate, acuminated, quite entire, glabrous, rather coriaceous, smooth above, and rather scabrous beneath; corymbs axillary; calyx smooth, campanulate, 5-toothed. ♄. S. Native of Cayenne, Rohr. Branches angular, glabrous, dichotomous, yellowish. Leaves petiolate, 6-8 inches long, yellowish beneath. Corymbs at the sides of the forks and tops of the branches, with opposite leaves, 3 times longer than the petioles.

Beautiful-leaved Cordia. Tree.

41 C. formica'rum (Rœm. et Schultes, syst. 4. p. 800.) leaves oblong, acuminated, quite entire, scabrous; branches ventricose; corymbs pilose, coarctate. ♄. S. Native of Brazil, in the province of Para. Branches terete, smooth, dilated at the ramifications, hollow in the axils, and forming nests for ants, whence the tree is called *Pao de Formige* by the natives. Leaves nearly sessile, a foot long, and a hand wide, ciliated.

Ants' Cordia. Tree.

42 C. a'spera (Forst. prod. no. 109. Willd. spec. 1. p. 1074.) leaves ovate, acuminated, rough; flowers cymose, wrinkled. ♄. G. Native of the Island of Tongatabu. Forster does not mention the size of the flowers.

Rough Cordia. Tree.

* * *Species natives of Asia.*

43 C. latifòlia (Roxb. fl. ind. 2. p. 230.) leaves roundish, cordate, entire, repand, 3-nerved, smooth above and scabrous beneath; panicles terminal and lateral; flowers polygamous; calyx villous, campanulate, leathery, with an unequally-toothed mouth; corolla short, campanulate, with 5 linear-oblong segments; drupes oblately globose, on a smooth calyx, containing a 1-4-seeded nut. ♄. S. Native of Hindostan. Trunk short, generally crooked, as in *C. Myxa*. Branches spreading and drooping; young shoots smooth and angular. Leaves 3-7 inches long, and rather less in breadth. Panicles roundish. Flowers numerous, small, white. Stamens as long as the segments of the corolla, inserted immediately under the fissure. Drupe about an inch or more in diameter, yellow when ripe; pulp soft, clammy, and is eaten by the natives. Mr. Colebrooke says that the writers on Indian Materia Medica notice two sorts of Sepistan. The first as large as a prune, with its nut immersed in mucilaginous pulp, and separable from it. The second smaller, with its nut adhering to the pulp, (as described by the writers on Materia Medica in Europe,) but with less mucilage, and sweeter than the large one. The rest of the description, he observes, is common to both kinds, the fruit growing in clusters; when ripe yellow, but afterwards turning black. The first, or large sort, is, no doubt, the fruit of the present tree; and the small sort that of *C. Myxa*, which has hitherto been considered in Europe as the only tree that produces this drug. The Arabic and Persian names of *Sepistan* and *Pistan* are applicable to both sorts. Dr. Wallich proposes to give this species the specific name of *C. Sepistàna*, and the West Indian species, now called *Sebestèna*, *C. coccìnea*, Wall. in Roxb. fl. ind. 2. p. 332.

Broad-leaved Sepistan. Tree 8 to 12 feet.

44 C. My'xa (Lin. spec. 273. syst. p. 161. mat. med. t. 67.) leaves oval, ovate, or obovate, repand, smooth above, but rather scabrous beneath; panicles terminal and lateral, globular; flowers polygamous; calyx tubular, widening towards the mouth, and torn as it were into 3-5 divisions; divisions of corolla revolute. ♄. S. Native of the Circars, chiefly in gardens, hedges, &c. near villages; and of Nipaul on Bheempedi. Delile, fl. egypt. p. 47. t. 19. f. 1—2. Vidi-Marum, Rheed. mal. 4. t. 37. Sebéstena officinàlis, Gærtn. fruct. 1. p. 363. t. 76. Córnus sanguínea, Forsk. descr. p. 33. ex Vahl. symb. 1. p. 19. Sebestèna doméstica, or C. officinàlis, Lam. ill. p. 420. no. 1895. t. 96. f. 2. Mýxa, Commel, hort. 1. p. 139. Prùnus Sebestèna, &c. Plukn. alm. 306. t. 217. f. 3. C. doméstica, Roth. Sebestèna doméstica, Prosp. Alp. ægypt. p. 30. Bauh. hist. 1. p. 198. Prùnus Sebestèna Mathìoli, Plukn. alm. p. 306. t. 217. f. 2. Trunk generally crooked. Branches numerous, spreading, and bent in every direction, forming a dense shady head. Leaves 2-3 inches long, and from 1½ to 2 broad. Bracteas none. Calyx not in the least striated. Drupe globular, smooth, size of a cherry, yellow; pulp transparent, viscid, containing a sub-tetragonal, 4-celled nut, which is cordate at both ends; the cells rarely all fertile. The smell of the nut when cut is heavy and disagreeable, the taste of the kernels like that of fresh filberts. The fruit is not used medicinally among the Circars, but when ripe is eaten by the natives: the pulp is of a sweetish taste. The dried fruit is the *Sebestèna* of the Materia Medica. The Telinga name of the tree is *Neckra*, the Hindoostan one *Lusora* or *Lesoora*, and the Bengal name is *Bohoori*. Linnæus erroneously describes this plant as having a 10-striped calyx.

Myxa Sepistan. Clt. 1644. Tree 10 to 15 feet.

45 C. swave'olens (Blum. bijdr. p. 843.) leaves alternate, ovate, or ovate-oblong, bluntish, a little attenuated at the base, nearly equal, quite entire, or somewhat repandly angled, glabrous above, but tomentose in the axils of the nerves beneath; corymbs terminal; flowers spicate, secund; tube of corolla inclosed in the calyx, which is campanulate, without furrows, and downy outside. ♄. S. Native of Java, on the west side, in mountain woods. Allied to *C. I'ndica*, and *C. doméstica*.

Sweet-scented Cordia. Fl. Oct. Tree 40 feet.

46 C. Bantame'nsis (Blum. bijdr. p. 843.) ultimate leaves 3 in a whorl, oval, bluntish, almost quite entire, coriaceous, glabrous above, and tomentose beneath; corymbs terminal, dichotomous, divaricate; calyx without a furrow, 3-5-toothed. ♄. S. Native of Java, near Tjikandie, where it is called *Kandal*.

Bantam Cordia. Fl. Dec. Tree 30 feet.

47 C. Wallíchii; leaves broad, ovate-roundish, triple-nerved, acute, glabrous above, and densely clothed with tomentum beneath; corymbs lateral and terminal, dichotomous; calyx campanulate, downy, irregularly toothed; genitals exserted. ♄. S. Native of the East Indies. Córdia tomentòsa, Wall. cat. no. 897, but not of Cham. Allied to *C. Mýxa*.

Wallich's Cordia. Shrub.

48 C. poly'gama (Roxb. fl. ind. 2. p. 337.) leaves ovate-cordate, entire, scabrous; panicles terminal, in the male more divided; flowers polygamous; the male ones generally tetrandrous; the hermaphrodite ones often pentandrous; filaments in the male flowers as long as the corolla, in the hermaphrodite flowers shorter; calyx narrow, campanulate, 4-5-toothed, villous; corolla funnel-shaped, 4-5-cleft, with linear revolute segments. ♄. S. Native of the mountains of Coromandel. Trunk short. Young shoots terete, scabrous. Leaves from ovate to cordate, entire, or slightly scollop-toothed, when young soft and villous, 1-6 inches long, and about 3-fourths of that broad. Panicles pubescent. Flowers small, white. Drupes oval, size of a black currant, smooth, when ripe yellow, containing a 4-celled putamen; pulp mucilaginous, as in *C. Mýxa*.

Polygamous-flowered Cordia. Tree middle-sized.

49 C. monoíca (Roxb. cor. 1. p. 43. t. 58. Willd. spec. 1. p. 1072.) leaves ovate, toothed, scabrous; corymbs axillary and terminal, with many male flowers; drupe pointed, containing a 4-celled nut; calyx, corolla, and genitals as in the genus. ♄. S. Native chiefly in the Circar forests. Small tree. Leaves about 3 inches long, and 2 broad. Panicles dichotomous, composed of short, recurved, one-ranked spikes. Flowers white. Drupe size of a cherry, yellow, pulpy. Stigmas bifid, acute.

Monœcious-flowered Cordia. Fl. March, April. Clt. 1799. Tree small.

50 C. serra'ta (Juss. ex Roxb. fl. ind. 2. p. 333.) tender parts hairy; leaves ovate-cordate, acuminated, serrated; corymbs lateral; flowers usually octandrous, with from 7 to 9-cleft corolla; calyx sub-cylindrical, 3-5-toothed. ♄. S. Native of Travancore. Branches numerous, spreading in every direction. Leaves rather harsh, with few hairs, 4-6 inches long, and from 2 to 4 broad. Corymbs dichotomous. Flowers white, middle-sized. Corolla with a cylindrical tube, length of calyx; limb about 8-cleft; segments oblong, recurved. Filaments hairy, inserted in the tube of the corolla below its middle. Perhaps the same as *C. serràta*, Juss. ex Poir. dict. 7. p. 41.

Serrated-leaved Cordia. Tree.

51 C. gra'ndis (Roxb. fl. ind. 2. p. 335.) leaves round-cordate, obtuse, entire, scabrous, somewhat triple-nerved; panicles terminal, drooping; flowers tetramerous, tetrandrous; drupe containing a 4-celled nut, 2 or 3 of the cells usually abortive. ♄. S. Native of Chittagong. Córdia oblìqua, Herb. Madr. Leaves rounded, or retuse at the base; the apex acute or obtuse, often remotely toothed. Ramifications of the panicle many times dichotomous, those with the petioles and young leaves are beset with rusty villi. Calyx with an even surface, and 4-toothed mouth. Drupe dirty yellow, smooth, slightly-depressed at apex, half an inch long, supported by the enlarged, many-toothed, striated calyx; pulp gelatinous. Leaves often a foot long. Perhaps belonging to section *Gerascánthus*.

Great-leaved Cordia. Tree.

52 C. angustifòlia (Roxb. fl. ind. 2. p. 238.) leaves nearly opposite, lanceolate, obovate-lanceolate, obtuse, or emarginate, scabrous; panicles terminal, corymbose; flowers tetramerous and tetrandrous; calyx campanulate, obscurely 4-toothed; corolla having the tube longer than the calyx, and the limb of 4 linear revolute divisions. ♄. S. Native of Mysore. C. reticulàta, Roth. nov. spec. 124. Trunk short; branches numerous, spreading in every direction, often drooping. Leaves 4 inches long by one broad. Flowers small, white. Stamens 4, inserted just below the divisions of the corolla. Drupe size of a large pea, round, smooth, yellow; when ripe the pulp is yellow, gelatinous, and pellucid; putamen 4-celled, though seldom more than one of the cells comes to maturity.

Narrow-leaved Cordia. Clt. 1820. Tree 12 to 15 feet.

53 C. acumina'ta (Wall. in Roxb. fl. ind. 2. p. 339.) glabrous, smooth; leaves oblong-ovate, acuminated, entire; corymbs terminal, short, dichotomous; flowers with funnel-shaped corollas, and deeply divided calyxes. ♄. S. Native of Silhet, where it is called *Ramutti*. Córdia refléxa, Rœm. et Schultes, syst. 4. p. 800. Leaves about 5 inches long, smooth. Corymbs oval, rather downy, composed of unilateral spikes of small white flowers. Corolla having the tube twice as long as the calyx; segments of the limb lanceolate, ciliated, recurved, or bent backwards. Stamens elevated above the throat.

Acuminated Cordia. Tree middle-sized.

54 C. oblíqua (Willd. phyt. 1. p. 4. no. 16. t. 4. f. 1.) leaves roundish-cordate, nervosely veined, oblique. ♄. S. Native of the East Indies. Willd. spec. 1. p. 1072. C. Mýxa, γ, Poir. dict. 7. p. 40. Nearly allied to *C. Mýxa*, and probably only a variety of that species. Leaves quite entire, not repand. Calyx not striated. Stamens exserted.

Oblique-leaved Cordia. Clt. 1818. Tree.

55 C. spine'scens (Lin. mant. 206. syst. 230.) leaves ovate, serrated, scabrous above, and tomentose beneath; old petioles permanent, spinescent; racemes axillary, simple or bifid, filiform, length of leaves; calyx campanulate, obsoletely 5-toothed; corolla campanulate, 5-toothed, twice as long as the calyx; stigmas acute. ♄. S. Native of the East Indies. Branches strict, tomentose, rusty. Leaves size of those of the cherry-tree. Fruit sessile, black, size of currants.

Spinescent-petioled Cordia. Clt. 1824. Tree 40 to 60 feet.

56 C. Sine'nsis (Lam. ill. no. 1914. Poir. dict. 7. p. 49.) leaves oblong, obtuse, villous in the axils of the veins; panicles lateral and terminal, shorter than the leaves; calyx glabrous, hardly striated, campanulate, with 4-5 short, obtuse lobes; corolla funnel-shaped, twice as large as the calyx; drupe small, ovate, containing a 2-celled putamen. ♄. G. Native of China. Leaves elliptic, entire, 2-3 inches long. Branches of panicle glabrous, divaricate, dichotomous, usually recurved. Corolla white.

China Cordia. Tree or shrub.

57 C. In'dica (Lam. ill. no. 1913. Poir. dict. 7. p. 49.) leaves ovate, naked, obtuse, or acutish, entire, membranous; panicles terminal and lateral, elongated, composed of short pendulous racemes; flowers on short pedicels; calyx campanulate, with a torn mouth; tube of corolla inclosed; drupe containing a 2-celled nut. ♄. S. Native of the East Indies, Sonnerat. Branches terete, glabrous. Leaves 2-4 inches long, and 2 broad, paler beneath; petioles 1½ inch long. Corolla small, with a short spreading limb. Drupe small, ovate.

Indian Cordia. Tree or shrub.

58 C. panicula'ta (Roth. nov. spec. p. 124.) leaves roundish-ovate, somewhat emarginate at the base, and rather unequal, pilose above on the midrib and veins, entire; panicle terminal, composed of alternate, sub-corymbose branches; flowers sub-secund; calyxes smooth. ♄. S. Native of the East Indies. Leaves obtuse at both ends, quite glabrous beneath. Calyx beset with minute pili. Like most of the species of *Córdia* the calyx increases much in size after florescence, but in substance is coriaceous, and its form more campanulate, inclosing the fruit in the manner of the cup in acorns.

Panicled-flowered Cordia. Tree.

* * * *Species natives of Africa.*

59 C. crena'ta (Delile, fl. ægypt. p. 51. t. 20.) leaves ovate or rhomboid, glabrous on both surfaces, crenately serrated at the apex; cymes terminal; stigmas filiform. ♄. S. Native of Egypt. Cordia Mýxa, Forsk. arab. p. 63. no. 136. Sebestèna sylvéstre, Nep. egypt. 17. t. 8. Branches twiggy. Leaves same colour on both surfaces. Flowers scent of Jasmine. Calyx tubular, 4-5-toothed. Putamen 2-celled; cells 1-seeded.

Crenated-leaved Cordia. Shrub or tree.

60 C. Senegale'nsis (Juss. ex Poir. dict. 7. p. 47.) leaves membranous, ovate, acuminated, glabrous on both surfaces, quite entire, reticulately veined; panicles with short branches, which are hardly longer than the petioles; flowers on short pedicels, tetrandrous; corolla 4-cleft; calyx trifid. ♄. S. Native of Senegal, Adanson. A quite glabrous shrub, with slender, black, terete branches. Leaves alternate, 4-5 inches long, and 3 broad. Probably a distinct genus.

Senegal Cordia. Tree 20 feet.

Sect. II. Gerascanthus (from γηρασκω, *gerasco*, to grow old; and ανθος, *anthos*, a flower; probably in reference to the hoary appearance of the flowers.) Calyx 10-striped, or 10-ribbed. Flowers large, corymbose. Cerdàna, Ruiz. et Pav.

61 C. Gerasca'nthus (Jacq. amer. p. 43. t. 175. f. 16. pict. t. 259. f. 12. Swartz. obs. 86. Lin. spec. 273.) leaves ovate-oblong, acute, quite entire, glabrous; racemes terminal, aggregate; flowers verticillate, sessile; calyx 10-furrowed, 10-striped, downy, 5-toothed; limb of corolla 5-cleft; throat villous; stamens length of corolla. ♄. S. Native of the West Indies, in woods; and of Mexico, near Acapulco. Lam. ill. t. 96. f. 2.—Brown, jam. p. 107. t. 29. f. 3. Leaves unequal at the base, 3-4 inches long. Racemes usually 4 together, 3-4 inches long. Flowers verticillate; whorls distant. Corolla funnel-shaped, white; tube longer than the calyx; lobes of limb roundish. Stamens hardly exserted. There is a variety of this species with hexamerous hexandrous flowers. This is esteemed one of the best timber trees in Jamaica, of which it is a native. The wood is of a dark brown colour, and gently striped; it is tough and elastic, of a fine grain, and easily worked. It is called Spanish elm or Prince wood by the English, and *Bois de chypre* by the French. The leaves of the Jamaica tree are said to be rather scabrous. The plant of Jacquin differs from that of H. B. et Kunth, nov. gen. 3. p. 54. Poir. ency. 7. p. 42. t. 96. f. 2, and Browne, jam. 170. t. 29. f. 3, in the leaves, young branches, and inflorescence being beset with stellate hairs, not glabrous; in the leaves being lanceolate-oblong, acute at both ends, not obtuse at the base; in the stamens being equal in length to the segments of the corolla, not inclosed. We therefore propose to call the plant of Kunth *C. Kúnthei*, should it prove distinct.

Spanish-elm, or Grey Cordia. Fl. May. Clt. 1789. Tree 30 feet.

62 C. gerascanthoìdes (H. B. et Kunth, nov. gen. amer. 3. p. 69.) leaves oblong-lanceolate, acuminated at both ends, quite entire, glabrous, shining above; panicles terminal, spreading; flowers pedicellate, solitary; calyx 10-furrowed, 10-striped, hispid, 2-4-toothed: teeth acute; limb of corolla sub-quinquefid, with a glabrous throat, and roundish lobes. ♄. S. Native of Mexico, about Acapulco. Branches wrinkled, white, glabrous. Panicle clothed with fuscous tomentum. Corolla funnel-shaped, white. Genitals exserted.

Gerascanthus-like Cordia. Tree 30 feet.

63 C. lu'tea (Lam. ill. no. 1897. Poir. dict. 7. p. 45.) leaves ovate, obtuse, crenated above; corymbs lateral and terminal; calyx 10-furrowed, 10-striped, ovate-cylindrical: with 4 ovate, short teeth, having white, scarious margins; corolla funnel-shaped, having the tube length of the calyx, the limb rather large, of 6-8 segments; stamens 8, villous at the base; drupe ovate, acute, containing a 2-4-celled nut. ♄. S. Native of Peru, about Lima and Huanaca. C. Mýxa, Lin. spec. 273. syst. p. 230. mat. med. 67.? Branches glabrous, but downy towards the top. Leaves scabrous on both surfaces, beset with white dots above, when young downy beneath. Corymbs small, clothed with cinereous or yellowish tomentum; peduncles very short. Corolla yellow. Drupe white.

Yellow-flowered Cordia. Tree.

64 C. rotundifòlia (Ruiz. et. Pav. fl. per. 2. p. 24. t. 148. f. a. H. B. et Kunth, nov. gen. 3. p. 70.) leaves roundish-elliptic, obtuse at both ends, a little denticulated, scabrous above, and clothed with hoary tomentum beneath; peduncles dichotomously corymbose, many-flowered; flowers sessile; calyx furrowed, downy; limb of corolla 6-cleft; throat rather

pilose. ♄. S. Native of Peru, in flats at the bottom of the Andes, near Santa and Chala. C. lùtea, Lam. ill. 1. p. 421. no. 1897.? Pavònia lùtea, Dombey, herb.?—Prùnus Sebestèna, Plukn. alm. p. 306.? phyt. t. 217. f. 2.? Young branches villous. Flowers large, sessile, yellow. Corolla funnel-shaped; tube length of calyx; segments ovate, acute. Stamens 5-8, villous at the base. Drupe half inclosed, ovate, acuminated, containing a 5-furrowed, 2-celled putamen. Leaves 2-3 inches long, and 2 broad. Teeth of calyx acute.

Round-leaved Cordia. Tree 15 to 20 feet.

65 C. Cerda'na (Rœm. et Schultes, syst. 4. p. 467.) clothed with stellate down in all parts; leaves oblong and ovate; panicles terminal; stamens equal in length to the segments of the corolla. ♄. S. Native of Peru, in the woods of Pozuzo and Munna. Cerdàna alliodòra, Ruiz et Pav. fl. per. 2. p. 47. t. 184. Pers. ench. 1. p. 167. A tall tree, with fetid bark, smelling of garlic.

Cerdana Cordia. Tree.

66 C. Sellowia'na; leaves large, narrow, ovate, or elliptic, or rather oblong, obtuse, or subcordate at the base, acute, or acuminated at apex, very much wrinkled, scabrous above, and hairy along the midrib, but clothed with soft hairs or pubescence beneath, having the margins reflexed and unequally subsinuated; cymes or corymbs sessile, smaller than the leaves, composed of 3 main branches; branches 2-3 times forked; spikes dense-flowered; calyx tubular, obconical, 10-striped; corolla salver-shaped: tube length of calyx: limb 5-cleft: divisions narrow, elliptic, obtuse, one-half as long as the tube. ♄. S. Native of tropical Brazil, Sello. C. grándis, Cham. et Schlecht in Linnæa, 4. p. 473, but not of Roxb. Branches terete, but clothed with fuscescent hairs, and rather angular and striated while young. Largest leaves almost a foot long, and $4\frac{1}{2}$ inches broad, on short petioles. Calyx 3-5-toothed; teeth roundish, mucronate. Stamens exserted, villous at the base. Fruit not seen.

Sello's Cordia. Tree.

67 C. tomentòsa (Cham. et Schlecht. in Linnæa, 4. p 472.) leaves ovate, or elliptic, to ovate and obovate, rarely oblong, acuminated, acute, usually acute at the base, and drawn out a little into the petioles, rarely obtuse, generally unequal, clothed beneath with dirty, canescent, adpressed tomentum, as well as the young shoots, inflorescence, and calyxes, but beset with a few starry hairs on the upper surface; calyx 4 lines long; limb of corolla 5-cleft: segments rounded at top; stamens about a third part shorter than the segments of the corolla. ♄. S. Native of the South of Brazil, Sello. This species is said to differ from *C. Cerdàna*, in the larger flowers, in the stamens being shorter than the corolla, in the hairs being stellate and much more crowded, in the leaves being broader and shorter, &c. There is also a variety of this with narrower leaves.

Tomentose Cordia. Tree.

68 C. insígnis (Cham. in Linnæa, 8. p. 122.) leaves elliptic and obovate, acuminated, glabrous above, clothed with simple fuscous tomentum beneath, on short petioles; panicles terminal, sub-fastigiate, tomentose; calyx nearly sessile, cylindrical, deeply 10-furrowed, nearly an inch long: teeth unequal; corolla funnel-shaped, with a 5-cleft limb, and rounded, obtuse segments; stamens inclosed in the throat. ♄. S. Native of Brazil, in the province of Minas Geraes, Lhotzky and Sello. Branches irregularly many-angled, smoothish; angles obtuse; bark separating. Largest leaves $7\frac{1}{2}$ inches long, and $3\frac{1}{2}$ broad. Inflorescence somewhat cymose, smaller and denser than in *C. Gerascánthus*, hardly exceeding the leaves. Calyx clothed with velvety tomentum both inside and outside. Corolla with a short tube and wide limb. Stamens villous at the base. Ovarium obpyramidal, with a flattish top.

Showy Cordia. Tree.

69 C. calyptra'ta (Bertero ex Spreng. syst. 1. p. 649.) leaves roundish, sub-attenuated at the base, toothed, rough from dots above, scabrous beneath, veiny; calyx furrowed, truncate; corolla sub-rotate, wide; flowers polygamous. ♄. S. Native of South America, at St. Martha.

Calyptrate Cordia. Shrub or Tree.

70 C. tinifòlia (Willd. herb. no. 457. Rœm. et Schultes, syst. 4. p. 799.) leaves obovate-lanceolate, glabrous; inflorescence capitate; calyxes clothed with simple tomentum; tube of corolla twice as long as the calyx; limb funnel-shaped, 5-lobed: lobes dilated, short, somewhat emarginate; stamens short, inclosed in the throat. ♄. S. Native of South America. Leaves 4 inches long, and $1\frac{1}{2}$ broad. Heads of flowers dense, globose, size of a walnut. Diameter of the limb of the corolla 9 lines. Perhaps only a variety of *C. Gerascánthus*.

Tinus-leaved Cordia. Tree.

71 C.? dubiòsa (Blum. bijdr. 844.) leaves elliptic-oblong, bluntly acuminated, acutish at the base, setaceously serrated; serratures bearded, smooth above, and beset with a few hairs beneath; fructiferous calyx striated, tubular. ♄. S. Native of Java, in the province of Bantam, in the woods of Tjiangassa.

Dubious Cordia. Tree.

72 C. Cujabe'nsis (Manso et Lhotzky, fl. matto-grosso cujab. 2. no. 13.) leaves larger than those of *C. Gerascánthus*, Jacq.; elliptic-lanceolate, acuminated, acute at both ends, clothed with stellate down or tomentum beneath, and rather scabrous above; inflorescence, flowers, and the rest, as in *C. Gerascánthus*, Jacq.; of which it is perhaps only a mere variety. ♄. S. Native of Brazil.

Cujabo Cordia. Tree or shrub.

73 C. Chamissonia'na; leaves petiolate, large, broad-ovate, acute, rather wrinkled, scabrous above, and hairy beneath; panicles axillary, sessile, decompound, exceeding the leaves, having the rachi clothed with fuscous tomentum; calyx short, tubular, subglobose, rather velvety and canescent, obscurely 10-striped, 5-toothed: teeth short, bluntish, beset with silky hairs inside at top; corolla glabrous, salver-shaped, equal in length to the tube of the calyx, with narrow, spreading, or rather reflexed segments; stamens exserted, inserted in the throat of the corolla, which is villous. ♄. S. Native of Brazil, Sello. C. latifòlia, Cham. in Linnæa, 8. p. 126, but not of Roxb. Very nearly allied to *C. grándis*, Cham. in Linnæa, 4. p. 473.

Chamisso's Cordia. Tree.

74 C. denta'ta (Vahl. eclog. amer. 3. p. 5. Poir. dict. 7. p. 48.) leaves ovate-elliptic, acute, denticulated, scabrous above, and downy beneath; corymbs terminal, dichotomous, diffuse; flowers glomerate, sessile; calyx downy, 4-toothed, sulcately striated, with bluntish teeth; limb of corolla 5-cleft; throat pilose. ♄. S. Native of New Andalusia, near Cumana and Bordones, in open places; and of Mexico, near Actopan. H. B. et Kunth, nov. gen. amer. 3. p. 70. Tree much branched; branches terete, hoary. Leaves 2-3 inches long; petioles warted. Corymb downy. Flowers nearly sessile. Corolla funnel-shaped, white. Stamens hardly exserted. Drupe oblong, girded by the calyx at the base, size of a grain of Indian corn, containing a 4-celled putamen, 3 of which are abortive.

Toothed-leaved Cordia. Tree 20 feet.

75 C. scabe'rrima (H. B. et Kunth, nov. gen. amer. 3. p. 71.) leaves oblong, acuminated at both ends, wrinkled, serrated, scabrous on both surfaces; corymbs terminal, dichotomous; flowers sessile, glomerate; calyx striated? hispid. ♄. S. Native of Peru, between Lucarque and Ayavaca, at the altitude of 1300 hexapods. Branches terete, glabrous, but while

young tetragonal and scabrous. Corymb strigose. Corolla white.

Very scabrous Cordia. Tree.

76 C. micra'ntha (Swartz, prod. p. 47. fl. ind. occ. 1. p. 460.) leaves elliptic, acute, entire, membranous, hairy beneath; racemes compound, loose; calyx short, glabrous, striated; stamens exserted. ♄. S. Native of Jamaica, in woods on the mountains. Nearly allied to *C. collocócca;* but the leaves are less attenuated at the base and apex, hispid beneath; racemes small, and flowers much smaller. Branches glabrous, wrinkled, grey. Leaves dark green, and shining above, paler beneath, attenuated at the base, obtuse or acuminated.

Small-flowered Cordia. Fl. ? Clt. 1822. Tree 30 feet.

77 C. læviga'ta (Lam. ill. no. 1912. Poir. dict. 7. p. 46.) leaves ovate, veiny, shining, rather scabrous; panicles lateral and terminal, longer than the leaves, glabrous; calyx glabrous, or rather scabrous, striated; corolla salver-shaped, or subcampanulate; stamens villous at the base, shorter than the corolla. ♄. S. Native of the Antilles ?, Richard. Branches slender, nodose, grey, terete. Leaves roundish, entire, obtuse, or acute, attenuated at the base, rather small, coriaceous, pale beneath. Corollas like those of *Ehrètia tinifòlia;* with the lobes of the limb ovate, obtuse. "Cymes many times dichotomous. Drupe globose," ex Cham.

Smooth Cordia. Shrub or tree.

Sect. III. Varrònia (so named by Browne, from Marcus Tarrentius Varro, a learned Roman, author of a treatise de Re Rustica. He died in the year 27.) Flowers small, glomerate, capitate or spicate, always pentamerous, pentandrous, and hermaphrodiate. Throat of corolla pilose. Calycine segments acute, or subulately setaceous. Leaves on short petioles.—Varrònia, Browne, jam. t. 13. f. 2. Lin. gen. no. 258. Jacq. amer. p. 40.

§. 1. Cymòsæ. Cymes glomerate at the time of florescence, but evolute in the fruit-bearing state. Calycine teeth acute.

78 C. di'scolor (Cham. et Schlecht, in Linnæa, 4. p. 482.) leaves nearly opposite, ovate, obtuse at the base to ovate-lanceolate, acute at the base, or all acute, unequally and coarsely toothed, or almost entire, strigose on both surfaces: the hairs beneath tomentose, fine, adpressed, and of a lurid rust-colour, mixed with strigæ; cymes 2-3 times bifid, nearly capitate; spikes secund, dense; flowers usually pentamerous, rarely tetramerous; calyx obconically campanulate: teeth acute, erect, glabrous inside; corolla campanulately funnel-shaped, bluntly 5-lobed, glabrous outside, villous inside; stamens inclosed. ♄. S. Native of Brazil, within the tropic, at Rio Janeiro, Sello. Branches terete; young shoots tomentose. Largest leaves 2 inches long, and 10 lines broad, equal to the internodes. Cymes strigose. Calyx tomentose outside. Ovarium globose, inclosed in the calyx, 2-celled, having the calycine teeth conniving over its vertex.

Two-coloured-leaved Cordia. Shrub.

79 C. urticifòlia (Cham. et Schlecht, in Linnæa, 4. p. 483.) leaves ovate, subacuminated, acute, obtuse at the base, coarsely, simply, and doubly serrated, hairy beneath, and beset with fewer, shorter pili above, scabrous from short pili along the margins; cymes 2-3 times bifid; calyx cup-shaped or campanulate, hairy, ciliated, glabrous inside, 5-toothed: teeth acute, erect, acuminated; corolla tubularly campanulate; limb bluntly 5-lobed, glabrous outside, and villous inside; stamens inclosed. ♄. S. Native of the South of Brazil, Sello. Young shoots and inflorescence beset with spreading rufescent hairs. Leaves on short petioles, longer than the internodes, 3 inches long, and 1½ broad. Branches axillary, alternate, cymiferous, forming a leafy panicle at the tops of the branches. Corolla 2 lines long. Drupe ovate, inclosed in the calyx, with the top alone free; putamen of drupe usually 1-celled, 1-seeded from abortion.

Nettle-leaved Cordia. Shrub.

80 C. hermanniæfòlia (Cham. et Schlecht, 4. p. 484.) leaves nearly opposite, elliptic or ovate-lanceolate, with the base sometimes obtuse, and sometimes acute; sometimes bluntish, and sometimes acute at the apex, simply, or obsoletely doubly serrated on the margins; serratures acute or obtuse, granular above, and beset with short white strigæ between the nerves, scabrous along the margins, but clothed with longer, softer hairs beneath; cymes terminal, nearly sessile; calyx sub-campanulate, 5-toothed: teeth erect, acute, thicker, and acuminated at apex, glabrous inside; corolla tubularly campanulate, glabrous outside: tube villous inside: limb length of tube, bluntly 5-lobed; stamens villous at the base, inclosed. ♄. S. Native of Brazil. Shrub much branched. Leaves on short petioles, 1½ inch long, and ½ inch broad, larger than the internodes. Branches axillary, cymiferous, each furnished with a leaf. This species comes very near *C. discolor*, but the tomentum and hairs are larger.

Var. β, calycìna (Cham. et Schlecht, l. c. p. 486.) habit more slender and loose; leaves usually alternate, longer and broader, shorter than the internodes; inflorescence more loose; flowers a little larger; teeth of calyx more prolonged; tube of corolla smoothish inside; anthers exserted, exceeding the corolla. ♄. S. Native of Brazil, in humid places; and of Mexico, at Hacienda de La Laguna. Perhaps a proper species.

Hermannia-leaved Cordia. Shrub.

81 C. bifurca'ta (Rœm. et Schultes, syst. 4. p. 466.) leaves alternate, and nearly opposite, ovate-lanceolate, acute, serrated upwards; peduncles umbellately cymose, composed of unilateral, few-flowered, small racemes or spikes; calyx 5-toothed. ♄. S. Native of Peru, in stony places. Varrònia bifurcàta, Ruiz. et Pav. fl. per. 2. p. 24. t. 146. f. a. Desv. journ. bot. 1. p. 280. no. 26. Branches rather angular while young. Leaves on short petioles. Peduncles axillary and terminal. Corolla white, about half the length of the calyx. Stigmas 4, spreading. Drupe ovate, scarlet, half inclosed in the calyx; nuts 1-celled by abortion. Genitals inclosed ?

Bifurcate-corymbed Cordia. Shrub 3 to 4 feet.

82 C. parviflòra; leaves ovate-oblong, serrated; peduncles opposite the leaves, and alternating with them; spikes globose. ♄. S. Native of Peru ? Varrònia parviflòra, Ort. dec. 7. p. 86. Pers. ench. 1. p. 167. Perhaps the same as *C. bifurcàta*.

Small-flowered Cordia. Shrub or tree.

83 C. Loure'iri (Rœm. et Schultes, syst. 4. p. 466.) leaves on short petioles, ovate-lanceolate, quite entire, opposite and alternate, shining; peduncles lateral and terminal, many-flowered; calyx short, 5-cleft; stamens about equal in length to the corolla, inserted in the mouth of the tube. ♄. G. Native of China. Varrònia Sinénsis, Lour. coch. p. 138. ed. Willd. 1. p. 171. Desv. journ. bot. 1. p. 280. no. 27. Calyx subcampanulate. Corolla white, campanulate, with a short thick tube, and a 5-parted limb; segments ovate, spreading, equal. Drupe small, ovate, glabrous, red, acid, edible, containing a 4-celled nut.

Loureiro's Cordia. Tree middle-sized.

84 C. a'lba (Rœm. et Schultes, syst. 4. p. 466.) leaves ovate, toothed, subcordate at the base; cymes ½ a foot in diameter; calyx entire, bursting from which the corolla lies in a horizontal manner; stigmas obtuse. ♄. S. Native of Cura-

çoa, and about Carthagena. Varrònia álba, Jacq. amer. p. 41. ed. pict. p. 25. Desv. journ. bot. 1. p. 280. no. 28.—Commel. hort. 1. p. 155. t. 86.—Calabùra álba, Plukn. phyt. t. 152. f. 4. A tree with a tufted head; trunk half a *foot* in diameter; but shrubby in the hedges. Leaves 4-5 inches long, ovate, or roundish-ovate. Flowers white. Limb of corolla campanulate. Drupe large, oblong, whitish, subpellucid; pulp white, sweet, clammy; nut striated, oblong, blackish, Jacq.

White-fruited Cordia. Clt. 1820. Tree 30 feet.

§ 2. Dasyce'phalæ. Spikes capitate, globose. Throat of corolla pilose.

* *Calycine teeth acute.*

85 C. Mariquite'nsis (H. B. et Kunth, nov. gen. amer. 3. p. 75.) leaves nearly sessile, lanceolate, remotely and crenately serrated towards the apex, wrinkled, scabrous above, and clothed with rusty tomentum beneath; spikes subglobose, lateral, pedunculate; calyx strigose; throat of corolla pilose; stamens exserted. ♄. S. Native of New Granada, betwixt the towns of Honda and Mariquita, in rocky places. Varrònia lanceolàta, Willd. herb. no. 4546. fol. 2. Branches terete, glabrous, brown. Leaves on short petioles, nearly opposite, acuminated, acute at the base, 1 to $1\frac{1}{2}$ inches long. Spikes sometimes bifid, size of a pea. Corolla funnel-shaped, twice as long as the calyx. Drupe ovate-obtuse, half covered by the calyx, glabrous.

Mariquito Cordia. Shrub.

86 C. pa'tens (H. B. et Kunth, nov. gen. amer. 3. p. 75.) leaves ovate, acuminated, rounded at the base, remotely and sharply denticulated, scabrous from strigæ above, but clothed with fuscescent tomentum beneath; spikes globose, axillary and terminal, on long peduncles, spreading; calyx hispid from strigæ; throat of corolla villous; stamens exserted. ♄. S. Native of New Andalusia, in temperate places betwixt Guanaguana and the monastery of Caripe, at the altitude of 400 hexapods; as well as of Brazil. Young branches terete, densely clothed with fuscescent hairs, as well as the petioles and peduncles. Leaves 3 inches, and longer, on short petioles. Corolla funnel-shaped, white, twice as long as the calyx; limb nearly entire. Spikes size of a sloe. Drupe unknown.

Var. α, monocéphala (Cham. et Schlecht, in Linnæa, 4. p. 486.) head of flowers always solitary. ♄. S. Native of Brazil, within the tropic, Sello.

Var. β, polycéphala (Cham. et Schlecht, l. c.) heads of flowers usually by threes, the lateral 2 approximating the terminal one, on short peduncles. ♄. S. Native of tropical Brazil, Sello. Stamens hardly exserted. Drupe glabrous, covered by the calyx, but with the vertex free.

Spreading Cordia. Tree 15 feet.

87 C. serratifòlia (H. B. et Kunth, l. c. p. 76.) leaves oblong, acuminated, narrowly cuneated at the base, sharply and coarsely serrated, scabrous above, pubescent and canescent beneath; spikes globose, lateral, pedunculate; calyx strigose; throat of corolla pilose; stamens exserted. ♄. S. Native of Mexico, near Campeche. Branches terete, clothed with hair-like down. Leaves petiolate, about 3 inches long. Spikes size of a pea. Peduncles downy. Corolla funnel-shaped, white. Drupe not seen.

Serrated-leaved Cordia. Tree or shrub.

88 C. lanceola'ta (Desv. in journ. bot. 1. p. 277. under *Varrònia*. H. B. et Kunth, nov. gen. 3. p. 75.) leaves nearly sessile, lanceolate, crenately-serrated, wrinkled, hispid above, but clothed with hoary pubescence or tomentum beneath; spikes globose, pedunculate, lateral; calyx strigose; stamens exserted? ♄. S. Native of New Granada, near the city of Honda. Branches terete, hispid from strigæ. Leaves on short petioles, entire at the base, 1 inch long, and 2-3 lines broad. Spikes globose, size of a large pea. Peduncles downy. Calyx campanulate, clothed with hoary tomentum. Drupe globose, glabrous, inclosed in the calyx, 1-celled, 1-seeded.

Lanceolate-leaved Cordia. Tree or shrub.

89 C. lìma (Desv. journ. bot. 1. p. 278. no. 24. under *Varrònia*) leaves ovate, obscurely toothed, scrobiculate, pubescent beneath; spikes capitate, few-flowered, on short peduncles. ♄. S. Native of St. Domingo.

Rasp-leaved Cordia. Tree or shrub.

90 C. linea'ta (Desv. l. c. p. 278. no. 23. under *Varrònia*) leaves lanceolate-linear, acuminated, serrated, tomentose beneath, scabrous above; spikes pedunculate, lateral and axillary; peduncles elongated, adnate to the petioles, naked. ♄. S. Native of Jamaica. Varrònia lineàta, Lin. amœn. acad. 5. p. 394. Swartz, obs. p. 87. Varrònia polycéphala, Lam. ill. no. 1887.? ex Poir. dict. 4. p. 263. no. 2. Varrònia corymbòsa, Desf. tabl. jard. par. 171. Lantàna corymbòsa, Lin. spec. p. 628. —Plukn. alm. p. 395. t. 328. f. 5. Branches rather pilose. Leaves on short petioles, serrated by some crenatures. Spikes globose. Peduncles rather villous. Corolla funnel-shaped.

Lined Cordia. Clt. 1793. Shrub or tree.

91 C. hu'milis; leaves roundish, equal; fruit 2-seeded. ♄. S. Native of Carthagena. Varrònia hùmilis, Jacq. amer. p. 41.—Brown, jam. p. 172. t. 13. f. 2. This is a very doubtful species. Corolla tubular.

Dwarf Cordia. Shrub 4 feet.

92 C. villòsa (Spreng. syst. 1. p. 654.) leaves oblong, obtuse, lined with veins, clothed with white villi on both surfaces, undulately crenated; heads terminal, few-flowered, on short peduncles. ♄. S. Native of St. Domingo, Bertero.

Villous Cordia. Shrub or tree.

93 C. ra'dula (Spreng. syst. 1. p. 654.) leaves oblong, obtuse, attenuated at the base, stiff, wrinkled, hispid, shining above; heads few-flowered, nearly sessile, axillary; calyx hispid. ♄. S. Native of Hispaniola. Varrònia scabérrima, Bertero.

Rasp-leaved Cordia. Shrub or tree.

94 C. guazumæfòlia (Rœm. et Schultes, syst. 4. p. 463.) hairy; leaves ovate-lanceolate, on short petioles, acute, toothed, entire at the base, and rather oblique, hairy beneath, wrinkled, and very veiny; heads pedunculate, few-flowered, sub-corymbose. ♄. S. Native of Brazil. Varrònia, Desv. in journ. bot. 1. p. 276. no. 20. Branches alternate, terete, downy. Corolla tubularly funnel-shaped. Teeth of calyx very short.

Guazuma-leaved Cordia. Shrub or tree.

95 C. crena'ta (Rœm. et Schultes, syst. 4. p. 463.) stem much branched, fuscous; leaves ovate-roundish, crenated, veiny, wrinkled, canescent beneath, rather hairy on both surfaces, but most so beneath; peduncles lateral, generally 4-flowered; flowers capitate, loose; stamens exserted? ♄. S. Native of Peru. Varrònia crenàta, Ruiz. et Pav. fl. per. 2. p. 22. t. 146. f. b. Desv. journ. bot. 1. p. 276. no. 19. Córdia lantanoìdes, Spreng. syst. 1. p. 653. Habit of a species of *Lantàna*. Branches spreading, terete, rather hairy while young. Leaves obtuse, on short petioles. Peduncles a little longer than the leaves. Calyx downy, blackish outside, and white inside. Corolla white, plicate, a little longer than the calyx. Stigmas elongated. Drupe red, ovate, girded by the calyx to the middle, containing a 1-celled, rarely 2-celled putamen.

Crenated-leaved Cordia. Shrub 6 feet.

96 C. corymbòsa; scabrous; leaves ovate-lanceolate, sca-

brous, entire at the base, serrated at top; spikes globular, few-flowered, disposed in a corymbose or cymose manner; calyx villous, elongated; corolla campanulate; stamens inclosed. ♄. S. Native about Caraccas. Varrònia corymbòsa, Desv. in journ. bot. 1. p. 275. no. 18. Schrad. new journ. 4. p. 80. Varrònia monospérma, Jacq. hort. schoenbr. 1. t. 39. Willd. spec. 1. p. 1081. Varrònia ulmifòlia, Dum. Cours. bot. cult. 2. p. 148. Córdia monospérma, Rœm. et Schultes, syst. 4. p. 463. Varrònia polycéphala, Lam. ex Spreng. Córdia ulmifòlia, Spreng. syst. 1. p. 653. Branches terete, brownish-green. Leaves on short petioles, acute, deep green, 4 inches long. Peduncles terminal, bifid, trifid, about an inch long. Corolla dirty white, twice as long as the calyx; limb unequal, divided into many teeth. Stamens usually 6. Stigmas elongated, flat. Drupe roundish, size of a pea, shining, deep red, containing an ovate, rough, brown 1-celled nut, ex Jacq.

Corymbose-flowered Cordia. Clt. 1800. Shrub 12 feet.

* * *Calycine teeth long, subulately setaceous. Throat of corolla pilose.*

97 C. dasyce'phala (Rœm. et Schultes, syst. 4. p. 462.) leaves ovate-oblong, acuminated, narrowed at the base, coarsely serrated, hispid from strigæ on both surfaces; heads terminal, pedunculate; calyx tubular, glabrous: with subulately setaceous pilose teeth; throat of corolla pilose; stamens exserted? ♄. S. Native of New Andalusia, near Bordones and Cumana, in humid places, where it is called by the natives *Bretonica*. Varrònia dasycéphala, Desv. journ. bot. 1. p. 274. no. 15. Córdia sphærocéphala, Humb. in Rœm. et Schultes, syst. 4. p. 801. Branches terete, warted, strigose while young. Leaves petiolate, 2 inches long. Heads of flowers round, size of a cherry. Corolla funnel-shaped, with emarginate lobes. Very nearly allied to *C. globòsa*.

Thick-headed Cordia. Shrub or tree.

98 C. globòsa (Rœm. et Schultes, syst. 4. p. 464.) leaves ovate-oblong, obtuse, deeply serrated, stiff, hispid from strigæ on both surfaces, but softer beneath; heads globose, pedunculate, lateral; calyx strigose: with subulately-setaceous teeth; corolla funnel-shaped; throat of corolla pilose; stamens exserted. ♄. S. Native of Cuba, near Regla and Havana; as well as of Jamaica, and other of the West India Islands. H. B. et Kunth, nov. gen. amer. 3. p. 76. Varrònia globòsa, Lin. spec. 274. Jacq. amer. p. 41. Lam. ill. no. 1889. t. 95. f. 4. exclusive of var. β. Varrònia bullàta, Lin. spec. 274. Jacq. amer. pict. 4. t. 43. Swartz, obs. 48. Desv. journ. bot. 1. p. 274. no. 14. Córdia bullàta, Rœm. et Schultes, syst. 4. p. 462. Córdia pilulífera, Rœm. et Schultes, syst. 4. p. 801. Varrònia pilulífera, Willd. herb.—Sloane, hist. 2. t. 194. f. 2. Varrònia fruticòsa, Browne, jam. t. 13. f. 2. "Stems dichotomous. Peduncles naked from the forks of the stem," ex Lin. According to Jacquin, it agrees with *C. Martinicénsis* in many points, but differs from it in the globosity of the heads of flowers; in the segments of the corolla being emarginate, and in the blunt quadruple stigma.

Globose-headed Cordia. Fl. Aug. Clt. 1818. Shrub.

99 C. mirabiloi'des (Rœm. et Schultes, syst. 4. p. 465.) leaves ovate-oblong, on short petioles, hispid from strigæ on both surfaces, serrated; petioles inflexed and articulated at the base; heads of flowers roundish, simple or compound, pedunculate; calycine segments ovate at the base, ending each in a long setaceous point; corolla salver-shaped; stamens exserted. ♄. S. Native of St. Domingo, in hedges, in the vicinity of Porto Prince. Varrònia mirabiloìdes, Jacq. amer. p. 41. t. 33. Lam. ill. no. 1886. Swartz, prod. p. 48. fl. ind. occ. 1. p. 465. Varrònia geniculàta, Pers. ench. 1. p. 167. Varrònia bullàta, Cent. amer. 1. t. 55. ex Desv. journ. bot. 1. p. 278. no. 25. Tournefórtia serràta, Lin. spec. 201.—Plum. gen. 5. icon. 228. f. 1. and β. gen. 5. t. 228. f. 2. Leaves 2 inches long. Flowers size and figure of *Mirábilis Jálapa*, white. Limb of corolla flat, 5-rayed. Drupe size of a pea, covered by sweet clammy pulp. Stigmas subulate, obtuse. Perhaps the same as *C. globòsa*, or a variety of it.

Mirabilis-like Cordia. Fl. Sept. Clt. 1798. Tree 3-6 feet.

100 C. Bonplandia'na (H. B. et Kunth, nov. gen. amer. 3. p. 77.) leaves ovate, acuminated, narrowed at the base, doubly crenated, scabrous from papillæ above, but pilosely tomentose and hoary beneath; heads on short peduncles, axillary and lateral, crowded at the tops of the branches; calyx hairy; calycine teeth subulately setaceous; stamens exserted. ♄. S. Native of the shore of Caraccas, near Porto Cabello. Varrònia globulífera, Willd. herb. no. 4541. C. Bonplándii, Rœm. et Schultes, syst. 4. p. 462. Varrònia Bonplándii, Desv. journ. bot. 1. p. 275. no. 16. Branches hispid, terete. Leaves petiolate, 3-4 inches long. Heads of flowers size of a small cherry. Peduncles hispid. Calyx campanulate. Corolla funnel-shaped, white; limb nearly entire. This is a very elegant plant.

Bonpland's Cordia. Tree.

101 C. grandiflòra (H. B. et Kunth, nov. gen. amer. 3. p. 77. Rœm. et Schultes, syst. 4. p. 461.) leaves ovate, acuminated, narrowed at the base, serrated, clothed with silky strigæ above, and dense fuscescent pili beneath; heads globose, on long peduncles, lateral; calyx clothed with silky strigæ, with subulately setaceous teeth; stamens inclosed. ♄. S. Native of tropical America, on the sandy banks of the river Apures, near St. Fernando and Arichuna, in the province of Varinas. Varrònia grandiflòra, Desv. journ. bot. 1. p. 278. no. 12. Varrònia lantanoìdes, Willd. herb. no. 4543. Branches terete, strigose. Leaves petiolate, 2 inches long, having the serratures erect and mucronate. Heads globose, size of a cherry. Calyx fuscescent. Corolla campanulate, tapering into a tube at the base, white, $1\frac{1}{2}$ inch; with an entire, revolute limb, and pilose throat? This is a very elegant species.

Great-flowered Cordia. Shrub.

102 C. microphy'lla (Rœm. et Schultes, syst. 4. p. 463.) leaves small, nearly sessile, entire, tridentate or 3-lobed at apex; heads few-flowered, sessile. ♄. S. Native of New Spain. Varrònia microphýlla, Desv. journ. bot. 1. p. 275. no. 17. Calycine teeth elongated. Corolla funnel-shaped or tubular.

Small-leaved Cordia. Shrub.

103 C. macroce'phala (H. B. et Kunth, nov. gen. amer. 3. p. 77. Rœm. et Schultes, syst. 4. p. 462.) leaves ovate-oblong, narrowed at both ends, acutish, crenated, clothed with hoary tomentum on both surfaces, but most so beneath; heads globose, pedunculate, terminal and lateral; calyx clothed with rusty tomentum, with subulately setaceous teeth; throat of corolla rather pilose; stamens exserted? ♄. S. Native of the Andes of Peru, near Cascas, ex H. B. et Kunth; Brazil and Mexico, ex Desv. Varrònia macrocéphala, Desv. journ. bot. 1. p. 274. no. 13. Branches clothed with hoary tomentum when young, rather angular. Leaves petiolate, 2 inches long. Heads of flowers size of a walnut. Peduncles clothed with hoary tomentum, somewhat quadrangular. Corolla funnel-shaped, white, twice as long as the calyx. Drupe containing a 1-celled, 1-seeded nut.

Large-headed Cordia. Shrub or tree.

104 C. caloce'phala (Cham. et Schlecht, in Linnæa, 4. p. 488. and 8. p. 129.) leaves broad, lanceolate, subcordate, obtuse, crenated, canescent above and hoary beneath; heads on short peduncles, lateral and terminal, clothed with fuscescent

hairs; calycine teeth setaceous, hairy. ♄. S. Native of tropical Brazil, Sello. Leaves petiolate, 3 inches long and $2\frac{1}{2}$ broad. Branches obscurely angular, clothed with hairy tomentum. Peduncles 2 inches long. Drupe inclosed in the calyx. Corolla smaller than those of *C. macrocéphala*, to which species it comes nearest. In both the tomentum is stellate, according to Cham. l. c. Rachis of the head of flowers clavate.

Beautiful-headed Cordia. Shrub.

105 C. sessilifòlia (Cham. et Schlecht, l. c.) leaves sessile, lanceolate, acute, simply serrated, but sometimes the lower ones are doubly and deeply serrated, so as to be almost pinnatifid, hairy on both surfaces, softer beneath; heads pedunculate, terminal and lateral, nearly globose; calyx obconical, with somewhat setaceously acuminated teeth, hairy; segments of the corolla 2-lobed: lobes arched, blunt; stamens shorter than the limb. ♄. S. Native of tropical Brazil, Sello. A rough hairy shrub. Stems 10 inches high bearing 1 head of flowers, or 2 feet high bearing many heads of flowers, thickness of a hen's quill. Leaves $2\frac{1}{2}$ inches long, and about $\frac{1}{2}$ an inch broad. Hairs strigose. Peduncles a little shorter than the upper leaves, about an inch long, having the rachis hardly thickened, and beset with hairs between the calyxes, which are glabrous in their lower part. Corolla funnel-shaped, with a large 5-lobed limb. Stigmas slender, as in the congeners. Drupe partly covered by the calyx, containing a 2-celled nut, one of which is abortive.

Sessile-leaved Cordia. Shrub 1 to 2 feet.

§. 3. Spica'tæ. Spikes of flowers elongated. Calycine teeth short, acute. Throat of corolla pilose.

106 C. ripa'ria (H. B. et Kunth, nov. gen. amer. 3. p. 71. t. 207.) leaves ovate-oblong, acuminated, denticulated, scabrous above, and clothed with rusty tomentum beneath; spikes cylindrical, dense, disposed in a panicle; calyx, peduncles, and branches clothed with rusty hairs; throat of corolla pilose; stamens exserted. ♄. S. Native of New Granada, on the banks of the river Magdalena, near Monpox, in humid places. Leaves petiolate, 3-4 inches long. Spikes 2-3 inches long. Calyx campanulate, 5-6-toothed; teeth smooth. Corolla campanulately funnel-shaped, white, size of those of *Myosòtis scorpioìdes*; limb 5-cleft; lobes rounded. Stigmas subclavate. Drupe unknown.

River-side Cordia. Shrub.

107 C. ferrugínea (H. B. et Kunth, nov. gen. amer. 3. p. 71. Rœm. et Schultes, syst. 4. p. 458.) leaves ovate, acute, denticulated, pilose above, and clothed with rusty tomentum beneath; spikes terminal and axillary, interrupted; calyx hairy; throat of corolla pilose. ♄. S. Native of New Granada, near Gonzanama and Loxa. Varrònia ferrugínea, Lam. ill. p. 418. no. 1888. Desv. journ. bot. 1. p. 266. no. 1. t. 9. Varrònia Martinicénsis, Desf. tabl. de l'ecole. p. 71. but not of Lin. ex Desv. l. c. Córdia pyrifòlia, Rœm. et Schultes, syst. 4. p. 802. Varrònia pyrifòlia, Willd. rel. Floriferous leaves alternate, the rest opposite. Spikes an inch long. Calyx 5-toothed, length of corolla, which is yellowish.

Rusty Cordia. Shrub.

108 C. laxiflòra (H. B. et Kunth, nov. gen. 3. p. 72.) leaves broad-ovate, very shortly acuminated, denticulated, scabrous above, and clothed with rufescent down beneath; spikes axillary, interrupted; calyx hairy; throat of corolla pilose; genitals exserted. ♄. S. Native of New Granada, in hot places between Monpox and Morales, in the valley of the river Magdalena. Branches terete, clothed with fuscescent hairs, as well as the petioles and peduncles. Leaves subalternate, petiolate, 2-3 inches long, and $1\frac{1}{2}$ to 2 inches broad. Corolla somewhat campanulate, white. Drupe girded by the calyx, size of hemp-seed. Very nearly allied to *C. ferrugínea*.

Loose-flowered Cordia. Shrub.

109 C. lana'ta (H. B. et Kunth, l. c. p. 72.) leaves ovate-oblong, acute, serrated, woolly on both surfaces, but most so beneath; spikes terminal and axillary, panicled, dense; calyx hairy; throat of corolla pilose; genitals exserted. ♄. S. Native of New Granada, near the town of Santa Fe de Bogota. Branches terete, hairy, angular while young, and clothed with rusty hairs, as well as the peduncles. Leaves subalternate, petiolate, 3 inches long, hairy above, and clothed with fuscescent tomentum beneath. Calyx campanulate, with smooth teeth. Corolla funnel-shaped, white; tube length of calyx. Stigmas clavate. Very nearly allied to *C. tomentòsa*.

Woolly Cordia. Shrub.

110 C. tomentòsa (Rœm. et Schultes, syst. 4. p. 459.) leaves ovate, serrated, acute, tomentose; spikes thick, short, obtuse, forming a terminal panicle; peduncles dichotomous, axillary and terminal. ♄. S. Native of Cayenne, Richard. Varrònia tomentòsa, Lam. ill. p. 419. no. 1892. Desv. journ. bot. 1. p. 266. no. 3. The whole plant is clothed with tomentum, or very hairy. Leaves white beneath; petioles villous.

Tomentose Cordia. Shrub.

111 C. salviæfòlia (H. B. et Kunth, nov. gen. amer. 3. p. 72.) leaves lanceolate-oblong, narrowed at both ends, crenately serrated, wrinkled, scabrous from strigæ above, but clothed with hoary tomentum beneath; spikes terminal and lateral, dense, disposed in a panicle; calyx hairy; throat of corolla rather pilose; genitals exserted. ♄. S. Native along with *C. lanàta*. Córdia Humbóldtii, Rœm. et Schultes, syst. 4. p. 801. C. floribúnda, Spreng. syst. 1. p. 652. Varrònia floribúnda, Desv. journ. bot. 1. p. 267. no. 2. Branches terete, glabrous, but when young hairy, and rather angular. Leaves petiolate, 2-3 inches long, and $\frac{1}{2}$ to 1 inch broad; petioles hairy. Spikes 1 to $1\frac{1}{2}$ inch long. Flowers densely glomerate. Peduncles clothed with fuscescent hairs. Calyx campanulate. Corolla funnel-shaped, yellow? twice as long as the calyx. Stigmas capitately clavate.

Sage-leaved Cordia. Shrub.

112 C. cylindrista'chya (Rœm. et Schultes, syst. 4. p. 459.) leaves ovate, acute, densely serrated, wrinkled, hispid above, and tomentose beneath; spikes oblong, bifid and trifid, supra-axillary and terminal, dense-flowered; calyx hairy? genitals exserted? ♄. S. Native of Peru, in hedges. Varrònia cylindristàchya, Ruiz. et Pav. fl. per. 2. p. 23. Desv. journ. bot. 1. p. 269. no. 5. Varrònia macrostàchya, Ruiz. et Pav. fl. per. 2. p. 23. t. 147. f. a. Córdia macrostàchya, Spreng. syst. 1. p. 652. Branches terete, hairy, angular while young. Leaves alternate, hardly petiolate, rough beneath, 4-6 inches long. Spikes densely cylindrical. Calyx greenish yellow. Corolla white. Drupe white, inclosed in the calyx, containing a 1-2-celled nut.

Cylindrical-spiked Cordia. Shrub.

113 C. Portorice'nsis (Spreng. syst. 1. p. 651.) leaves lanceolate, attenuated at the base, dentately serrated, mucronate, scabrous, of the same colour on both surfaces; spikes terminal, solitary. ♄. S. Native of Portorico.

Portorico Cordia. Shrub or tree.

114 C. cane'scens (H. B. et Kunth, nov. gen. 3. p. 73.) leaves lanceolate, acute, serrated, wrinkled, scabrous above, but clothed with hoary tomentum beneath: spikes terminal and lateral, rather dense; calyx clothed with hoary down; throat of corolla pilose; stamens exserted. ♄. S. Native of New Granada, on the eastern declivities of the Andes of Quindiu, near the town of Ibaque, at the altitude of 760 hexapods. Varrònia rugòsa, Willd. herb. no. 4550. C. rugòsa, Rœm. et Schultes, syst. 4. p. 801. Branches terete, clothed with hoary down or hairs. Leaves petiolate, 2-3 inches long, and $\frac{1}{2}$ an inch broad.

Spikes 2 inches long, clothed with hoary down. Calyx campanulate. Corolla somewhat campanulate, white, twice as long as the calyx. Drupe ovate, inclosed in the calyx, size of a hempseed; nut 1-celled, 1-seeded by abortion.

Canescent Cordia. Shrub.

115 C. polysta'chya (H. B. et Kunth, l. c.) leaves obovate-oblong, acutish, cuneately narrowed at the base, remotely-toothed, scabrous and shining above, but clothed with fine hoary tomentum beneath; spikes terminal and axillary, disposed in panicles, a little interrupted; calyx downy; throat of corolla rather pilose; stamens exserted. ♄. S. Native on the banks of the river Orinoco, near the cataract of Maypure. C. canéscens, Willd. ex Rœm. et Schultes, syst. 4. p. 799. Branches terete, clothed with hoary down. Leaves subalternate, petiolate, often obtuse, 3 inches long, and 1½ broad. Spikes cylindrical, 1½ to 2 inches long. Flowers glomerate. Calyx campanulate, 4-6-toothed. Corolla campanulately funnel-shaped, white. Very nearly allied to *C. oblìqua*.

Many-spiked Cordia. Shrub.

116 C. grave'olens (H. B. et Kunth, l. c. p. 74.) leaves oblong, acute, narrowed at the base, toothed, scabrous above, but clothed with hoary down beneath; spikes lateral, elongated; calyx downy; throat of corolla rather pilose; stamens exserted? ♄. S. Native in woods of the Orinoco, between Villa Farrera and the town of Angostura. C. spicàta, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 799. Branches a little compressed, striated, scabrous, rather angular while young. Leaves alternate, petiolate, 2-3 inches long. Spikes on long downy peduncles, cylindrical, 2-3 inches long. Flowers dense, glomerate. Calyx campanulate. Corolla white; margins of the segments crenulated. This and the preceding are probably only varieties of the following.

Strong-scented Cordia. Shrub 6 feet.

117 C. obli'qua (H. B. et Kunth, l. c. p. 74.) leaves ovate-oblong, acute, cuneately-narrowed at the base, serrately toothed, scabrous from strigæ above, but clothed with hoary pubescence beneath; spikes lateral, elongated; calyx clothed with strigose down; throat of corolla pilose; stamens exserted? ♄. S. Native of Peru; and of Mexico, on the sea shore, near Campeachy. Varrònia oblìqua, Ruiz. et Pav. fl. per. 2. p. 24. t. 147. f. b. Desv. journ. bot. 1. p. 268. no. 4. Córdia Peruviàna, Rœm. et Schultes, syst. 4. p. 459. Branches terete, rather scabrous, but clothed with hoary down in the young state. Leaves nearly 3 inches long, on short petioles. Spikes 4 inches long; flowers rather distant, ex Kunth; dense, ex Ruiz. et Pav. Corolla white, ex Ruiz. et Pav.

Oblique-leaved Cordia. Shrub 5 to 6 feet.

118 C. Guiane'nsis (Rœm. et Schultes, syst. 4. p. 460.) leaves ovate-oblong, running into the petioles at the base, sharply serrated: serratures erectish; flowers loose, on the spikes, minute, very few towards the base of the spikes. ♄. S. Native of Guiana, and Cayenne, near towns. Varrònia Guianénsis, Desv. journ. bot. 1. p. 270. no. 7. Varrònia Martinicénsis, Aubl. guian. 1. p. 232. but not of others. Leaves large, 5-7 inches long; petioles short.

Guiana Cordia. Shrub.

119 C. divarica'ta (H. B. et Kunth, nov. gen. 3. p. 74.) leaves oblong-lanceolate, obtuse, cuneated at the base, crenated, wrinkled, scabrous above, but clothed with fuscescent tomentum beneath; spikes lateral, dense-flowered; calyx downy; throat of corolla pilose; stamens exserted? ♄. S. Native of New Andalusia, in woods near Cumana, Cariaca, and Quetepe. Córdia dentàta, Vahl, eclog. 3. p. 5. C. corylifòlia, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 801. C. corymbòsa, Schlecht, in Willd. herb, no. 4566. Rœm. et. Schultes, syst. 4. p. 801. Branches terete, glabrous, fuscous, downy while young. Leaves on short petioles, hardly an inch long, and 3-4 lines broad. Spikes pedunculate, 1 inch long, cylindrical. Calyx campanulate. Corolla subcampanulate, 6-cleft. Drupe ovate, glabrous, half covered by the calyx, size of a hempseed; nut 1-celled, 1-seeded by abortion.

Divaricate Cordia. Shrub 5 to 10 feet.

120 C. angustifòlia (Rœm. et Schultes, syst. 4. p. 460.) leaves linear, subdentate, bluntish, with revolute edges, scabrous above, and rather tomentose beneath; spikes linear-oblong, terminal; calyx villous; stamens almost length of the corolla. ♄. S. Native of the Island of Santa Cruz. Varrònia angustifòlia, West, St. Croix, p. 202. Willd. spec. 1. p. 1081. Desv. journ. bot. 1. p. 271. no. 8. Varrònia Curassávica, Lam. dict. 4. p. 264. Branches rusty. Leaves petiolate, crowded. Spikes dense, 2-3 inches long, length of peduncles. Calyx inflated, with 5 setaceous teeth, which are the length of its tube. Corolla white; tube length of calyx; lobes of limb short, emarginate. Style short; stigma simple, capitate? Drupe small, red. Poir. dict. suppl. 3. p. 729. under *V. Curassávica*.

Narrow-leaved Cordia. Clt. 1808. Shrub 12 feet.

121 C. Martinice'nsis (Rœm. et Schultes, syst. 4. p. 461.) leaves broad-ovate, acuminated, serrated, very much wrinkled, scabrous above, and downy or tomentose beneath? spikes terminal and axillary, dense-flowered; calyx downy? large, inflated; stamens exserted. ♄. S. Native of Martinico, on the edges of fields. Varrònia Martinicénsis, Jacq. amer. p. 41. t. 32. pict. t. 42. Willd. spec. 1. p. 1080. Gærtn. fruct. 3. p. 171. t. 212. f. 5. Desv. journ. bot. 1. p. 272. no. 10. Leaves 3 inches long. Spikes an inch long, oblong, ex Jacq. Habit of *C. macrostàchya* and *C. Curassávica*.

Martinico Cordia. Fl. Aug. Sept. Clt. 1795. Shrub 5 to 6 feet.

122 C. multispica'ta (Cham. et Schlecht, in Linnæa, 4. p. 490.) leaves ovate, acuminated, acute, toothed at top, bluntly cuneated, and running into the petioles at the base, scabrous from strigæ above, and downy beneath; spikes oblong-clavate, subcylindrical, terminal and axillary, forming the panicle, exceeding the leaves; calyx downy, 5-toothed: teeth acute, thicker, and somewhat acuminated at apex; corolla subcampanulate, with an almost entire limb, exceeding the calyx a little; stamens various in length, sometimes shorter than the limb of the corolla, and sometimes longer. ♄. S. Native of Brazil, within the tropic. Young branches, peduncles, and petioles, clothed with short hairs, which are less adpressed than those in *C. Martinicénsis;* and the petioles are combined with the peduncular, axillary branches at the base. Larger leaves 6 inches long and 3 broad. Style and ovarium glabrous. Drupe ovoid, loosely covered by the rather inflated calyx; putamen 1-celled, 1-seeded by abortion. This is probably a variety of *C. Martinicénsis*, or a very nearly allied species. It differs in the spikes being more slender, 3½ inches long, loose at the base; in the terminal ones being by threes, and the axillary ones solitary, the whole forming panicles at the tops of the branches. The calyx is very similar, but smaller; having the teeth acute and shorter, or less acuminated.

Many-spiked Cordia. Shrub 6 to 8 feet.

123 C. macrosta'chya (Rœm. et Schultes, syst. 4. p. 461.) leaves oblong-lanceolate; spikes oblong. ♄. S. Native of tropical America, about Carthagena. Varrònia macrostàchya, Jacq. amer. p. 41. Desv. journ. bot. 1. p. 272. no. 11. Shrub much branched. Leaves narrow, 6 inches long, length of spikes. The rest as in *C. Curassávica*. Calycine teeth ending in setaceous points.

Long-spiked Cordia. Shrub 12 feet.

124 C. integrifòlia (Rœm. et Schultes, syst. 4. p. 461.) shrub quite glabrous; leaves sublanceolate, obtuse, quite entire,

glabrous; spikes at first subglobose, then elongated and linear; calyx almost globose, downy, 5-toothed: teeth short, ovate, acute. ♄. S. Native of Hispaniola. Varrònia integrifòlia, Desv. journ. bot. 1. p. 271. no. 9. t. 10. Poir. suppl. 3. p. 729. Leaves on short petioles, 1½ inch long, and 3-4 lines broad, beset with white dots above, paler beneath. Peduncles and calyxes downy. Corolla a little longer than the calyx; with roundish segments.

Entire-leaved Cordia. Tree.

125 C. Curassa'vica (Rœm. et Schultes, syst. 4. p. 460.) leaves sublanceolate, acute, serrated, wrinkled, scabrous above, and clothed with white down beneath; spikes terminal, oblong, dense-flowered; calyx tubular, inflated, downy? 5-toothed: teeth ovate at the base, and ending each in a setaceous point; stamens a little shorter than the limb of the corolla. ♄. S. Native of Curaçoa, in hedges, and among trees. Varrònia Curassávica, Jacq. amer. p. 40. ed. 2. p. 25. Desv. journ. bot. 1. p. 269. no. 6. Swartz. obs. p. 88. Córdia Martinicénsis, Link, enum. 1. p. 162. Sieb. pl. trin. no. 42. Varrònia Martinicénsis, Lam. dict. 4. p. 264. ex Desv. l. c. Cent. amer. t. 56. according to Desv. l. c. and probably of Swartz. Lantàna Curassávica, Lin. spec. ed. 1. p. 627. Mill. dict. no. 7. Varrònia assúrgens, &c. Browne, jam. p. 172.?—Sloan. hist. 2. p. 81. Branches terete, scabrous, when old rusty. Spikes 2-3 inches long, pedunculate; flowers small. Corolla white; tube length of calyx; limb short, with the lobes short and emarginate. Drupe small, red. "Leaves alternate, elliptic-lanceolate, or oblong, obtuse or acutish, crenated or serrated, densely clothed with canescent down beneath, but scabrous above; spikes solitary, terminal and lateral, slender, loose-flowered; lower flowers abortive, gland-formed; calyx downy, 5-toothed: teeth acute, thickened, and a little acuminated at apex; corolla campanulate, 3 times as long as the calyx; with a 5-lobed limb, and elliptic, obtuse segments; stamens exserted, length of the segments of the corolla; style hardly higher than the insertion of the filaments, divided into 4 branches at top, as in the rest of the genus. ♄. S. Native of Brazil, in the island of St. Catharine, in gardens. Branches angular, striated, clothed with adpressed down at top. Calyx short, campanulate, glabrous inside. Corolla glabrous outside, villous downwards from the insertion of the filaments inside. Ovarium glabrous." Cham. et Schlecht, 4. p. 489. 490.

Curaçoa Cordia. Shrub 15 feet.

* * *Doubtful species belonging to Sect.* III. *Varrònia.*

126 C. ni'tida (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 800.) leaves elliptic, quite entire, petiolate, obtuse, shining, reticulately veined; flowers cymose. ♄. S. Native country unknown.

Shining-leaved Cordia. Shrub or tree.

127 C. alnifòlia (Rœm. et Schultes, syst. 4. p. 801.) leaves ovate-oblong, downy, sharply and equally serrated. ♄. S. Native country unknown. Varrònia alnifòlia, Horn. hort. hafn. 1. p. 227. Very nearly allied to *C. parviflòra*, the *Varrònia parviflòra*, of Ortega, but differs in the form of the leaves.

Alder-leaved Cordia. Clt. 1818. Tree or shrub.

128 C. chamædryoi'des (Rœm. et Schultes, syst. 4. p. 801.) clothed with tomentose down; leaves ovate, doubly serrated, and cordate; peduncles axillary, cymosely capitate. ♄. S. Native country unknown. Varrònia chamædryoìdes, Willd. herb.

Germander-like Cordia. Shrub.

129 C. microce'phala (Rœm. et Schultes, syst. 4. p. 801.) leaves lanceolate-oblong, serrated, scabrous; spikes ovate. ♄. S. Native of Caraccas. Varrònia microcéphala, Willd. herb.

Small-headed Cordia. Shrub.

130 C. parviflòra (Desf. hort. par. ex Link, enum. 1. p. 162.) leaves oblong, acute, serrated, attenuated, and quite entire, scabrous, hairy; petioles downy. ♄. S. Native country unknown. Flowers cymose, as in *C. mirabiloìdes.*

Small-flowered Cordia. Clt. 1819. Shrub or tree.

131 C. grandiflòra (Lindl. bot. reg. 1491.) leaves alternate, serrated; flowers large, white, terminal, corymbose. ♄. S. Native of tropical America.? This is a very doubtful shrub.

Great-flowered Cordia. Fl. Aug. Clt. 1827. Shrub.

Cult. All the species of this genus are very pretty while in blossom, and are of the most easy culture. They thrive best in a mixture of loam, peat, and sand, or any light rich soil; and cuttings strike root readily when planted in sand, with a hand-glass placed over them in heat.

II. PATAGO'NULA (so called because a native of Patagonia.) Lin. gen. and Lam. ill. t. 96. Patagónica, Dill. elth. p. 304. t. 226. f. 293.

Lin. syst. *Pentándria, Monogýnia.* Calyx small, deeply 4-6-cleft, but usually 5-cleft, at length increasing much as the fruit comes to maturity. Corolla rotate, about 2 lines in diameter; limb 5-cleft, with acutish, elliptic segments; tube very short. Stamens 5, glabrous, shorter than the segments of the corolla, inserted in its throat. Ovarium and style glabrous. Style and stigmas as in *Córdia.* Drupe globose, acute, beaked by the permanent base of the style, dry, surrounded by the calyx as an acorn in its cup, containing a 1-celled, 1-seeded putamen by abortion. Embryo pendulous; cotyledons plicate.—A much branched shrub, with pale green, alternate or nearly opposite leaves, serrated towards the top. Inflorescence terminal, bractless, panicled, composed of few-flowered cymes. Flowers white.

1. P. America'na (Lin. spec. 212.) ♄. G. Native of Patagonia and the South of Brazil, Sello. Cordia Patagónula, Ait. hort. kew. 1. p. 259. ed. 2d. vol. 2. p. 10. Patagónica foliis partim serratis partim entegris, Dill. hort. elth. p. 304. t. 226. f. 293. Branches terete. Buds and tender parts of branches beset with longer hairs. Leaves glabrous on both surfaces, lanceolate, or oblong-lanceolate, tapering into the short petioles, and sub-cuneated at the base, generally acute, rarely obtuse at the apex: younger ones cuneately obovate, entire or serrated towards the top: largest ones 2½ inches long, with the consistence and smoothness of those of *Laúris nóbilis*, margined, when young furnished with cilia at the base. Flowers small, pedicellate, cymose, white, or greenish white, smelling like those of elder. Limb of corolla from 4 to 5-cleft, with an equal number of stamens.

Var. β, glàbra (Cham. in Linnæa, 4. p. 492.) shrub perfectly glabrous in every part. ♄. S. Native of the South of Brazil.

American Patagonula. Fl. June, Aug. Clt. 1732. Shrub 10 to 12 feet.

Cult. For culture and propagation see *Córdia*, above.

Tribe II.

EHRETIA'CEÆ. (The plants contained in this tribe agree with *Ehrètia* in the characters given below.) Style semi-bifid; stigmas 2, obtuse. Drupe containing 2-4 2-celled, 2-seeded nuts, or 2-4 1-celled, 1-seeded nuts, rarely a 5-6-celled, 5-6-seeded nut. Cotyledons plicate.? This tribe differs from Tribe I. *Cordiàceæ*, in the stigmas being 2, not 4, and in the

drupe containing generally more than one nut. Mart. in pl. bras. 1. p. 134. has made a distinct order of *Ehretiàceæ*.

III. EHRE'TIA (so named in memory of the ingenious artist and botanist, G. D. Ehret, in French Cabrillet.) Browne, jam. t. 16. Lin. gen. no. *275*. Schreb. gen. no. *352*. Jacq. amer. 45. Juss. gen. p. 128. ed. Usteri, p. 143. R. Br. prod. p. 497. Lam. ill. t. 96.

Lin. syst. *Pentándria, Monogýnia*. Calyx deeply 5-parted. Corolla funnel-shaped, with a naked throat, and a 5-cleft limb. Stamens exserted. Style semi-bifid; stigmas obtuse. Berry containing 2 2-celled, 2-seeded pyrenæ or nuts.—Trees or shrubs. Leaves petiolate, alternate, opposite, or 3 in a whorl, entire or serrated. Flowers terminal or axillary, panicled or corymbose.

* *Species natives of Asia.*

1 E. serra'ta (Roxb. fl. ind. 2. p. 240.) leaves alternate, broad-lanceolate, serrated, 5-pointed, glabrous; panicles terminal, and from the upper axils, with numerous short, spreading, compound, and simple ramifications. ♄. S. Native of the East Indies, at Bhotan; it is also a native in the eastern part of Bengal. Leaves 2-5 inches long, and 1-2½ inches broad; petioles short. Flowers small, numerous, collected into small, somewhat remote, nearly sessile fascicles, some of them hexandrous. Bracteas small, ovate, pressed to the calyx. Corolla having the tube as long as the calyx, and the segments of the limb oblong and spreading. Stamens inserted in the mouth of the tube of the corolla, rather shorter than the limb. Drupes round, pulpy, about the size of a pea, red when ripe. This is one of the commonest trees in Nipaul, where it is called *Nulshima*. The flowers spread a honey-like, powerful smell. In Silhet, where it is indigenous, and there called *Kala Oja*. The fruit is not esteemed like those of most of the species, there being little pulp.

Serrated-leaved Ehretia. Fl.? Clt. 1823. Shrub or Tree.

2 E. macrophy'lla (Wall. in Roxb. fl. ind. 2. p. 343.) arboreous; leaves alternate, coriaceous, ovate, acute, sharply-toothed, harsh, strigose above, and downy beneath; panicle terminal, composed of racemose branches. ♄. G. Native of Nipaul, on Chundragiri. Branches terete, with ash-coloured, dotted bark, rather villous while young. Leaves 5-10 inches long; nerves uniting in sub-marginal arches. Drupes round, ovate, obscurely 4-furrowed, slightly clothed, the size of a gooseberry, supported at the base by a 5-cleft calyx, whose segments are lanceolate, ciliated, and spreading. Embryo erect.? Cotyledons parallel.

Long-leaved Ehretia. Tree large.

3 E.? umbellula'ta (Wall. in Roxb. fl. ind. 2. p. 344.) arboreous; leaves ovate, nearly entire, glabrous; umbellets scattered, round, small, downy; stigma deeply and almost equally 4-lobed. ♄. S. Native of Silhet, where it is called *Kunuka*. Branches like those of *E. macrophýlla*. Leaves repand, slightly undulated, 3-5 inches long, generally with a retuse apex; nerves uniting into sub-marginal arches, elegantly reticulate. Flowers very small, white, fragrant, crowded together in lateral, simple, or corymbose heads. Calyx supported by an oval bractea; segments of the calyx round, ciliated. Corolla rotate, with reflexed lobes, shorter than the stamens. This seems to connect *Ehrètia* with *Córdia*, from the short style and deeply 4-lobed stigma, but the fruit is unknown.

Umbellate-flowered Ehretia. Shrub.

4 E. Wightia'na (Wall. cat. no. 7013.) glabrous; leaves oblong-lanceolate, or obovate-oblong, entire, coriaceous; peduncels terminal, corymbose; flowers secund, pedicellate. ♄. S. Native of the East Indies. Nearly allied to *E. umbellulàta*.

Wight's Ehretia. Shrub.

5 E. pyrifòlia (D. Don, prod. fl. nep. p. 102.) leaves ovate, acute, serrated, glabrous, rounded at the base: floral ones oblong; panicles terminal; flowers crowded. ♄. G. Native of Nipaul. Flowers small, disposed in an ample, crowded panicles. Nearly allied to *E. serràta*, Roxb., but the leaves of that plant are acute at the base.

Pear-leaved Ehretia. Tree or shrub.

6 E. Java'nica (Blum. bijdr. p. 842.) leaves alternate, oval, attenuated at both ends, quite entire, glabrous; corymbs lateral and terminal, divaricate; calyx deeply 5-cleft, with acuminated segments. ♄. S. Native of Java, on the declivities of mountains on the west side, where it is called *Sikup Burrum*.

Java Ehretia. Fl. Nov. Tree 60 feet.

** *Species natives of New Holland.*

7 E. acumina'ta (R. Br. prod. p. 497.) leaves oblong, acuminated, serrated, quite glabrous; panicles decompound, having the branches and branchlets quite glabrous. ♄. G. Native of New South Wales, about Port Jackson.

Acuminated-leaved Ehretia. Fl. July. Clt. 1823. Tree 15 feet?

8 E. salígna (R. Br. l. c.) leaves linear-lanceolate, subfalcate, elongated, quite entire, glabrous, 3-5 inches long; cymes panicled, dichotomous; flowers polygamous. ♄. G. Native of New Holland, within the tropic, on the sea-shore.

Willowy-leaved Ehretia. Shrub or tree.

9 E. membranifòlia (R. Br. l. c.) leaves long-lanceolate, quite entire, and quite glabrous, strict, membranous, 1½ to 2½ inches long; cymes dichotomous. ♄. S. Native of New Holland, within the tropic. The fruit being unknown the genus is doubtful.

Membrane-leaved Ehretia. Shrub or tree.

*** *Species natives of America.*

10 E. tinifòlia (Lin. spec. *273*. amœn. acad. *5*. p. *595*. Jacq. amer. p. 45. Swartz. obs. p. 87.) leaves oblong-ovate, or ovate, obtuse, quite entire, glabrous; panicles terminal, oblong; calyx 5-cleft, obtuse. ♄. S. Native of Jamaica, and Cuba.—Trew. ehret. t. 24.—Browne, jam. p. 168. t. 16. f. 1.—Sloan. jam. 2. p. 94. t. 203. f. 1. A tree with a dense, oblong head. Leaves about 4 inches long, on short petioles. Flowers numerous, small, white, strong-scented. Corolla a little longer than the calyx; with obovate, acute, reflexed segments, which exceed the tube in length. Stamens a little longer than the corolla. Stigma bifid. Drupe containing 4 nuts, ex. Jacq., 2 nuts, ex Lin., globular, at first yellow, then black, size of currants. They serve to feed poultry, and are sometimes eaten by the poorer sort of people. The tree is known in Jamaica by the name of *Bastard Cherry-tree*.

Tinus-leaved Ehretia. Fl. June, July. Clt. 1734. Tree 16 to 28 feet.

11 E.? internòdis (Lehr. stirp. 1. p. 47. t. *24*.) leaves alternate, oblong-ovate, quite entire, acute, glabrous; panicles intra-foliaceous; flowers corymbose, panicled; corolla campanulate, with reflexed segments. ♄. S. Native of the Antilles. E. petiolàris, Lam. dict. 1. p. 527. no. 5. ex Poir. suppl. 2. p. 1. Córdia petiolàta, Desf. hort. par. Branches loose, grey, tubercled. Leaves 4 inches long. Style simple. Stigma 2-lobed. Berries round, containing 4 1-seeded nuts.

Var. β, Sùbria (Commers. herb. ex Lam. dict. l. c.) very like the species; flowers hardly a line long, with acute segments; stamens inserted in the tube of the corolla; stigma capitate; panicles terminal and axillary. ♄. S. Native of the Mau-

ritius. E. internòdis, Roxb. fl. ind. 2. p. 343. This, as well as the species, are very doubtful from the form of the stigma.

Interknotted Ehretia. Fl.? Clt. 1819. Shrub 5 to 8 feet.

12 E. grandiflòra (Poir. suppl. 2. p. 3.) leaves alternate, ovate, smooth, with unequal sides, glabrous, quite entire, obtuse; flowers corymbose; calyx rather tubular, downy, grey, with 5 acute teeth; segments of corolla roundish, spreading. ♄. S. Native of St. Domingo. Branches terete. Leaves on short petioles, 2 inches long, and 1½ inch broad. Tube of corolla red, length of calyx. Stigma bifid, obtuse. Fruit unknown.

Great-flowered Ehretia. Shrub or tree.

13 E.? du'bia (Jacq. obs. 1. p. 19. Gmel. syst. 1. p. 394. Vittm. summ. 2. p. 15.) leaves alternate, oval-oblong, acute, quite entire, glabrous; peduncles 1-flowered, aggregate; calyx bilabiate: lower lip campanulate: superior one roundish, concave, spreading, at length not half the size of the lower one; segments of the limb of the corolla flat, ovate, obtuse. ♄. S. Native of Jamaica, about Kingston. Leaves 3-6 inches long, petiolate. Tube of corolla funnel-shaped, hairy inside. Stamens short, inserted in the upper part of the tube. Anthers didymous. Style subulate, semi-bifid at apex; segments bifid, inflexed. Stigmas acute. This is probably a species of *Córdia*, from the twice bifid style, or a new genus belonging to section *Cordiàceæ*.

Doubtful Ehretia. Clt. 1825. Tree 20 feet.

14 E. tomentòsa (H. B. et Kunth, nov. gen. amer. 3. p. 64. t. 208.) branches angular, clothed with hoary tomentum; leaves opposite, elliptic-oblong, acute, entire, glabrous above, and clothed with downy tomentum beneath, and hoary; flowers axillary, corymbose, about equal in length to the petioles; calyx clothed with hoary tomentum, almost entire, rather angular, loose. ♄. S. Native of New Granada, near Santa Fe de Bogota. Ehrètia Bogoténsis, Spreng. syst. 1. p. 648. Leaves running into the petioles at the base, 5 inches long. Peduncles axillary, short, many-flowered. Calyx turbinately campanulate. Corolla campanulate, glabrous; tube twice as long as the calyx; limb spreading, with ovate, oblong, obtuse segments. Stamens a little exserted, glabrous. Anthers 2 lobed at the base. Stigmas acute. Drupe depressed, globular, smooth, size of a sloe, surrounded by the calyx, which is warted at the base, and irregularly lobed, 4-celled; cells 1-seeded.

Tomentose Ehretia. Shrub or tree.

15 E. ternifòlia (H. B. et Kunth, nov. gen. amer. 3. p. 66.) branches nearly terete, smoothish; leaves 3 in a whorl, oblong, obtuse, quite entire, glabrous, rather powdery; corymbs axillary, about equal in length to the petioles; calyx clothed with hoary powder, irregularly 4-lobed. ♄. S. Native of the province of Venezuela, near Los altos de San Pedro, at the altitude of 850 hexapods. Branches white. Leaves petiolate, furnished with minute, canescent atoms, pale beneath, 4-5 inches long, and 2½ broad. Petioles powdery. Flowers the size of those of *Lýcium bárbarum*. Calyx turbinately campanulate. Corollas white, funnel-shaped, glabrous; tube hardly equal in length to the calyx: limb spreading, with ovate-oblong, obtuse segments; throat puberulous. Stamens exserted. Stigmas acute. Drupe like that of the preceding.

Tern-leaved Ehretia. Tree 15 to 20 feet.

Cult. N.B. The following names occur in Salt. trav. abyss. append. p. 475, but without any definition. 1 E. obovàta, R. Br. 2 E. Abyssínica, R. Br.

Cult. For culture and propagation see *Córdia*, p. 387.

IV. BEURRE'RIA (named by P. Browne, after Mr. Beurrer, an apothecary of Nuremberg, who was a great promoter of natural history.) Brown, jam. p. 168. t. 15. f. 2. Jacq. amer. 45. t. 173. H. B. et Kunth, nov. gen. amer. 3. p. 67.—Ehrètia species of other authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, 5-toothed, or 5-cleft. Corolla funnel-shaped; limb 5-parted; throat naked. Stamens a little exserted. Style usually bifid, rarely undivided; stigmas 2, sub-capitate. Drupe containing 4 pyrenæ or nuts; nuts 2-celled; cells 1-seeded.—Small trees or shrubs. Leaves alternate, nearly entire, or quite entire. Corymbs sub-terminal. Flowers white.

* *Species natives of America.*

1 B. exsu'cca (Jacq. amer. p. 45. t. 173. f. 17. ed. pict. t. 259. f. 13.) branches and leaves downy; leaves ovate, acute, or obovate and obtuse, quite entire; corymbs dichotomous; calyx downy, irregularly bifid or trifid; fruit dry, tetragonal, divisible into 4 parts. ♄. S. Native of South America, in hot places near Cumana, St. Thomas de la Guyana, and New Barcelona; and of Mexico, near Actopan, &c. H. B. et Kunth, nov. gen. amer. 3. p. 67. Ehrètia exsúcca, Lin. spec. p. 275. Lam. dict. 1. p. 527. Rhámnus Cumanénsis, Loefl. itin. p. 182. Guatacare of the natives of Cumana. Branches terete, hoary, glabrous, when young rather downy. Leaves 1½ to 2 inches long, petiolate, clothed with strigæ on both surfaces, sometimes nearly glabrous; petioles downy, glabrous, or ciliated. Flowers white, sweet-scented. Corolla white, salver-shaped; tube longer than the calyx; limb spreading, with roundish, cordate segments. Stamens length of corolla, villous at the base. Style bifid. Jacquin mentions his plant as glabrous, while that of Kunth is downy. They are, however, probably identical.

Dry-fruited Beurreria. Clt. 1804. Tree 20 feet.

2 B. revolu'ta (H. B. et Kunth, nov. gen. amer. 3. p. 67.) branches and leaves glabrous, ovate, obtuse, with entire revolute margins; corymbs dichotomous; calyx downy, 5-toothed. ♄. S. Native of New Spain, in temperate places near Hacienda de Regla. Shrub much branched. Branches terete. Leaves acute at the base, 1-2 inches long, petiolate. Corymbs terminal, downy. Calyx tubularly campanulate. Drupe red, size of a sloe, nearly globose, the rest as in the genus.

Revolute-leaved Beurreria. Shrub 5 to 6 feet.

3 B. divarica'ta; leaves oblong, entire, scabrous above, and downy beneath; flowers terminal, corymbosely racemose; calyx 5-cleft, downy. ♄. S. Native of Cuba, about the Havana. Ehrètia divaricàta, D. C. hort. monsp. 1813. p. 108. icon. ined. t. 4. Branches divaricate. Leaves firm. Flowers white. Drupe orange-coloured, globose; the rest as in the genus.

Divaricate Beurreria. Clt. 1820. Tree.

4 B. virga'ta; branches filiform; leaves oblong, entire, obtuse, hardly petiolate, scabrous above, and downy beneath; peduncles terminal, scattered, 1-flowered; calyx tubular, hairy, with 5 short, ovate, acuminated segments. ♄. S. Native of New Spain, in deserts. Ehrètia virgàta, Swartz. prod. p. 47. fl. ind. occ. 1. p. 463. This plant differs from *B. succulénta*, in being more twiggy, in the leaves being more scabrous, and in the inflorescence. Corolla white, twice as long as the calyx. Berry roundish, red; the rest as in the genus.

Twiggy Beurreria. Shrub 6 to 8 feet.

5 B. succule'nta (Jacq. amer. p. 44. ed. pict. p. 28. t. 45. obs. 2. p. 2. t. 26.) leaves oblong, quite entire, obtuse, or acute, smooth, or rather scabrous to the touch; corymbs loose, terminal, composed of irregular dichotomous cymes; calyx tubular,

glabrous, with ovate, acute segments. ♄. S. Native of Jamaica and Antilles, &c. Ehrètia Beurrèria, Lin. spec. 275. Mill. dict. no. 2. Willd. spec. 1. p. 1078. Desf. ann. mus. 1. p. 279. Córdia Beurrèria, Lin. amœn. acad. 5. p. 395.—Brown, jam. p. 168. t. 15. f. 2.—Sloane, jam. 2. p. 96. t. 204. f. 1.—Comm. hort. 1. p. 153. t. 79.—Pittònia símilis, Catesb. carol. 2. p. 79. Leaves 3 inches long, running into the short white petioles. Flowers white, sweet-scented. Segments of corolla obovate, with deflexed sub-undulated margins. Stigma green, depressed, 2-lobed. Drupe globose, smooth, size of a pea, orange-coloured, 4-angled; the rest as in the genus. The berry being sweet and succulent is eaten by children and natives. In Jamaica it is called *Poison-berries*. The French name is *Bois Cabril Batard*.

Succulent-fruited Beurreria. Clt. 1758. Tree 20 to 45 feet.

6 B. tomentòsa; leaves ovate, scabrous above, and tomentose beneath, obtuse, tapering into the short petioles at the base; calyx short, with 5 deep obtuse segments; tube of corolla twice as long as the calyx. ♄. S. Native of Jamaica and St. Domingo. Ehrètia tomentòsa, Lam. ill. no 1919. Poir. suppl. 2. p. 1. no. 7.—Sloane, jam. hist. 2. t. 204. f. 1.? Branches striated, rather nodose. Flowers white. Berry yellowish, roundish, containing 4 nuts; but the nuts are not said to be 2-celled and 2-seeded.

Tomentose Beurreria. Tree.

7 B. ra`dula; leaves coriaceous, obovate, obtuse, scabrous from dots; corymbs loose, terminal; calyx whitish grey, with dilated segments. ♄. S. Native of St. Domingo. Ehrètia ràdula, Poir. suppl. 2. p. 2. Leaves quite entire, attenuated at the base, 1-2 inches long, and 6-9 lines broad, beset with white dots above, and cinereous beneath: uppermost ones narrower, and nearly lanceolate. Corolla white, a little longer than the calyx. Berry containing 4 nuts; but it is not said whether these nuts are 1 or 2-celled, or 1 or 2-seeded.

Rasp-leaved Beurreria. Shrub.

* * *A species native of the Isle of Bourbon.*

8 B. la'xa; branches reclinate; leaves ovate, obtuse, or acutish, quite entire, or a little sinuated, glabrous; panicles corymbose, loose, terminal; calyx 5-cleft: segments of corolla ovate, obtuse, with reflexed margins. ♄. S. Native of the Island of Bourbon. Ehrètia láxa, Jacq. hort. schœnbr. t. 41. fragm. no. 31. t. 5. f. 2. Leaves petiolate, scattered, dark green, about 4 inches long. Flowers greenish white. Corolla twice as long as the calyx, with ovate, obtuse, reflexed segments. Berry fleshy, red, size of a pea, containing 4 nuts; but the nuts are not said to be 2-celled or 2-seeded.

Loose-flowered Beurreria. Clt. 1826. Shrub 6 to 10 feet.

* * * *Species natives of Asia. Drupe containing* 4 1-*celled*, 1-*seeded nuts. Perhaps a distinct genus.*

9 B. læ`vis; arboreous; leaves ovate, smooth, entire, or sometimes scalloped; corymbs lateral and axillary, composed of dichotomous, recurved, secund spikes; drupe containing a 4 partible nut, or 4 1-seeded, 1-celled nuts. ♄. S. Native of the Circar mountains, and Bengal, and on the banks of the Irawaddy. Ehrètia affìnis, Wall. cat. no. 900. Ehrètia læ`vis, Roxb. cor. 1. p. 42. t. 56. Seregada of the Telingas. Branches erect. Leaves on short petioles, pretty smooth, 3-4 inches long, and 2-3 broad. Flowers small, white. Nuts wrinkled outside. The wood of this tree is used by the hill people for many purposes.

Smooth Beurreria. Clt. 1823. Tree 12 to 20 feet.

10 B. a'spera; shrubby; leaves ovate, scabrous above, and downy below, entire; corymbs terminal, dichotomous; calycine segments ovate; drupe containing a 4-celled nut, or a nut divisible into 4 1-celled 1-seeded parts. ♄. S. Native of the East Indies. Ehrètia áspera, Roxb. cor. 1. p. 41. t. 55. Willd. spec. 1. p. 1077. E. tomentòsa, Roth, nov. spec. p. 126. Ehrètia Hèynii, Rœm. et Schultes, syst. 4. p. 532. Bark of the larger branches rust coloured; young shoots downy. Corymbs globular, composed of dense, recurved, naked, secund spikes of pedicellate flowers. Flowers very small, white. Stigmas simple. Drupe red, size of a grain of pepper, somewhat tetragonal. Nuts smooth outside.

Rough Beurreria. Clt. 1795. Shrub.

11 B. setòsa (Roxb. fl. ind. 2. p. 342.) tender parts bristly; leaves ovate-cordate, acuminated, entire; panicles terminal, composed of dichotomous, secund, recurved spikes; calycine segments lanceolate, as long as the corolla; drupe containing 4 1-celled, 1-seeded nuts. ♄. S. Native of the Island of Hamoa.

Bristly Beurreria. Shrub or tree.

12 B. retu`sa; leaves small, obovate, retuse or acute, downy, as well as the young branches and peduncles; peduncles simple, terminating the short stiff branches, few-flowered. ♄. S. Native on the banks of the Irawaddy. Ehrètia retùsa, Wall. cat. no. 903. A stiff, stunted, branched shrub. Nut containing 4 1-seeded nuts.

Retuse-leaved Beurreria. Shrub 3 to 4 feet.

13 B. uniflòra (Roxb. fl. ind. 2. p. 342.) shrubby, twiggy; leaves crowded, nearly sessile, oblong, entire, hairy; flowers solitary, nearly sessile; drupe containing 4 1-celled, 1-seeded nuts. ♄. S. Native of the Moluccas.

One-flowered Beurreria. Shrub.

14 B. puncta`ta; leaves oval, entire, glabrous on both surfaces, beset with dots towards the margins, which are excavated beneath, but elevated, and rather wrinkled above; corymbs terminal, dichotomous, divaricate, downy, composed of secund spikes of flowers. ♄. S. Native of the East Indies. E. punctàta, Roth, nov. spec. p. 126. Dots at the margins of the leaves, as in *Coffèa Arábica*, but more copious, and appear like secreting pores. It differs from *B. læ`vis*, in dots only being on the margins of the leaves, not throughout its surface as in it, and the leaves themselves are less coriaceous, and the corymbs and calyxes more hairy.

Dotted-leaved Beurreria. Shrub or tree.

15 B. dichótoma (Rottl. herb. Blum. bijdr. 842, under *Ehrètia*,) leaves oblong, acuminated, quite entire, coriaceous, glabrous; corymbs terminal, dichotomous; flowers secund; segment of calyx bluntly toothed. ♄. S. Native of Java, in the higher woods on mount Burangrang.

Dichotomous-corymbed Beurreria. Fl. June, July. Tree.

16 B. gla`bra; leaves oval-roundish, glabrous, quite entire; corymbs terminal, dichotomous, divaricate, composed of secund racemes or spikes of pedicellate flowers; calyx membranous in the fruit-bearing state, obovate, sub-inflated, 5-cleft, downy inside. ♄. S. Native of the East Indies. E. glàbra, Roth, nov. spec. p. 126. This species differs from all others in the calyx being membranous and somewhat inflated, and less divided.

Glabrous Beurreria. Shrub or tree.

Cult. For culture or propagation see *Córdia*, p. 387.

V. CORTE`SIA (so named in honour of Ferdinando Cortesio, of New Spain, who collected many specimens of plants, which he sent to Cavanilles.) Cav. icon. 4. p. 53. t. 377.

Lin. syst. *Pentándria, Monogýnia.* Calyx truncate, 10-

toothed. Corolla funnel-shaped; tube length of calyx; limb 5-parted, spreading, with rounded lobes. Stamens 5, exserted; anthers ovate. Style bipartite at top; stigmas peltately globose. Drupe ovate, containing 2 1-seeded? nuts.—A much branched shrub, with alternate, sessile, cuneiform, glabrous leaves, which are trifid at apex; and terminal, sessile, solitary flowers. Calyx surrounding the drupe at the base.

1 C. cuneifòlia (Cav. l. c.) ♄. G. Native of Buenos Ayres, in the plains called Pampas. Leaves tubercular; tubercles white, with a deciduous white hair rising from the centre of each. Calyx villous, turbinate, hemispherical in the fruit-bearing state. Flowers yellowish white.

Wedge-leaved Cortesia. Shrub 4 to 5 feet.

Cult. For culture and propagation see *Córdia*, p. 387.

VI. CARMO'NA (named by Cavanilles, after Brunond Salvatori Carmona, a painter, and companion of Lœfling in his travels up the Orinoco.) Cav. icon. 5. t. 438.—Ehrètia species of Roxb.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla campanulate, or rotate; limb 5-6-cleft. Stamens 5-6, inclosed, shorter than the corolla. Styles capillary; stigmas simple. Drupe succulent, small, containing a 5-6-celled nut.—Branched shrubs. Leaves alternate, on the older branches fascicled, coriaceous, stiff. Peduncles rising from the fascicles of leaves, 2-6 flowered; flowers pedicellate, small, white.

1 C. heterophy'lla (Cav. icon. 5. t. 438.) leaves alternate or in fascicles, cuneiform, tridentate at the apex, sessile, very scabrous from callous dots; peduncles racemose; flowers on short pedicels; calycine segments lanceolate, as long as the corolla. ♄. S. Native of the East Indies, in barren lands and forests. Ehrètia heterophýlla, Spreng. syst. 1. p. 648. Córdia retùsa, Vahl. symb. 2. p. 42. Ehrètia buxifòlia, Roxb. cor. 1. p. 42. t. 57.?—Plukn. alm. p. 159. t. 31. f. 1. Bapanabooree of the Telingas. Leaves very hard, shining above, ½ to 1 inch long, and ¼ to ½ inch broad. Corolla campanulately rotate, 5-6-cleft. Stamens 5-6. Drupe size of a pea, red, containing a 5-6-celled nut. *Ehrètia buxifòlia*, Roxb. is probably a true species of *Beurrèria*.

Variable-leaved Carmona. Clt. 1823. Shrub 5 to 8 feet.

2 C. microphy'lla; leaves cuneiform, obtuse, quite entire, scabrous above, dotted, 4-5 in a fascicle; peduncles short, axillary, 1-flowered, shorter than the leaves; calycine segments linear, scabrous. ♄. S. Native of the East Indies. Ehrètia microphýlla, Lam. ill. 1. p. 425. no. 1921.—Plukn. phyt. t. 31. f. 1.? Plant glabrous. Berry dry? globose, size of a grain of pepper, somewhat mucronate.

Small-leaved Carmona. Fl. June, Aug. Clt. 1818. Shrub 5 to 8 feet?

3 C. lycioi'des; branches numerous, short, ending in a spine; leaves in fascicles, small, obovate-lanceolate, entire, glabrous. ♄. S. Native of Pegamew. Ehrètia lycioìdes, Wall. mss.

Lycium-like Carmona. Shrub 4 to 6 feet.

4 C. vimínea; leaves alternate, cuneate-lanceolate, entire, mucronate, downy, as well as the branches and peduncles, which are terminal, few-flowered, corymbose; segments of the calyx long, linear, acuminated. ♄. S. Native of Martaban, on the banks of the Attran, and on the Pundua mountains. Ehrètia vimínea, Wall. cat. no 906.

Twiggy Carmona. Shrub.

Cult. For culture and propagation see *Córdia*, p. 387.

VII. LUTRO'STYLIS (from λυτρωσις, *lutrosis*, a freeing; and στυλος, *stylos*, a column; the styles are free to the base, not combined at the base as the other genera belonging to the present order.) Ehrètia species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla funnel-shaped, ? 5-cleft. Stamens a little shorter than the corolla. ? Styles 2, short; stigmas sub-capitate. Drupe globose, usually containing 4 1-seeded nuts.—Much branched, glabrous shrubs. Leaves rather coriaceous, fascicled. Corymbs terminal, dichotomous. Flowers small, white, or yellowish.

1 L. ine'rmis; glabrous, unarmed; leaves fascicled, obovate-oblong, obtuse, quite entire, finely ciliated; corymbs terminal, dichotomous; calyxes ciliated. ♄. S. Native of America, near Cumana. Ehrètia fasciculàta, H. B. et Kunth, nov. gen. amer. 3. p. 66. Shrub much branched; branches terete, white. Leaves usually 3 in a fascicle, on the tops of very short branches, petiolate, acute at the base, deep green above, pale beneath, 2 inches long. Corymbs downy, with angular branches. Flowers sessile. Segments of the calyx ovate, acute, ciliated. Corolla and stamens hardly seen. Drupe size of a grain of pepper, somewhat tetragonal.

Unarmed Lutrostylis. Shrub 6 to 8 feet.

2 L. spinòsa; spinose, glabrous; leaves fascicled, oblong, attenuated at the base, sometimes sub-repand; corymbs racemose, short, terminal; calycine segments lanceolate, acute. ♄. S. Native of South America. Ehrètia spinòsa, Jacq. amer. 46. t. 80. f. 18. edit. pict. t. 259. f. 14. Spines on the branches short, and sub-axillary; those on the trunk strong, woody, and very thick. Leaves 3-4 inches long, usually 5-6 in a fascicle. Stipulas subulate, rising from the centre of the tubercles in the branches. Flowers small, numerous, yellowish. Corolla length of calyx; segments of the limb ovate, obtuse, reflexed, length of tube. Stamens a little shorter than the corolla. Styles subulate; stigmas simple. Drupe red, small.

Spinose Lutrostylis. Shrub 4 to 10 feet.

3 L.? Montevide'nsis; leaves oblong, bluntish, quite entire; when young serrated a little at the apex, coriaceous, shining above, and of a different colour beneath, having the axils of the veins villous; spines opposite the branches, supra-axillary; racemes lateral, simple, opposite the leaves. ♄. S. Native of Montevideo, Sello. Ehrètia Montevidénsis, Spreng. syst. 1. p. 647.

Monte-video Lutrostylis. Shrub.

Cult. For culture and propagation see *Córdia*, p. 387.

VIII. RHA'BDIA (ῥαβδος, *rhabdos*, a twig; in reference to the shrub being twiggy.) Mart. pl. bras. 2. p. 136. t. 195.

Lyn. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla campanulate, 5-cleft, with a naked throat. Stamens 5, from the base of the corolla, inclosed. Style simple; stigma 2-lobed. Berry or drupe usually containing 4 1-seeded pyrenæ.—Branches downy. Leaves alternate, sessile. Flowers axillary, or in few-flowered, bracteate corymbs.

1 R. lycioi'des (Mart. l. c. p. 137. t. 195.) leaves oblong-lanceolate, obtuse, undulated, adpressed to the stem, downy beneath, and pale green; inflorescence corymbose; peduncles trifid, 3-flowered, or bifid, 2-flowered; drupe ovate, globose, scarlet. ♄. S. Native of Brazil, in the province of Bahia, on the inundated banks of the river St. Francisco, near Joa Siero. Leaves sessile, green above, and glaucous beneath. Corolla small, of a rose-purple colour, with a white tube.

Lycium-like Rhabdia. Shrub 5 to 6 feet.

Cult. For culture and propagation see *Córdia*, p. 387.

IX. MORELO'SIA (meaning unknown to us.) La Lave et Lexarza, nov. veg. mex. p. 1.

Lin. syst. *Pentándria, Digýnia.* Calyx adherent, ventricose, rather coriaceous, 5-cleft. Corolla rotate; with rounded segments. Stamens 5, exserted. Style forked; stigmas 2, capitate. Drupe tetragonal, containing a 4-seeded, 4-celled nut. —A moderate-sized tree, with a scabrous trunk, and twisted, angular, green branches. Leaves quite entire. Flowers terminal, corymbose, articulated to the extremities of the peduncles, sweet-scented, falling spontaneously before fecundation.

1 M. Huani`ta (La Lave, ex Lexarz. l. c.) ♄. S. Native of Mexico. Branches difformed at the extremities. Leaves 3-4 inches long.

Huanita Morelosia. Tree.

Cult. For culture and propagation see *Córdia*, p. 387.

Tribe III.

ERIMATALIE`Æ (this tribe only contains the genus *Erysìbe.*) Style hardly any; stigma large, 5-groved. Drupe pulpy, containing only one 1-seeded nut.

X. ERYSI'BE (probably the East Indian name of *E. paniculàta.*) Roxb. cor. 2. t. 159. fl. ind. 2. p. 284. Blum. bijdr. p. 1046. Erimatàlia, Lam. dict. 2. p. 348.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, or 5-toothed; segments obtuse, imbricate. Corolla with a short tube, tomentose outside; limb spreading, 5-parted: lobes bifid, induplicate in æstivation. Ovarium 1-celled, 3-4-ovulate; ovula attached to the bottom of the cell. Stigma sessile, discoid. Berry 1-seeded, ex Roxb.—Climbing shrubs, with alternate leaves, and axillary and terminal panicles of flowers. This genus is nearly allied to *Moorcróftia* and *Marípa*, on the one hand, and *Apocýneæ* on the other.

1 E. paniculа`ta (Roxb. cor. 2. t. 159.) leaves oblong, pointed, glabrous; panicles large, terminal. ♄. ◠. S. Native of the Circars, and the eastern borders of Bengal. Branches and panicles clothed with rust-coloured farinæ. Leaves 4-5 inches long, and about 2 broad. Flowers small, rust-coloured: border yellow. Berry size of a cherry, black. On the mountains bordering on Silhet, the shrub blossoms in October, and is called there *Luta-Bichutti.*

Panicled-flowered Erysibe. Shrub tw.

2 E. Rhee`dii (Blum. bijdr. p. 1047.) leaves elliptic-oblong, bluntly acuminated, coriaceous, glabrous; panicles axillary and terminal. ♄. ◠. S. Native of the Malabar coast; and of Java, on the Salak mountains, where it is called *Mugmale-aroy.* Erìma-Tàli, Rheed. mal. 7. p. 73. t. 39. Lam. dict. 2. p. 348. Erimatàlia Rheèdii, Rœm. et Schultes, syst. 5. p. 331.

Rheede's Erysibe. Fl. July. Shrub tw.

3 E. glomera`ta (Blum. bijdr. p. 1047.) leaves elliptic-oblong, acuminated, coriaceous, glabrous; flowers axillary, glomerate. ♄. ◠. S. Native of Java, in woods, on mount Salak, where it is called *Kisimutti.*

Var. β, longifòlia (Blum. l. c.) leaves cuneate-oblong, bluntly acuminated. ♄. ◠. S. Native of the Island of *Nusæ-Kambanga.*

Glomerate-flowered Erysibe. Fl. Nov. Shrub tw.

4 E. tomentòsa (Blum. bijdr. p. 1048.) leaves ovate, acute, glabrous above, and tomentose beneath; racemes axillary, very short. ♄. ◠. S. Native of Java, on the mountains of Parang.

Tomentose Erysibe. Fl. July, Aug. Shrub tw.

5 E. expa'nsa (Wall. cat. no. 1331.) young branches, racemes, calyxes, petioles, and undersides of young leaves clothed with rusty tomentum, as in *E. paniculàta;* leaves coriaceous, elliptic, acuminated, mucronate, shining, entire; panicles axillary and terminal, many-flowered, solitary or aggregate; flowers racemosely fascicled. ♄. ◡. S. Native of Martaban, Moalmeyne, and Tavoy.

Expanded Erysibe. Shrub climbing.

6 E. subsɨica`ta (Wall. cat. no. 1332.) young branches, &c. as in the last; leaves obovate-oblong, acuminated, tapering to the base, or oblong-lanceolate; racemes spicate, solitary, terminal; flowers aggregate, crowded. ♄. ◡. S. Native of the Burman Empire, on Mount Taong-Dong.

Subspicate-flowered Erysibe. Shrub climbing.

7 E. Pri'ncei (Wall. cat. no. 1335.) young branches, &c. as in the two last species; leaves oblong, acuminated, on very short petioles, almost sessile; racemes axillary and terminal, solitary or twin, simple, short; flowers aggregate. ♄. ◡. S. Native of Singapore, J. Prince.

Prince's Erysibe. Shrub climbing.

8 E. fra`grans (Wall. cat. no. 1336.) racemes and calyxes clothed with rusty tomentum; leaves large, coriaceous, glabrous, acuminated; racemes usually aggregate, panicled or simple, axillary, very short. ♄. ◡. S. Native of the Burman Empire, at Amherst. Flowers aggregate.

Fragrant Erysibe. Shrub climbing.

9 E. læviga`ta (Wall. cat. no. 1333.) glabrous, except the outside of the inner calyxes; leaves coriaceous, oblong-lanceolate, acuminated, entire; calyxes ciliated; racemes short, axillary and terminal, panicled; flowers aggregate. ♄. ◡. G. Native of China and Silhet. Corollas white; anthers brown.

Smooth Erysibe. Shrub climbing.

10 E. glauce'scens (Wall. cat. no. 1334.) pedicels and calyxes clothed with velvety brownish down; leaves glabrous, glaucescent, but perfectly glaucous beneath, broad-elliptic, acuminated; racemes panicled, axillary and terminal, usually solitary, elongated, the whole forming a diffuse, terminal panicle; flowers aggregate. ♄. ◡. S. Native of Moalmyne.

Glaucescent Erysibe. Shrub climbing.

Cult. The species of *Erysìbe* are well fitted for training up rafters or pillars in stoves; they are of easy culture, will grow well in any rich light soil, and are readily propagated by young cuttings in sand, in heat, with a hand-glass placed over them.

† *A genus not known whether belonging to the order or not.*

XI. ROCHEFO'RTIA (named in honour of M. De Rochefort, author of Histoire naturelle et morale des Isles Antilles de l' Amerique; Rotterdam, 1639.) Swartz, prod. p. 54. fl. ind. occ. 1. p. 552. icon. t. 10.

Lin. syst. *Pentándria, Digýnia.* Calyx 5-parted; with ovate-oblong segments. Corolla funnel-shaped, with a short tube and open throat; segments of the limb ovate-oblong, spreading. Stamens 5, inserted in the plicæ of the throat of the corolla. Styles 2, subulate; stigmas simple. Fruit globose, 2-celled. Seeds numerous, angular.—Branched shrubs, with alternate leaves; and corymbose, dichotomous, terminal, and axillary inflorescence.

1 R. cunea`ta (Swartz, fl. ind. occ. 1. p. 552. icon. t. 10.) leaves cuneiform, obovate, entire, alternate, fascicled; peduncles terminal and axillary, subdichotomous, cymose. ♄. S. Native of Jamaica, in stony mountain places. Branches flexuous, terete, spinose, smooth; spines close to the petioles, long. Leaves fascicled, 1-3 together, rarely more, rather emarginate at top, glabrous, of an obscure, shining, greenish brown colour above, and paler beneath. Cymes shorter than the leaves. Flowers small, greenish white. Calyx downy. Tube of corolla pentagonal. Stamens subulate, inserted in the recesses, between the lobes of the corolla. Stigmas villous, rather plumose. Seeds angular.

Cuneate-leaved Rochefortia. Shrub 3 to 4 feet.

2 R. ova`ta (Swartz, fl. ind. occ. 1. p. 554.) leaves ovate, emarginate, entire, villous; peduncles many-flowered, twin,

shorter than the leaves. ♄. S. Native of Jamaica, among bushes in stony places. Branches terete, glabrous. Leaves an inch long. Segments of calyx erect, incumbent, with villous margins. Tube of corolla campanulate, open, length of calyx, or a little shorter; segments oblong. Stamens shorter than the segments of the corolla. Stigmas acute.

Ovate-leaved Rochefortia. Shrub 3 to 4 feet.

3 R. Brasilie'nsis (Hoffm. in Willd. herb. ex Rœm. et Schultes, syst. 6. p. 210.) leaves ovate, acuminated, coriaceous, remotely subserrated; corymbs racemose. ♄. S. Native of Brazil.

Brasilian Rochefortia. Shrub.

Cult. For culture and propagation see *Córdia*, p. 387.

N.B. Varrònia móllis, Desf. tabl. de jard. par p. 220. is a species of *Melòchia*, according to Desvaux.

Córdia aspérrima, Spreng. syst. 1. p. 649. does not belong to the order, but is a plant of the order *Labiàtæ*.

Order CLXVIII. HYDROPHY'LLEÆ (this order contains plants agreeing with the genus *Hydrophyllum* in important characters.) R. Br. in bot. mag. vol. 50. t. 2373. append. to Frankl. journ. Benth. in Lin. trans. 17. p. 267. Boragíneæ, sect. II. Juss. gen. 129. ed. Usteri, p. 144.

Calyx inferior, permanent, deeply 5-cleft; the recesses between the segments often furnished with reflexed appendages. Corolla monopetalous, hypogynous, regular, shortly 5-cleft, rotately campanulate, rarely somewhat funnel-shaped. Stamens 5, perigynous, alternating with the lobes of the corolla, inflexed in æstivation; anthers versatile, 2-celled; cells parallel, dehiscing lengthwise. Ovarium superior, simple, 1-celled. Style elongated, bifid; stigmas 2, terminal. Placentas 2, free to the back, or adnate to the parietes of the fruit; their inner surface bearing 2 or many ovula. Fruit capsular, dehiscing by 2 valves; sometimes 1-celled, from the large placentas filling the capsule; but sometimes the dissepiment is hardly complete, therefore the capsule is half 2-celled. Seeds reticulated outside. Albumen copious, cartilaginous. Embryo conical, with the radicle looking to the hilum.—Elegant herbs, natives of America; hispid, like those of *Boragíneæ*. Leaves usually lobed, alternate, or the lower ones are opposite. Flowers disposed in unilateral, subdichotomous spikes or racemes, which are at first circinately scorpioid; rarely axillary, solitary, pedunculate. Corollas blue or pink, elegant.

This order is distinguished from *Boragíneæ*, and its nearest allies, by the capsular fruit, copious, cartilaginous albumen, placentation of the seeds, and generally by the compound, or deeply lobed leaves.

Synopsis of the genera.

1 Hydrophy'llum. Corolline processes 5, linear, adnate by the back, but with the top and margins free. Stamens exserted. Placentas large, biovulate.

2 Elli'sia. Calyx without appendages. Corolline processes 10, short, or wanting. Stamens rather shorter than the corolla. Placentas large, biovulate.

3 Nemóphila. Sinuses of the calyx furnished with reflexed teeth. Corolline processes 10, short or wanting. Stamens rather shorter than the corolla. Placentas large, 2-12-ovulate.

4 Eu'toca. Corolla deciduous. Ovarium pilose. Placentas linear, 4, or many-ovulate. Capsule half 2-celled.

5 Phace'lia. Corolla deciduous. Ovarium pilose. Placentas linear, 2-ovulate. Capsule falsely 2-celled.

6 Emmena'nthe. Corolla permanent. Ovarium clothed with glandular pubescence. Placentas linear, adnate by the back. Capsule falsely 2-celled.

I. HYDROPHY'LLUM (from ὑδωρ ὑδατος, *hydor hydatos*, water; and φυλλον, *phyllon*, a leaf. Miller supposes that Morinus gave it the name of *Water-leaf*, because the spring water stands in the cavity of the leaves, and not from its growing in water, as Tournefort conjectures.) Tourn. inst. t. 16. Lin. gen. p. 83. no. 284. Schreb. gen. no. 267. Juss. gen. p. 129. ed. Usteri, p. 144. Gærtn. fruct. 2. p. 133. t. 110. Lam. ill. t. 97. f. 1—2. Benth. in Lin. trans. 17. p. 272.—Nemóphila species, Spreng.

Lin. syst. *Pentándria, Monogýnia.* Corolline scales 5, linear, adnate by the back, but with the margins and top free. Stamens much exserted. Placentas large, free on the back, filling the ovarium, biovulate.—Radical leaves numerous: cauline ones few, alternate, broad, pinnately or palmately cut. Racemes bractless, scorpioid, dichotomous. Corollas blue or white.

1 H. appendicula'tum (Michx. fl. bor. amer. 1. p. 134.) lower leaves pinnate: cauline ones palmately lobed; racemes very loose; calyx very hispid: the sinuses furnished with reflexed appendages. ♃. H. Native of Virginia, near Harper's Ferry, Tennessee, Alleghanies, &c. on shady rocks near springs. Pursh, fl. amer. sept. 1. p. 134. Benth. l. c. p. 272. Nemóphila, paniculàta, Spreng. syst. 1. p. 569. Plant very hairy. The radical leaves are like those of *H. Virgínica*; and the upper ones like those of *H. Canadénsis*. Pedicels almost twice as long as the fructiferous calyx. Calyx of *Nemóphila*, but with the habit of the genus. Calyx almost the length of the corolla. Corollas pale blue. Fascicles of flowers panicled.

Appendiculate-calyxed Water-leaf. Fl. May, June. Clt. 1813. Pl. $\frac{3}{4}$ to 1 foot.

2 H. Canade'nse (Lin. spec. p. 208.) leaves palmately-lobed or angular; cymes of flowers loose; calyx glabrous. ♃. H. Native from Canada to Pennsylvania, on wet rocks and shady mountains. Lam. ill. t. 97. f. 2. Ker. bot. reg. t. 242. Pursh, l. c. Benth. l. c. p. 273. Plant smoothish, or a little hispid. Leaves broad, roundish, glabrous on both surfaces, or hispid from a few hairs, hardly divided to the middle into lobes, having the margins furnished with a few sharp teeth. Pedicels usually shorter than the calyx. Corollas white, tinged with blue or purple.

Canadian Water-leaf. Fl. June, July. Clt. 1759. Shrub $\frac{1}{2}$ to 1 foot.

3 H. Virgi'nicum (Lin. spec. 208.) leaves pinnate: segments deeply cut; cymes of flowers rather loose; calycine segments narrow-linear, ciliately hispid. ♃. H. Native from Canada to Carolina, in shady, rocky situations. Lam. ill. t. 97. f. 1. Ker. bot. reg. t. 331. Schkuhr, handb. 1. p. 114. t. 35. Pursh, fl. 1. p. 134.—Sabb. hort. rom. 1. t. 15.—Mor. hist. 3. p. 599. sect. 15. t. 1. f. 1.—Dod. pempt. 77. t. 77. Benth. l. c. Plant smoothish. Leaves hispid from a few scat-

tered pili above, pale and glabrous beneath, with 2-3 pairs of segments: lower segments on short petioles: upper ones usually combined with the terminal one. Corollas beautiful blue.

Virginian Water-leaf. Fl. May, June. Clt. 1739. Pl. ½ to 1 foot.

4 H. macrophy'llum (Nutt. in journ. acad. nat. scienc. phil. 7. p. 111.) leaves pinnate; segments or leaflets deeply toothed; cymes of flowers very dense; calycine segments lanceolate, ciliately hispid. ♃. H. Native of North-west America, in fissures of moist rocks, in the interior of Columbia, Douglas, 1826; in the forests of Kentucky, Mr. Short, ex Nutt, l. c. H. capitàtum, Dougl. mss. ex Benth. l. c. p. 282. H. cælestìnum, Dougl. mss. The specimens collected on moist rocks in the interior of Columbia, (H. capitàtum, Dougl. mss.,) have the leaves hispid on both surfaces; the segments or leaflets but little divided, and not narrowed at their base. The other specimens gathered in shady moist woods (H. cælestìnum, Dougl. mss.) have the leaves larger, with broader segments, much more cut, and the flowers fewer. The same plant also occurs in *Califórnia*, but with the leaves much more hispid on the upper surface, and clothed with whitish down beneath, ex Benth. All these differences are perhaps attributable to locality. Corollas blue.

Large-leaved Water-leaf. Pl. 1 foot?

† *A doubtful species.*

5 H. linea're (Pursh, fl. 1. p. 134.) pilose; leaves linear; racemes elongated. ♃. H. Native on the banks of the Missouri.

Linear-leaved Water-leaf. Fl. April. Pl.?

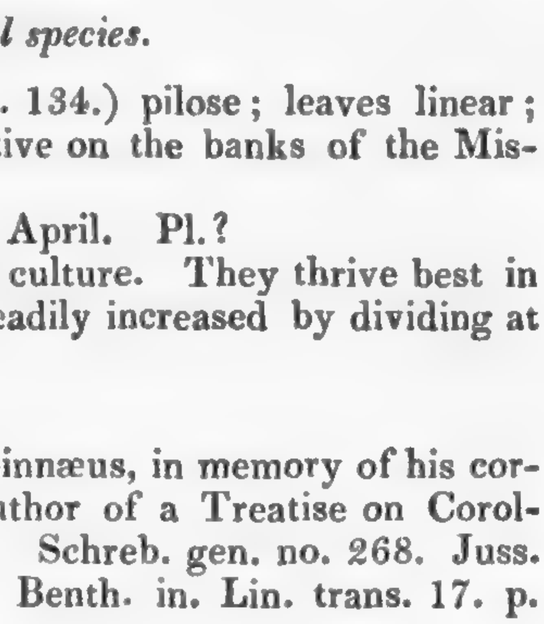
Cult. Plants of the most easy culture. They thrive best in a shady moist situation, and are readily increased by dividing at the root in spring or autumn.

II. ELLI'SIA (so named by Linnæus, in memory of his correspondent John Ellis, F.R.S., author of a Treatise on Corollines.) Lin. gen. p. 83. no. 244. Schreb. gen. no. 268. Juss. gen. p. 129. ed. Usteri, p. 144. Benth. in. Lin. trans. 17. p. 274.

Lin. syst. *Pentándria, Monogýnia.* Calyx without appendages at the sinuses. Corolline processes 10, short or wanting. Stamens rather shorter than the corolla. Placentas large, free on the back, filling the ovarium, biovulate.—North American small annual herbs. Leaves pinnately cut: lower ones opposite. Lower peduncles opposite the leaves: superior ones disposed in simple, unilateral, loose racemes.

1 E. Nyctele'a (Lin. gen. 97. syst. 195. mant. p. 336.) petioles without appendages; leaves pinnatifid, with cut lobes; calyx increasing much after florescence. ☉. H. Native of Virginia, on the banks of the Potomac river, and on the banks of the Missouri. Gærtn. fil. carp. 3. t. 184. f. 6. Lam. ill. t. 97.—Benth. l. c. p. 274. Polemònium Nyctelèa, Lin. spec. 231. Ehret, nov. act. ups. 1. p. 97. t. 5. f. 5. Trew. pl. sel. p. 56. t. 99. Planta Lithospérma affínis, Act. eph. nat. cur. 1761. p. 330. t. 7. f. 1.—Mor. hist. 3. p. 451. sect. 11. t. 28. f. 3. Segments of the fruit-bearing calyx ovate-lanceolate, acute, foliaceous, half an inch long. Stem dichotomous. Peduncles 1-flowered, opposite the leaves. Leaves downy. Flowers drooping. Corolla white, with minute, purple dots inside the divisions.

FIG. 38.



Nyctelea or Cut-leaved Ellisia. Fl. July, Aug. Clt. 1755. Pl. ½ foot.

2 E. ambi'gua (Nutt. gen. 1. p. 118.) plant decumbent, branched; stem glabrous, rather glaucous; leaves hairy, lyrately pinnatifid, almost sessile: segments nearly lanceolate, angularly toothed or lobed; racemes opposite the leaves, lateral and terminal; corolla small, hardly longer than the calyx: with emarginate segments. ☉. H. Native on the banks of the Missouri, in alluvial soils. Corolla white?

Ambiguous Ellisia. Pl. decumbent.

3 E. microca'lyx (Nutt. in amer. phil. soc. trans. n. s. 5. p. 191.) smoothish, decumbent; leaves lyrately pinnatifid, on long petioles; segments few (3-5): lateral ones oblique, deeply toothed: middle one trifid and obtuse; flowers solitary, minute. ☉. H. Native of the Arkansas, Alabana, &c. Hydrophýllum pusíllum, Muhl. herb. Leaves slightly hairy; lateral segments half reniform; the terminal division nearly entire, but trifid. Calyx minute. Corolla very small, subcampanulate; with 5 shallow lobes.

Small-calyxed Ellisia. Pl. decumbent.

4 E. ranuncula'cea (Nutt. l. c.) rather hairy; stems procumbent; leaves pinnatifid, somewhat 5-lobed: superior ones tripartite, deeply toothed, obtuse, on long petioles; racemes secund, few-flowered. ☉. H. Native of the Arkansas, in shady, alluvial, humid forests. Lateral segments of the superior leaves toothed on the lower side; the central segment trifid. Corolla pale blue, cylindrically campanulate, naked. Ovarium hairy. Nearly allied to *E. ambígua*, from which it differs in the less compound leaves, on conspicuous petioles.

Crowfoot-like Ellisia. Pl. procumbent.

5 E. membrana'cea (Benth. in Lin. trans. 17. p. 274.) quite glabrous; petioles exappendiculate; leaves pinnatifid: segments quite entire; calyx hardly increasing after florescence. ☉.? H. Native of California, Douglas. Leaves thin; lobes divaricate, broad-lanceolate, obtuse. Flowers small, pedicellate, loosely racemose. Corolla white.

Membranous-leaved Ellisia. Pl.?

6 E. chrysanthemifòlia (Benth. l. c.) hispid; petioles auriculately dilated at the base; leaves sub-bipinnatifid: lobes deeply toothed, obtuse; calyx increasing a little after florescence. ☉.? H. Native of California, Douglas. Flowers similar to those of *E. membranàcea*. Processes of corolla toothed.

Chrysanthemum-leaved Ellisia. Pl.?

Cult. The seeds of these plants only require to be sown in the open ground; and if allowed to scatter their seeds, will maintain themselves.

III. NEMO'PHILA (from *νεμος, nemos*, a grove; and *φιλεω, phileo*, to love; the plants delight in shady situations.) Barton, fl. amer. p. 61. Nutt. journ. acad. nat. scienc. phil. vol. 2. p. 179. Benth. in Lin. trans. 17. p. 272.—Phacèlia species, Juss. gen. p. 144. Pursh, fl. amer. sept. 1. p. 140.

Lin. syst. *Pentándria, Monogýnia.* Sinuses between the lobes of the calyx appendiculated by reflexed teeth. Corolline processes 10, short or wanting. Stamens rather shorter than the corolla. Placentas large, free on the back, filling the ovarium, 2-12-ovulate.—Diffuse, brittle, annual herbs. Lower leaves opposite; all pinnatifid. Peduncles sometimes axillary, 1-flowered; sometimes few at the tops of the branches, disposed in short racemes. Flowers usually blue.

1 N. parviflòra (Dougl. mss. ex Benth. l. c. p. 275.) leaves pinnatifid: lobes few, broad, a little toothed; sinuses of calyx with short appendages; corolla hardly exceeding the calyx; placentas 2-ovulate. ⊙. H. Native of Columbia, on the west coast of America, Douglas and Scouler. Flowers small. Appendages of calyx usually very short, sometimes hardly evident, rarely elongating after florescence. Processes of corolla small, narrow.

Small-flowered Nemophila. Fl.? Clt. 1826. Pl. 1 foot.

2 N. pedunculàta (Dougl. mss. ex Benth. l. c.) leaves pinnatifid; sinuses of the calyx furnished with short appendages; corolla hardly exceeding the calyx; placentas 6-ovulate. ⊙. H. Native of North-west America, on the Columbia, Douglas. Habit, calyx, and corolla, almost as in *N. parviflòra*. Leaves narrower, on longish petioles; and the lobes more entire and distinct.

Pedunculate Nemophila. Pl. 1 foot?

3 N. phacelioìdes (Bart. fl. amer. bor. p. 61.) petioles without appendages; corolla exceeding the calyx a little; sinuses of the calyx furnished with lanceolate appendages, which equal in length one half the calyx; placentas biovulate. ⊙. or ♂. H. Native of North America. Sweet, fl. gard. 1. t. 32. Sims, bot. mag. 2373. N. Nuttállii, Coll. hort. rip. append. t. 5. Corollas blue. This plant is nearly related to *N. parviflòra*; but differs in the flowers, which are twice the size, and the larger or longer appendages of the calyx.

Phacelia-like Nemophila. Fl. July, Aug. Clt. 1822. Pl. 1 foot.

4 N. aurìta (Lindl. bot. reg. t. 1601.) petioles auriculately dilated at the base; sinuses of the calyx furnished with elongated appendages; corolla twice as long as the calyx; placentas biovulate. ⊙. H. Native of California, Douglas. Leaves while opposite connate at the base; lobes lanceolate, quite entire, divaricate, or tending to the base of the leaf. Peduncles somewhat racemose at the tops of the branches. Corolla nearly an inch in diameter, purple. Benth. l. c. p. 275.

Eared-petioled Nemophila. Fl. May, Aug. Clt. 1831. Pl. prostrate.

5 N. insi'gnis (Dougl. mss. ex Benth. l. c. p. 275. Lindl. bot. reg. 1713.) petioles without appendages; corolla twice as long as the calyx; placentas 10-12-ovulate. ⊙. H. Native of California, Douglas. D. Don, in Sweet, fl. gard. n. s. t. 329. N. phacelioìdes, Ker. bot. reg. t. 740.? Herb deep green. Leaves with 3-4 lobes on each side, quite entire or cut. Peduncles longer than the leaves. Corolla blue, with a white centre, more than an inch in diameter. Processes of the corolla villous at the base.

Showy Nemophila. Fl. July, Aug. Clt. 1822. Pl. 1 foot.

6 N. atoma'ria (Fisch. et Meyer, cat. sem. hort. petrop. p. 42.) leaves opposite, pinnatifid: lobes 5-9, almost entire; peduncles axillary, elongated; corolla rotate, with a very pilose bottom, and obovate segments; placentas about 10-ovulate; seeds strophiolate, smooth. ⊙. H. Native of New California, about the Russian colony, Ross. Very like *N. insígnis*, but the herb is pale green; the flowers white, ornamented with violaceous spots. Seeds yellowish, beset with minute scales, as in *N. insígnis*. Corollas nearly an inch in diameter.

Atom Nemophila. Fl.? Clt. 1836. Pl. 1 foot.

7 N. Menzie'sii (Hook. et Arn. in Beech. voy. pt. bot. p. 152.) leaves all pinnatifid, scabrous: segments approximate, ovate, obtuse, ciliated, somewhat tridentately lobed; peduncles twice as long as the leaves, and opposite them; calyx with lanceolate segments, and minute appendages to the sinuses. ⊙. H. Native of Chili? Capsule many-seeded. Corollas blue?

Menzies's Nemophila. Pl. 1 foot?

Cult. These are all pretty plants, and worth cultivating. The seeds may be reared on a hot-bed, if the plants are wanted to flower early; but if otherwise, they may be sown in the open ground. They delight in a moist, shady situation, and peat or vegetable soil.

IV. EU'TOCA (from *ευτοκος, eutocos*, fruitful; in reference to the number of seeds in each capsule.) R. Br. in append. to Frankl. trav. ed. 2. p. 51. t. 27. Dougl. in bot. reg. t. 1180. Benth. in Lin. trans. 17. p. 276.—Phacèlia species, Pursh.

Lin. syst. *Pentándria, Monogýnia.* Corolla deciduous. Ovarium ovoid-globose, hispid from pili. Placentas linear, adnate by the back to the parietes of the ovarium, 4 to many-ovulate. Capsule half 2-celled, from the dissepiment being incomplete.—Annual herbs, usually erect, with the habit of *Phacèlia*, rarely diffuse or divaricate. Flowers racemose, dense and sessile, or loose and pedunculate. Cymes unilateral, simple or dichotomous.

1 E. Dougla'sii (Benth. in Lin. trans. 17. p. 276.) diffuse; leaves all pinnatifid: with ovate, almost entire lobes; placentas 12-20-ovulate. ⊙. H. Native of California, Douglas. Leaves nearly all radical, hispid; with 4-6 lobes on each side. Floriferous stems ascending, furnished with a few leaves at the base, naked and many-flowered at the apex. Peduncles elongated. Flowers as large as *Nemóphila insígnis*, to which plant the habit is referrible.

Douglas's Eutoca. Pl. 1 foot.

2 E. Cumíngii (Benth. in Lin. trans. 17. p. 276.) erect, clothed with scabrous pubescence; leaves elongated, pinnate: lobes or leaflets oblong, obtuse, cut a little; placentas 6-8-ovulate. ⊙. H. Native of the Andes of Chili. The corolla appears to be shorter than the calyx. Very nearly allied to *E. brachýloba.*

Cuming's Eutoca. Pl. 1 foot?

3 E. brachy'loba (Benth. l. c. p. 277.) erect, beset with scabrous pubescence; leaves long, pinnatifid: lobes ovate, obtuse, a little cut; placentas 6-8-ovulate. ⊙. H. Native of California, Douglas. Leaves petiolate, 2-3 inches long, with 6 lobes on each side. Pedicels short. Racemes dichotomous, almost as in *Phacèlia circinàta.*

Short-lobed-leaved Eutoca. Pl. 1 foot?

4 E. Mexica'na (Benth. l. c.) diffuse; leaves ovate-oblong, deeply pinnatifid: lobes ovate or oblong, glabrous on both surfaces; placentas, 6-8-ovulate. ⊙. H. Native of Mexico, in the neighbourhood of the mines of Tlalpuxahua, and between that place and the city of Mexico, G. J. Graham. Racemes elongated, simple. Flowers pedicellate, twice as large as those of *E. parviflòra*, to which the present species is nearly allied; the filaments are pilose as in it, and the processes of the corolla are wanting.

Mexican Eutoca. Pl. diffuse.

5 E. parviflòra (R. Br. append. to Frankl. trav. ed. 2d. p. 51, Benth. l. c.) diffuse; leaves pinnatifid or trifid: the superior ones sometimes undivided, and the lobes of the lower ones are ovate, or oblong, quite entire, hispid on both surfaces; placentas 6-8-ovulate. ⊙. H. Native of Pennsylvania, Schweinitz; Alleghanies, Drummond; on rocks near Harper's Ferry on the Potomac, Pursh. Phacèlia parviflòra, Pursh, fl. amer. sept. 1. p. 140. Polemònium dùbium, Willd. spec. 1. p. 887. —Polemonium, foliis inferioribus hastatis, superioribus lanceolatis, Gron. virg. p. 29.—Plukn. alm. t. 245. f. 5. Flowers small, pale blue.

Small-flowered Eutoca. Fl. May. Clt. 1826. Pl. 1 foot?

6 E. loasæfòlia (Benth. in Lin. trans. 17. p. 277.) erect,

very hispid; leaves ovate, pinnatifid: lobes broad, acute, deeply-toothed; corolla hardly exceeding the calyx; stamens exserted; placentas 6-8-ovulate. ⊙. H. Native of California, Douglas. Habit almost of *Phacèlia*. All parts of the plant very hairy from long stiff pili, intermixed with clammy down.

Loasa-leaved Eutoca. Pl. 1 foot?

7 E. Franklìnii (R. Br. in append. to Frankl. trav. p. *52*. Benth. l. c.) erect; leaves pinnatifid, or bi-pinnatifid; ovula 20 or more to each placenta. ⊙. H. Native of North America. Hook. bot. mag. 2985. Corollas with a blue limb and white tube.

Franklin's Eutoca. Fl. April, July. Clt. 1827. Pl. 1 foot.

8 E. Menzie'sii (R. Br. l. c.) erect, hispid; leaves linear, or lanceolate, quite entire, sometimes trifid or pinnatifid; placentas 20, or many-ovulate. ⊙. H. Native of North West America, on dry sandy soils, and California, Douglas. E. multiflòra, Dougl. in bot. reg. t. 1180. Lehm. pug. 2. p. 19. E. echioìdes, and E. glomeràta, Dougl. mss. E. congesta, Dougl. mss. Lehm. pug. 2. p. 18. Plant variable in the breadth of the leaves and stature. Corollas blue.

FIG. 38.

Menzies's Eutoca. Fl. May, July. Clt. 1826. Pl. 1½ foot.

9 E. serícea (Graham, in edinb. phil. journ. July 1830. p. 172.) erectish; leaves silky on both surfaces, pinnatifid; segments cut outwardly; superior leaves linear, entire; stamens 3 times as long as the corolla; placentas many-ovulate, several of which are abortive. ⊙. H. Native of North America. Hook. bot. mag. t. 3003. E. pulchélla, Lehm. pug. 2. p. 18. Flowers blue.

Silky Eutoca. Fl. May, July. Clt. 1827. Pl. 1 foot.

10 E. grandiflòra (Benth. in Lin. trans. 17. p. 278.) ascending; leaves broad, ovate, toothed, sub-cordate at the base; placentas above 50-ovulate. ⊙. H. Native of California, Douglas. Stem or branches nearly simple. Leaves 1½ inch long, and almost as broad, wrinkled, hispid, as well as stems and calyxes. Racemes numerous, at the top of the stem circinate. Calyxes nearly sessile. Corolla 1½ inch in diameter, without any processes. Filaments glabrous.

Great-flowered Eutoca. Pl. 1 foot?

11 E. divarica'ta (Benth. l. c.) stems dichotomously divaricate; leaves all ovate, undivided; placentas 12-20-ovulate. ⊙. H. Native of California, Douglas. Lindl. bot. reg. t. 1784. Leaves all alternate. Racemes many-flowered, unilateral. Flowers almost sessile. Calyx increasing much after florescence. Corolla pale blue, exceeding the calyx a little.

Divaricate Eutoca. Pl. decumbent.

12 E. phacelioìdes (Benth. l. c. p. 279.) erect, branched; leaves all ovate, undivided, quite entire; placentas 4-ovulate. ⊙. H. Native of California, Douglas. Habit of *Phacèlia circinàta*, but much smaller. Leaves all alternate, petiolate. Racemes many-flowered. Flowers nearly sessile. Calyxes very hispid. Corolla somewhat funnel-shaped, exceeding the calyx a little. Stamens inclosed within the tube.

Phacelia-like Eutoca. Pl. 1 to 2 feet.

13 E. Wrangelia'na (Fisch. et Meyer, cat. sem. hort. petrop. p. 37.) diffuse, downy; leaves ovate, acute, quite entire; corollas about twice as long as the calyx, and about equal in length to the stamens; placentas 8-10-ovulate. ⊙. H. Native of New California, about the Russian colony, Ross. Herb canescent, much-branched. Corollas an inch in diameter, bluish-violet.

Wrangel's Eutoca. Fl.? Clt. 1836. Pl. diffuse.

14 E. vi'scida (Benth. in bot. reg. t. 1808.) clothed with clammy pili; stem erect, branched; leaves cordate-ovate, a little angular, serrated; racemes elongated, forked and simple; placentas many-ovulate. ⊙. H. Native of California. Corolla fine blue; tube rose-coloured.

Viscid Eutoca. Fl. June, Aug. Clt. 1834. Pl. 2 feet.

Cult. All the species are elegant and hardy. They succeed best on rockwork, in dry, sandy, or gravelly soil. They are raised from seeds, which are produced sparingly.

V. PHACE'LIA (from φακελος, *phakelos*, a fascicle; in reference to the fascicles of flowers.) Juss. gen. p. 129. ed. Usteri, p. 144. Michx. fl. bor. amer. 1. p. 134. t. 16. Benth. in Lin. trans. 17. p. 279.

Lin. syst. *Pentándria, Monogýnia.* Corolla deciduous. Ovarium ovoid-globose, hispid from pili. Placentas linear, usually adnate by the back to the parietes of the ovarium, biovulate. Capsule falsely 2-celled, from the dissepiment being almost complete.—Annual or perennial, erect or diffuse herbs, natives of America. Flowers racemose, dense, sessile, or loose, pedicellate. Cymes unilateral, simple, or forked.

1 P. malvæflòra (Cham. in Linnæa, 4. p. 495.) hispid; leaves broadly cordate-ovate, lobed; calycine segments linear-spatulate, hispid: outer one large; stamens exserted. ♂. H. Native of California. Corolla campanulate, a little longer than the calyx; limb unequally 5-lobed. Plant beset with glandular and simple hairs.

Mallow-flowered Phacelia. Pl. 1½ foot.

2 P. brachya'ntha (Benth. in Lin. trans. 17. p. 279.) leaves ovate, quite entire, undivided, or furnished with 1-2 lobules at the base; corolla hardly exceeding the calyx; stamens inclosed. ♂. H. Native of the Andes of Chili, at the baths of Collina. Habit of *P. circinàta*. Flowers almost like those of *Eùtoca phacelioìdes*, but the placentas are constantly biovulate.

Short-flowered Phacelia. Pl. 1½ foot.

3 P. circina'ta (Jacq. fil. eclog. 1. p. 135. t. 91.) leaves usually pinnate, but sometimes undivided: lobes oblong or ovate, quite entire, unequal; corolla more than one-half longer than the calyx; stamens exserted. ♂. or ♃. H. Native of Chili, Straits of Magellan, Commerson; Peru, Ruiz. et Pavon; Mexico, on Mount Orizaba, Schiede and Deppe; California, Chamisso, Douglas, &c.; on the Columbia, Dougl. and Scouler; on the banks of the Kooskoosky, Lewis. P. Peruviàna, Spreng. syst. 1. p. 584. Cham. in Linnæa, 4. p. 494. P. Califórnica, Cham. l. c. P. heterophýlla, Pursh. fl. amer. sept. 1. p. 140. P. rùdis, Dougl. mss. P. hastàta, Dougl. mss. ex Lehm. pug. 2. p. 20. Heliotròpium pinnàtum, Vahl. symb. 3. p. 21. Hydrophýllum Magellánicum, Lam. journ. d'hist. nat. 19. p. 373. H. Aldèa, Rœm. et Schultes, syst. 4. p. 114. Aldèa pinnàta, Ruiz. et Pav. fl. per. 2. p. 8. t. 114. Aldèa circinàta, Willd. enum. suppl. p. 9. Leaves ternate, or pinnate, with 5 leaflets; leaflets unequal. Spikes glomerately capitate, circinate. Plant hispid, canescent from villi and pubescence. There are several varieties of this plant, differing in the pubescence, which variation is probably owing to locality. Flowers pale blue, or purplish. Floral leaves simple. Spikes dichotomous.

Circinate-spiked Phacelia. Fl. June, July. Clt. 1817. Pl. 1 to 2 feet.

4 P. INTEGRIFÒLIA (Torrey, in ann. lyc. new york, 2. p. 222. t. 3.) leaves ovate, undivided, crenately serrated; stamens exserted. ♃.? H. Native of the banks of the river Platte.

Entire-leaved Phacelia. Pl. 1½ foot?

5 P. CILIA'TA (Benth. in Lin. trans. 17. p. 280.) clothed with scabrous pubescence; leaves pinnate: leaflets oblong, obtuse, somewhat pinnatifid; calycine segments ovate, rather membranous, reticulated, ciliated on the margins; stamens about equal in length to the corolla. ♃.? H. Native of California, Douglas. Leaves almost like those of *Eùtoca Cumíngii*, and with the habit of *Eùtoca brachýloba*, but the placentas are biovulate.

Ciliated-calyxed Phacelia. Pl. 1 to 2 feet.

6 P. RAMOSÍSSIMA (Dougl. mss. ex Lehm. pug. 2. p. 21. Benth. l. c.) clothed with scabrous glandular pubescence or hispid; leaves pinnate: leaflets ovate, obtuse, somewhat pinnatifid; calycine segments oblong, green, hispid; stamens exserted. ♃.? H. Native of California, and on the Columbia, Douglas. Branches elongated, divaricately-branched, few-leaved. Flowers rather smaller than those of *P. circinàta*. Corolla and ovarium glabrous. Calyx ciliated with glandular hairs.

Much-branched Phacelia. Pl. 1 to 2 feet?

7 P. TANACETIFÒLIA (Benth. l. c.) clothed with scabrous pubescence, or hispid; leaves bi-pinnatifid: leaflets oblong, dentately pinnatifid; calycine segments oblong-linear, hispid; stamens exserted. ♃.? H. Native of California, Douglas. Lindl. bot. reg. t. 1696. Stem branched at the base. Flowers blue, a little smaller than in *P. circinàta*.

Tansy-leaved Phacelia. Pl. 1 to 1½ foot.

8 P. BIPINNATÍFIDA (Michx. fl. bor. amer. 1. p. 134. t. 16.) erect; leaves pinnatifid: segments deeply lobed; spikes for the most part bifid, oblong, many-flowered; lobes of corolla entire. ♃. H. Native of the Western counties, principally on the Alleghany mountains, and in Kentucky, and on the Missouri, and from Pennsylvania to Virginia. Pursh. fl. 1. p. 140. P. pubéscens, Poir. dict. 5. p. 239. Plant pubescent. Corollas blue.

Bipinnatifid-leaved Phacelia. Fl. June, July. Clt. 1824. Pl. 1 to 2 feet.

9 P. FIMBRIA'TA (Michx. fl. bor. amer. 1. p. 134. t. 16.) assurgent, pilose; leaves pinnate, or pinnatifid: leaflets entire; racemes loose; corolla fringed; ovaries seated on a very thick base. ♃. H. Native on high mountains in Carolina, Michx.; near Harper's Ferry on the Potomac, Pursh; in Kentucky, Torrey. Habit of *Eùtoca Mexicàna*. Leaves sessile, or on short petioles; leaflets lanceolate, acute, glabrous beneath, but hispid from pili above. Racemes solitary; pedicels elongated. Flowers beautiful blue, ex Pursh; white, ex Michx.

Fringed-flowered Phacelia. Pl. 1 foot.

10 P. GLA'BRA (Nutt. l. c. p. 192.) erect; leaves pinnatifid; superior ones stem-clasping, ciliated: segments almost entire; calycine segments ovate; lobes of corolla entire, naked; filaments bearded at the base. ⊙ or ♂. H. Native of the Arkansas, in humid and elevated woods, on the edges of rivulets, near the Dardanelle settlement. Very like the following, growing, however, not more than 5-6 inches high. Segments of the lower leaves 3-4 pairs, somewhat incisely toothed, and obtuse; the upper leaves pectinately pinnatifid. Calycine segments ovate, ciliated. Corolla lilac-blue, campanulate, rather large and pilose externally; the lobes sub-oval, having 10 purplish spots at the base of the corolla. Stamens a little exserted. Capsule smooth, 4 to 8-seeded.

Glabrous Phacelia. Fl. April. Pl. ½ foot.

11 P. HIRSU'TA (Nutt. in amer. phil. soc. trans. n. s. 5. p. 191.) stem erect, branched; leaves pinnatifid: superior ones sessile: segments nearly entire; calycine segments linear, spreading; lobes of corolla entire, naked; filaments bearded at the base. ⊙. ♂. H. Native of the Arkansas, in sylvan prairies; common from the Cadron to the garrison at Belle Point. The whole plant hairy. Upper leaves pectinately pinnatifid; the segments of the lower leaves sparingly toothed; those of the upper ones linear and entire. Spikes simple, rarely bifid; pedicels longer than the calyxes. Calycine segments linear. Corolla campanulate, purplish blue, 5-grooved, the grooves naked and melliferous. Capsule ovate, hairy, 4-8-seeded, the ovarium 8-10-ovulate.

Hairy Phacelia. Fl. April, May. Pl. ½ to 1 foot.

12 P. CONFE'RTA (Hook. bot. mag. t. 3452. D. Don, in Sweet. fl. gard. n. s. t. 327.) clothed with hoary down, intermixed with bristly hairs; leaves bi-pinnatifid: segments ovate-oblong, acute, deeply serrated; calycine segments linear-lanceolate, acute; stamens exserted. ⊙. H. Native of Texas. Racemes terminal, many-flowered, cymose, often forked, bractless. Corolla campanulate, pale blue. Placentas biovulate.

Crowded-flowered Phacelia. Fl. July, Oct. Clt. 1835. Pl. 1 to 1½ foot.

Cult. Some of the species of *Phacèlia* are pretty when in blossom. They all require a sheltered situation, and as they are apt to rot in the winter, the situation in which they are grown should also be dry. A few duplicate plants of each should be grown in pots, in order that they may be sheltered in winter. All are increased by seeds.

VI. EMMENA'NTHE (from εμμενης, *emmenes*, permanent; and ανθος, *anthos*, a flower; in allusion to the corolla being permanent.) Benth. in Lin. trans. 17. p. 281.

LIN. SYST. *Pentándria*, *Monogýnia*. Corolla permanent. Ovarium oblong compressed, clothed with glandular pubescence. Placentas linear, adnate by the back, 8-ovulate. Capsule falsely 2-celled, from the half complete dissepiment, which is thickened at the axis.—An elegant, erect, branched herb, clothed with rather clammy villi. Leaves alternate, pinnatifid, half stem-clasping, not auricled at the base. Racemes numerous, erect, slender, circinate before florescence; pedicels slender, longer than the flowers. Flowers pendulous, 5 lines long. Calyx pubescent, rather clammy. Corolla campanulate, white or yellowish? spotted with purple inside at the base; corolline processes 10, minute, at the base of the corolla. Stamens shorter than the corolla. The capsule is somewhat 4-celled from the placentas being thickened at the axils.

1. E. PENDULIFLÒRA (Benth. l. c.) ♃.? H. Native of California, Douglas.

Pendulous-flowered Emmenanthe. Pl. erect.

Cult. For culture and propagation see *Phacèlia*, above.

N.B. Phacèlia furcàta, Dougl. mss. is a Polemoniaceous plant allied to Gília, and probably a new genus, ex Benth. Convólvulus platycárpus, Cav. and a few others may be Hydrophyllaceous plants.

ORDER CLXVII. SOLANA'CEÆ (this order contains plants agreeing with *Solànum*, or the potatoe tribe, in particular characters.) Solàneæ, Juss. gen. p. 124. ed. Usteri, p. 138. R. Br. prod. p. 443. ed. Nees, p. 299. Bartl. ord. nat. pp. 122. 193.

Calyx usually 5-cleft, rarely 4-cleft, permanent, inferior.

Corolla monopetalous, hypogynous; limb 5-cleft, rarely 4-cleft, regular, or a little unequal, deciduous, with the æstivation plicate in the legitimate genera; but imbricate in the spurious ones. Stamens epipetalous, equal in number to the segments of the corolla, and alternating with them, one of which is sometimes abortive. Ovarium 1-2-3-4-celled, many-seeded. Style one; stigma obtuse, rarely lobed. Fruit or pericarp 2-4-celled; a capsule with a parallel or duplicate dissepiment; or a berry having the placentas adnate to the dissepiment. Seeds numerous, sessile. Albumen fleshy. Embryo inclosed, more or less arched, usually excentrical, with the radicle tending to the umbilicus.—Herbs or shrubs. Leaves alternate, undivided or lobed: floral ones placed nigh together, often twin. Inflorescence variable, usually extra-axillary; pedicels bractless.

This order is distinguished from *Scrophulárinæ*, particularly in the arched or spiral embryo; in the plicate æstivation of the corolla, and in the flowers being generally regular, and the stamens equal.—Perhaps those genera, having the æstivation of the corolla not plicate, and the embryo straight, should be excluded, or combined into a separate order with those having the æstivation of the corolla imbricate, the embryo arched, and the stamens didynamous.

The *Deadly Nightshade* represents this order, which participates very generally in its qualities, although they are very frequently hidden beneath a fairer form, and often much mitigated. Many of the *Solanums* are very handsome. The root of *S. tuberòsum* is the common potatoe. The *Verbáscums*, *Datùras*, *Solándras*, and *Brunfélsias*, &c. are all plants of great beauty, although the former, on account of their frequency, are despised in gardens. *Cápsicums* are famous for their pungent fruits and seeds; the Cayenne pepper being the pulverized fruit of several species; *Brunfélsias* for their fragrance and beauty; and *Nicotiànas* or *Tobacco* for their fetor. The leaves of the whole order have a disagreeable smell. The usual effect of solanaceous plants is narcotic; but it is thought that this has been exaggerated on account of the intense and deleterious properties of *A'tropa Belladónna*. These, according to the observations of Vauquelin, depend upon the presence of a bitter, nauseous matter, which is soluble in spirits of wine, forming with tannin an insoluble compound; and giving out ammonia when decomposed by fire. Notwithstanding the narcotic power of the roots of *Mandrake*, the *Belladónna*, and others, those of the potatoe are found to contain an abundant fecula, which is among the most valuable food for man. The leaves of many Solanaceous plants are exciting and narcotic, but in very unequal degree, as in *Tobacco*, *Physàlis*, *Henbane*, &c.; those of the *Nightshade* excite vertigo, convulsions, and vomiting. The juice of *Stramònium* is given in North America in doses of from 20 to 30 grains, in cases of epilepsy. The fruit of *Physàlis Alkekéngi* is a veterinary diuretic; those of *P. edùlis*, *pubéscens*, and others, are used in tarts; that of *Lycopérsicum vulgàre*, and that of the *Solànum Melongèna*, are served at tables in various forms, under the name of *Tomatoes* and *Aubergines*.

Synopsis of the genera.

TRIBE I.

SOLA'NEÆ. Limb of corolla plicate in æstivation. Stamens equal in number to the segments of the corolla. Anthers dehiscing lengthwise, except in the genus *Solànum*. Embryo much curved. Fruit baccate. Placentas usually adnate to the dissepiment.

1 SOLA'NUM. Calyx 5-cleft, rarely 4-cleft. Corolla rotate, rarely campanulate, usually 5-cleft. Anthers connivent, dehiscing by pores at apex. Berry 2, rarely 4-celled.

2 LYCOPE'RSICUM. Calyx 5-6-parted. Corolla rotate, 5-6-cleft. Anthers conniving, membranous at top, dehiscing lengthwise. Berry 2-3-celled. Seeds villous.

3 PELTANTHE'RA. Calyx 5-parted. Corolla rotate. Anthers hamately-sagittate, dehiscing lengthwise, furnished each with a peltate, sessile appendage on the back.

4 CA'PSICUM. Calyx 5-toothed. Corolla rotate. Anthers conniving, dehiscing lengthwise. Berry 2, rarely 3-celled, chartaceous, hollow, naked.

5 PHYSA'LIS. Calyx 5-toothed. Corolla campanulately rotate. Anthers connivent, dehiscing lengthwise. Berry 2-celled, hidden by the inflated calyx.

6 SARA'CHA. Calyx 5-cleft. Corolla campanulately rotate, reflexed. Stamens bearded. Anthers separate, dehiscing lengthwise. Berry 2-celled, covered by the calyx to the middle.

7 WITHERI'NGIA. Calyx 4-5-cleft. Corolla rotate, 4-5-cleft. Anthers connivent, dehiscing lengthwise. Berry 2-celled, propped by the calyx.

8 NETOU'XIA. Calyx 5-parted. Corolla salver-shaped; throat furnished with an entire, tubular, short corona. Anthers dehiscing lengthwise.

9 MANDRA'GORA. Calyx turbinate, 5-cleft. Corolla campanulate. Stamens dilated at the base, and connivent. Ovarium biglandular at the base. Berry solid, 1-celled.

10 A'TROPA. Calyx loose, 5-cleft. Corolla campanulate, ventricose. Stamens usually exserted. Stigma depressed. Berry 2-celled; placentas free.

11 ANISÒDUS. Calyx campanulate, unequally 5-lobed. Corolla campanulate. Stamens straight. Berry 2-celled, inclosed in the inflated calyx, operculate.

12 NICA'NDRA. Calyx 5-parted, inflated; segments sagittate. Corolla campanulate. Stamens incurved. Berry fleshy, dry, 3-5-celled, covered by the calyx.

13 LY'CIUM. Calyx 5-toothed, or 3-5-lobed. Corolla funnel-shaped or tubular. Stamens usually exserted. Stigma depressed. Berry 2-celled.

14 ACNÍSTUS. Calyx 5-toothed. Corolla funnel-shaped; limb imbricate in æstivation, reflexed. Stamens exserted. Stigma funnel-shaped. Berry 2-celled.

15 JABARÒSA. Calyx 5-cleft. Corolla campanulate or tubular; limb induplicate in æstivation. Stamens short, inserted towards the top of the tube. Berry 2-3-celled.

Tribe II.

Nicotia'neæ. Limb of corolla plicate in æstivation. Stamens equal in number to the segments of the corolla, rarely fewer. Fruit capsular, 2-celled, usually 2-valved; valves bifid at apex. Calyx and corolla 5-cleft. Embryo much curved.

16 Nicotia'na. Calyx tubular. Corolla funnel-shaped, or salver-shaped; limb equal. Stamens rather unequal, inclosed or exserted. Capsule dehiscing by 4 parts at apex; placentas free.

17 Saira'nthus. Calyx campanulately ventricose, unequal. Corolla funnel-shaped; tube ventricose above, a little curved; limb subringent, rather unequal. Stamens unequal, a little exserted. Capsule as in *Nicotiàna*.

18 Lehma'nnia. Corolla ringent, with a narrow, incurved tube; limb campanulate. Stamens exserted, unequal, recurved. Capsule covered by the calyx; placentas free.

19 Petu'nia. Segments of calyx foliaceous, spatulate. Corolla with a short tube, and a dilated, rather unequal limb. Stamens unequal, inclosed. Placentas adnate.

20 Nierembe'rgia. Calycine segments foliaceous, lanceolate, or spatulate. Corolla with a long slender tube; and an equal, dilated limb. Stamens exserted; filaments combined at the base. Stigma transverse or peltate. Placentas adnate.

21 Salpiglóssis. Calyx 5-angled, 5-cleft. Corolla funnel-shaped, 5-lobed; lobes 2-lobed. Stamens didynamous, with the rudiment of a fifth between the 2 longer ones. Style tongue-shaped at apex; stigma truncate, transverse.

22 Schiza'nthus. Calyx 5-parted. Limb of corolla 4-parted, lobed, irregular. Stamens 4, 2 upper ones sterile. Stigma compressed, obtuse.

23 Scopòlia. Calyx and corolla both campanulate, equal. Stamens approximate, bent towards the lower side of the corolla. Capsule operculate; placentas adnate.

24 Physoclœ'na. Calyx ventricose. Corolla campanulate, regular. Stamens inclinate. Capsule hidden by the calyx, operculate; placentas adnate.

25 Hyocy'amus. Calyx ventricose. Corolla campanulately funnel-shaped; limb unequal, with one of the segments larger than the rest. Stamens inclinate. Capsule immersed in the calyx, operculate; placentas adnate.

Tribe III.

Datu'reæ. Limb of corolla plicate in æstivation, repandly 5-toothed. Stamens equal in number to the teeth of the corolla. Capsule coriaceous, succulent, 2-celled, 4-valved at apex. Placentas septiform, free. Seeds reniform. Stamens inclosed.

26 Datu'ra. Calyx angular, 5-toothed, deciduous. Corolla conically funnel-shaped. Stigma 2-lobed. Capsule smooth, or echinated.

27 Brugma'nsia. Calyx ventricose, angular, 2-3-cleft, or entire, spathaceous, bursting lengthwise, on one side. Corolla clavately funnel-shaped. Stigma thickened, 4-furrowed. Capsule smooth.

28 Sola'ndra. Calyx tubular, angular, 3-5-cleft, bursting on one side. Corolla clavately funnel-shaped; lobes fringed. Capsule smooth, 4-celled.

29 Ullòa. Calyx inflated, large, 5-parted, permanent. Corolla clavately funnel-shaped, gibbous under the throat, and contracted above, short; limb small, with roundish, spreading segments. Berry girded by the calyx.

Tribe IV.

Francísceæ. Limb of corolla plicate in æstivation, 5-lobed, rather unequal. Stamens 4, didynamous, that is, 2 long and 2 short, without any rudiment of a fifth, inclosed. Ovarium girded by a cupulate disk. Capsule 2-celled, 2-valved; valves bipartible at top. Placentas inserted into the dissepiment. Seeds numerous, angular. Embryo terete, straight.

30 Brunfe'lsia. Calyx 5-toothed. Corolla salver-shaped; imbricate? Stigma bilabiate. Fruit baccate; dissepiment contrary, placentiferous.

31 Franciscea. Calyx 5-toothed. Corolla salver-shaped. Stigma 2-lobed. Capsule 2-celled; dissepiment parallel with the valves, separating from the parietes at the base.

32 Browa'llia. Calyx 5-toothed. Corolla salver-shaped, resupinate. Stigma 2-lobed, 4 tubercled. Capsule 2-celled. Dissepiment contrary; placentas fleshy.

Tribe V.

Anthoce'rceæ. Corolla regular, not plicate. Stamens 4, didynamous, with the rudiment of a fifth. Embryo arched. Pericarp capsular, or baccate, 2-celled, 2-valved.

33 Anthoce'rcis. Calyx 5-cleft. Corolla campanulate; limb equal. Stamens inclosed. Fruit capsular, having the margins of the valves bent in, and inserted in the parallel placentas. Seeds reticulated.

34 Duboísia. Calyx bilabiate. Corolla campanulately funnel-shaped; limb 5-parted, nearly equal. Stamens inclosed. Fruit baccate. Seeds sub-reniform.

Tribe VI.

Nolanie'æ. Corolla plicate in æstivation, 5-lobed. Stamens equal in number to the lobes of the corolla. Ovaria 1 to 5, or more, crowded, seated on a fleshy annular disk. Stigma capitate. Drupe solitary, or 5 together, containing each a 2-4-celled bony nut, marked by 3-4 grooves, and 3-4 little holes beneath. Embryo filiform, gyrate, somewhat perepheric.

35 Nola'na. Calyx 5-cleft. Corolla campanulate, regular. Drupes usually 5, containing each a 3-4-celled bony putamen. Seeds roundish.

36 Trigue'ra. Calyx 5-cleft. Corolla campanulate; limb somewhat bilabiate, the 2 superior segments sub-reflexed. Drupe solitary, containing a 4, rarely a 2-celled putamen. Seeds ovate, 2 in each cell, compressed.

37 Crabówskia. Calyx 5-toothed. Corolla funnel-shaped; limb convolute in æstivation, reflexed. Drupe solitary, containing 2 2-celled bony putamens; cells 1-seeded.

Tribe VII.

Cestríneæ. Limb of corolla plicate, valvate, or induplicate in æstivation. Calyx 5-toothed. Corolla funnel-shaped, 5-lobed, regular; tube elongated; limb usually spreading. Stamens equal in number to the lobes of the corolla. Anthers dehiscing lengthwise. Ovarium seated on a cupulate disk. Pericarp capsular, or baccate, 2-celled. Placentas adnate to the dissepiment, or free. Embryo nearly straight.

§ 1. *Fruit baccate.*

38 Ce'strum. Limb of corolla conduplicate in æstivation, ex Schotte, plicate, ex Kunth. Stamens inclosed. Berry 1-celled, few-seeded. Placentas central, free.

39 Duna'lia. Limb of corolla plicate in æstivation. Stamens inclosed; filaments tripartite. Berry 2-celled; placentas adnate. Seeds many, lenticular.

40 Meye'nia. Corolla clavately tubular; limb 5-toothed, contracted, conduplicate in æstivation. Stamens inclosed. Berry 2-celled; seeds irregularly ovate. Embryo straight.

41 Da'rtus. Calyx 5-cleft. Corolla with a globose tube, and a 5-cleft limb. Stamens inclosed. Stigma 5-lobed. Berry excoriate, diaphanous, 1-celled, many-seeded. Seeds small, unequal.

§ 2. *Fruit capsular.*

42 Ve'stia. Limb of corolla valvate in æstivation. Stamens exserted, bearded at the base. Capsule 2-celled, 4-valved, many-seeded. Placentas adnate. Embryo straight.

43 Se'ssea. Limb of corolla plicate in æstivation; tube globose. Stamens villous, curved at the base. Capsule cylindrical, 2-celled, 4-valved at apex. Seeds oblong-compressed, with membranous edges.

44 Fabia'na. Limb of corolla short, revolute, plicate in æstivation. Stamens unequal, 2 longer. Capsule 2-celled, 2-valved. Seeds dotted.

45 Laure'ria. Calyx 5-parted, alately pentagonal. Limb of corolla plicate? short, straight. Stamens inclosed, villous at the base. Capsule 2-celled, 2-valved. Seeds copious, full of impressed dots; placentas adnate, lamelliform. Embryo cylindrical, incurved.

46 Lama'rkia. Calyx tubular, pentagonally-prismatic, half 5-cleft. Corolla somewhat funnel-shaped; limb spreading, equal, blunt. Stamens equal in length to the tube. Capsule oblong, terete, coarctate at top, many-seeded.

Tribe I.

SOLA'NEÆ. Limb of corolla plicate in æstivation. Stamens equal in number to the segments of the corolla. Embryo curved. Fruit baccate.

I. Solanum.

I. SOLA'NUM (a name given by Pliny, but the derivation is uncertain, some derive it from *Sol*, the sun; others say it is *Sulanum*, from *Sus*, being serviceable in disorders of swine; and others from *Solor*, to comfort, from its soothing narcotic effects; all these conjectures are, however, improbable.) Tourn. inst. p. 149. t. 62. Lin. gen. no. 251. Schreb. gen. no. 337. Juss. gen. 126. ed. Usteri, p. 141. Gærtn. fruct. t. 131. Mœnch. meth. p. 473. R. Br. prod. 444. Dunal. mon. sol. 115.—Melongèna, Tourn. inst. p. 151. t. 65.—Psèudo-cápsicum, Mœnch. meth. p. 476.—Nyctèrium Vent. jard. malm. p. 85.—Aquártia Jacq. amer. p. 15. t. 12.

Lin. syst. *Pentándria, Monogýnia.* Calyx permanent, 5 rarely 4-cleft. Corolla rotate, rarely campanulate, 5 rarely 4-cleft. Anthers oblong, connivent, dehiscing by 2 pores at the apex. Berry almost globose, 2-3-4-celled, but usually 2-celled. —Herbs or shrubs, unarmed, or prickly, rarely spiny. Leaves undivided, sinuated, lobed, impari-pinnate, or decompound, usually alternate, but in many species twin, rarely tern. Peduncles solitary or numerous, simple or multifid, axillary, or extra-axillary, 1, or many-flowered, opposite the leaves, or scattered, or terminal. The pedicles in *Sol. tuberòsum* are articulated under the flower. The fruit of *S. esculéntum* is large and 5-celled. In some species the flowers are sometimes 6-9-cleft.

Sect. I. Ine'rmis. Unarmed shrubs or herbs.

Subsect. 1. Potatoe. *Leaves impari-pinnate, pinnatifid, ternate or entire. Flowers corymbose or racemose, terminal, lateral, and axillary.*

§ 1. *Leaves impari-pinnate. Racemes corymbose, terminal.*

1 S. tuberòsum (Lin. spec. ed. 1st. p. 185.) root bearing tubers; stems herbaceous; leaves unequally pinnate; leaflets entire; pedicels articulated. ♃. H. Native of South America, on the west coast every where. Bergeret, phyt. 1. p. 231. icon. Blackw. t. 523. Lycopérsicum tuberòsum, Mill. dict. Sol. tuberòsum esculéntum, Bauh. pin. 167. Tourn. inst. 149. Pàpas Americànum, Bauh. hist. 3. p. 621. icon. Batàta Peruviàna, Park. theatr. ger. hist. 927. Pàpas Peruanòrum, Besl. hort. eyst. 3. p. 1. f. 1. Clus. hist. 2. book. 4. p. 79. icon. The common potatoe varies much in the leaves, colour of the flowers, shape and colour of the roots, &c.

The potatoe is called *Pomme de Terre* in France, *Cartoffel* in Germany, *Pomo de Terra* in Italy, *Openauk* in Carolina, and *Papas* in Peru. It has been found wild in Chili, on the mountains near Valparaiso and Mendosa; and also near Lima, Quito, and Santa Fe de Bogota; and lately in Mexico, on the Pic d' Orizaba, by Deppe and Schiede. Sir Joseph Banks considers that the potatoe was first brought into Europe from the mountainous parts in the neighbourhood of Quito, where they were called *Papas*, to Spain in the early part of the 16th century. From Spain, where they were called *Batatas*, they appear to have found their way first to Italy, where they received the same name with the truffle, *Taratoufli*. The potatoe was received by Clusius, at Vienna, in 1598, from the governor of Mons, in Hainault, who had procured it the year before from one of the attendants of the Pope's legate, under the name of *Taratoufli*, and learned from him that it was then in use in Italy. In Germany it received the name of *Cartoffel*, and spread even rapidly in the time of Clusius. To England the potatoe found its way by a different route, being brought from Virginia by the colonists sent out by Sir Walter Raleigh in 1584, and who returned in July, 1586, and "probably," according to Sir Joseph Banks,

"brought with them the potatoe." Thomas Herriot, in a report on the country, published in De Bray's collection of voyages, vol. 1. p. 17, describes a plant called *Openawk*, with "roots as large as a walnut, and others much larger: they grow in damp soil, many hanging together, as if fixed on ropes; they are good food either boiled or roasted." Gerarde in his herbal, published in 1597, gives a figure of the potatoe, under the name of the potatoe of Virginia, whence he says he received the roots; and this appellation it appears to have retained, in order to distinguish it from the Batatas, or sweet potatoe (the *Batàtas edùlis*), till the year 1640, if not longer. "The sweet potatoe," Sir Joseph Banks observes, "was used in England as a delicacy long before the introduction of our potatoes; it was imported in considerable quantities from Spain and the Canaries, and was supposed to possess the power of restoring decayed vigour. The kissing comfits of Falstaff, and other confections of similar imaginary qualities with which our ancestors were duped, were principally made of these and eryngo roots." It appears from Gough's edition of Camden's Brittania, that the potatoe was first planted by Sir Walter Raleigh on his estate at Youghall, near Cork, and that it was "cherished and cultivated for food in that country long before its value was known in England, for though they were soon carried over from Ireland into Lancashire, Gerarde, who had this plant in his garden in 1597, under the name of *Batàta Virginiàna*, recommends the roots to be eaten as a delicate dish, not as common food. Parkinson mentions that the tubers were sometimes roasted, and steeped in sack and sugar, or baked with marrow and spices, and even preserved and candied by the comfit makers. In 1663 the royal society took some measures for encouraging the cultivation of the potatoe, with the view of preventing famine. Still, however, although their utility as a food was better known, no high character was bestowed on them; in books of gardening, published towards the end of the 17th century, a hundred years after their introduction, they are spoken of rather slightingly. "They are much used in Ireland and Amerıca as bread," says one author, "and may be propagated with advantage to poor people." "I do not hear that it hath been yet essayed," says another author, "whether they may not be propagated in great quantities for food for swine or other cattle." Even Evelyn seems to have entertained a prejudice against them. "Plant potatoes," he says, writing in 1699, "in your worst ground. Take them up in November for winter spending, there will enough remain for a stock, though ever so exactly gathered." The famous nurserymen, London and Wise, did not consider the potatoe as worthy of notice in their complete gardener, published in 1719; and Bradley, who about the same time wrote so extensively on horticultural subjects, speaks of them as inferior to skirrets and radishes. But the use of potatoes gradually spread, as their excellent qualities became better understood. It was near the middle of the 18th century, however, before they were generally known over the country; since that time they have been most extensively cultivated. In 1796 it was found that in the county of Essex alone about 1700 acres were planted with potatoes for the supply of the London market. This must form, no doubt, the principal supply; but many fields of potatoes are to be seen in other counties bordering on the capital, and many ship-loads are annually imported from a distance. In every county in England it is now more or less an object of field culture.

The cultivation of potatoes in gardens in Scotland was very little understood till about the year 1740, and it was not practised in fields till about 20 years after that period. It is stated in the general report of Scotland, vol. 2. p. 111, as a well ascertained fact, that in the year 1725-6 the few potatoe plants then existing in gardens about Edinburgh were left in the same spot of ground from year to year, as recommended by Evelyn; a few tubers were perhaps removed for use in the autumn, and the parent plants were then well covered with litter to save them from the winter's frost. Since the middle of the 18th century, the cultivation of potatoes has made rapid progress in that country, so that they are now to be seen in almost every cottage garden, and fields of them on every farm. "The potatoe is now considered the most useful esculent that is cultivated, and who," Neill asks, "could *à priori* have expected to have found the most useful among the natural family of the *Luridæ* (Solanaceæ) most of which are deleterious, and all of which are forbidding in their aspect."

Use.—The tubers of the potatoe, from having no peculiarity of taste, and consisting chiefly of starch, approach nearer to the nature of flour, or farina of grain, than any vegetable root production, and for this reason it is the most universally liked, and can be used longer in constant succession by the same individual without becoming unpalatable than any other vegetable, the seeds of grasses excepted. "So generally is it relished, and so nutritious is it accounted," Neill observes, "that on many tables it now appears almost every day in the year. It is commonly eaten plainly boiled, and in this way it is excellent. When potatoes have been long kept, or in the spring months, the best parts of each tuber are selected and mashed before going to table. Potatoes are also baked, roasted, and fried. With the flour of potatoes puddings are made nearly equal in flavour to those of millet. With a moderate proportion of wheat flour bread of excellent quality may be formed of it, and potatoe starch, independently of its use in the laundry, is considered an equally delicate food as sago or arrow-root."

Varieties.—These are very numerous, not only from the facility of procuring new sorts by raising from seed, but because any variety cultivated for a few years in the same soil and situation, as in the same garden or farm, acquires a peculiarity of character or habit which distinguishes it from the same variety in a different soil and situation. The varieties being so numerous, we shall only mention those generally cultivated. They may be distinguished in regard to precocity, lateness, form, size, colour, and quality. The earliest varieties are, 1. Hog's early frame, a small watery potatoe, fit only for very early forcing. 2. Royal dwarf, a mealy potatoe, much grown at Perth. 3. Early Manchester, waxy and red. 4. Common early frame, waxy. 5. Foxe's yellow seedling, similar to the last, but rather larger, waxy. 6. American early, much esteemed at Edinburgh. 7. Early dwarf, waxy. 8. Early ash-leaved, dry. 9. Early champion, large. 10. M'Cree's early, dry. None of the above sorts, when true, produce blossoms; they are roundish in form, small sized, white, and not of the best quality.

The latest sorts are, 1. The round purple, 2. The oblong purple, 3. The speckled purple or tartan, commonly grown in mossy soils in Scotland, 4. The American red, grown to a great extent in Scotland.

The form of potatoes is either round, oblong, or kidney shaped; of the round the most esteemed are, 1. The champion, late and early varieties. 2. The oxnoble, very large, and of a peculiar flavour, not generally esteemed. 3. The round-red, middle-sized, smooth. 4. The round-rough red, or Lancashire. 5. The small American. 6. The leathercoat, with a rough, brownish coat. Of the oblong the most esteemed are, 1. The red-nosed oval, often confounded with the red kidney. 2. The oblong-red, variegated with white. 3. The oblong white. 4. The American red, long and not thick. 5. The Irish red, or pink, oblong and entirely red, with hollow eyes. 6. The bright red, blood-red, or apple potatoe, ovate, with small full eyes, much grown in Cheshire and Lancashire. The kidney-shaped sorts are as follow. 1.

The common white kidney, of a peculiar flavour, esteemed by many. 2. The red kidney, reckoned somewhat more hardy. 3. The black kidney.

In size the early sorts are the least, and the oxnoble and late champion the largest. In colour the earlier sorts are in general white, the oblong sorts red, and the latest sorts purple.

In quality potatoes are either watery, as the very early sorts; waxy, as the American and Irish reds; or mealy, as the ash-leaved early, the champion, the kidney, &c.

The following sorts for forcing in frames, or for the first crop in the open garden are recommended by London nurserymen.

1. Foxe's seedling. 2. Early manly. 3. Early mule. 4. Broughton dwarf.

For general cultivation in the open garden or field.

1. Early kidney, good flavour and very early, keeps well. 2. Nonsuch, early, prolific. 3. Early straw, good early sort for general use. 4. Small American, small white, much esteemed.

For main crops the following sorts are arranged in order of their ripening.

1. Early champion, very generally cultivated, prolific and mealy. 2. Red-nose-kidney. 3. Large kidney. 4. Bread-fruit, prolific, white, and mealy. 5. Lancashire pink-eye, good. 6. Black skin, mealy, white, and good. 7. Purple, very mealy, productive, and keeps well. 8. Red apple, keeping the longest of any. 9. Red American, keeps well.

In general every town and district has its peculiar and favourite varieties, so that, excepting as to the best early kinds, and the best for a general crop in all soils, any list, however extended, could be of little use. Dr. Hunter, in his geological essays, has limited the duration of a variety to fourteen years, and Knight, Hort. trans. vol. 1, concurs with him in opinion. There are some excellent sorts of party coloured potatoes in Scotland, which degenerate when removed from one district to another; and most of the Scotch and Irish varieties degenerate in England. The best mode, therefore, to order potatoes for seed is to give a general description of the size, colour, form, and quality wanted, and whether for an early or late crop.

Propagation.—The potatoe may be propagated from seed, cuttings or layers of the green shoots, sprouts from the eyes of the tubers, or portions of the tubers containing a bud or eye. The object of the first method is new, or improved varieties; of the second little more than curiosity, or to multiply as quickly as possible a rare and excellent sort; and of the third to save the tubers for food. The method by portions of the tubers is the best, and that almost universally practised for the general purposes both of field and garden culture. One good eye to each set is sufficient, and in making the sets reject the extreme watery end of the tuber, as apt to run too much to haulm; reject also the extreme portion of the dry end, as more likely to be tardy in growth, and produce the curl. The middle portion is therefore the best.

When grown from seed the quality of the kinds cannot be ascertained till the end of the second summer. The earliest varieties of potatoes, it has been already remarked, do not produce flowers or seed. T. A. Knight, desirous of saving seed from one of these sorts took a very ingenious method of inducing the plants to produce flowers. "I suspected the cause," he says, "of the constant failure of the early potatoe to produce seeds to be the preternaturally early formation of the tuberous root, which draws off for its support that portion of the sap which in other varieties of the same species affords nutriment to the blossoms and seeds, and experiment soon satisfied me that my conjectures were perfectly well founded. I took several methods of placing the plants to grow in such a situation as enabled me readily to prevent the formation of the tuberous roots, but the following appeared the best. Having fixed strong stakes in the ground I raised the mould in a heap round the bases of them, and in contact with the stakes: on their south sides I planted the potatoes from which I wished to obtain seeds. When the young plants were about 4 inches high, they were secured to the stakes with shreds and nails, and the mould was then washed away by a strong current of water from the bases of their stems, so that the fibrous roots only of the plants entered into the soil. The fibrous roots of this plant are perfectly distinct organs from the runners which give existence, and subsequently convey nutriment to the tuberous roots; and as the runners spring from the stems only of the plants, which are, in the mode of culture I have described, placed wholly out of the soil, the formation of tuberous roots is easily prevented; and whenever this is done numerous blossoms will soon appear, and almost every blossom will afford fruit and seeds." Knight considering that the above facts, which are more fully explained in the philosophical transactions for 1806, were sufficient to prove that the same fluid or sap gives existence alike to the tuber, and the blossom, and seeds, and that, whenever a plant of the potatoe affords either seeds or blossoms, a diminution of the crop of tubers, or an increased expenditure of the riches of the soil, must necessarily take place, succeeded in producing varieties of sufficiently luxuriant growth and large produce for general culture which never produced blossoms. The paper from which we quote is concluded by some excellent observations on this subject, chiefly relative to field culture, and which ought to be studied carefully by whoever intends to attempt producing new varieties from seed.

Quantity of sets.—Abercrombie directs "for a plot of early and secondary crops 8 feet wide by 16 in length, planted in rows 15 inches asunder by 9 inches in the row, a quarter of a peck of roots or cuttings. For full-timed sorts, and main crops, a compartment 12 feet wide by 32 in length, planted in rows 2 feet distant, by 12 inches in the row, half a peck of roots or cuttings will be required."

Soil and Manure.—The best soil for the potatoe is light, fresh, unmixed loam, where they can be grown without manure. Here they have always the best flavour. In a wet soil they grow sickly, and produce watery tubers, infected with worms and other vermin. To a poor soil dung must be applied; littery dung will produce the earliest and largest crop, but mellow dung, rotten leaves, or vegetable earth, will least affect the flavour of the tubers.

Season for Planting.—"The last fortnight of March, and the first fortnight of April, is the most proper time for planting the main crops, a little earlier or later as the spring may be forward, the ground dry or wet. Occasional plantings may be made in May, or even the beginning of June."—Abercrombie.

Methods of Planting.—The sets of whatever kind, or the plants forwarded in pots to be turned out with their balls entire for producing an early crop in the open air, should always be inserted in regular rows, the object of which is to admit with greater facility the stirring the earth between, and the earthing up of the plants. The rows may be 15 inches apart for the small early sorts, and for the larger 20 inches, or 2 feet, according to the poorness or richness of the soil. In the lines traced make holes for the sets at 8, 12, or 15 inches distance, letting their depth not be less than 3, nor exceeding 5 inches. In light soil it is performed by a dibble with a blunt end, and a short cross iron shoulder, about 4 or 5 inches from the bottom, as a guide to make the holes of an equal depth; one person making the holes, and another dropping a set into each hole. Strike the earth in upon them fully with a dibble, hoe, or rake, either as each row is planted, or when the whole planting is finished. On strong heavy land the planting ought to be on raised beds, with alleys, or in drills on the crown or parallel

ridges. The beds may either be raised by previous digging, throwing on good earth till the terrace rise to the desired height, or in the different method described below. To plant in drills trace them at the medium distance above specified; form them to a proper depth with a narrow spade, or large hoe; in these place the sets a foot, or 15 inches apart, and earth over. In wet ground, however, potatoes are hardly worth growing.

Subsequent culture.—"From the March or April planting the stems generally rise fully in May: after the plants have appeared, give an effectual hoeing on dry days, cutting up all the weeds, and stir the ground about the rising stalks of the plants. When advanced from 6 to 12 inches high, hoe up some earth to the bottom of the stems, to strengthen their growth, and promote the increase below; continue occasional hoeing to eradicate weeds till the plants cover the ground, when but little farther care will be required. Permit the stalks to run in full growth, and by no means cut down, as is sometimes practised; the leaves being the organs for transmitting the beneficial influence of the rain and air to the roots, which is most necessary to the free and perfect growth of the tubers." Abercrombie. It is now generally admitted, that a certain advantage in point of produce is obtained by pinching off the blossoms as they appear on the plants. The fact has been repeatedly proved and satisfactorily accounted for by Mr. Knight, who imagines that it may add an ounce in weight to the tubers of each plant, or considerably above a ton per acre.

Taking the crop.—Clusters of roots in the early planted crops will sometimes by June or July be advanced to a sufficient size for present eating, though still small. Only a small portion should be taken up at a time, as wanted for immediate use, as they will not keep good above a day or two. In August and September, however, they will be grown to a tolerable good size, and may be taken up in larger supplies, though not in quantities for keeping a length of time. Permit the main crops to continue in growth till towards the end of October or beginning of November, when the stalks will begin to decay, an indication that the potatoes are fully grown, then wholly dig them up, and house them for winter and spring use before severe frosts set in.

Housing and Preserving the Crop.—Abercrombie recommends "housing potatoes in a close, dry, subterranean apartment, laid thickly together, and covered well with straw, so as to exclude damps and frosts. There they are to be looked over, and any that are decayed picked out. In spring, when they begin to shoot, turn them over, and break off the sprouts or shoots from each tuber perfectly close, in order to retard their future shooting as much as possible. Potatoes so stored will continue good all the winter and spring till May and June. Pieing as it is called in some places is a good method of preserving potatoes in winter. They are piled on the surface of the ground in a ridged form, of the width and length at pleasure, according to the quantity, but commonly 5-6 feet wide. This is done by digging a spit of earth, and laying it round the edge a foot wide, (if turf the better,) filling the space up with straw, and then laying on a course of potatoes; dig earth on the outside, and lay it upon the first earth. Put straw a few inches along the inside edge, then put in more potatoes, and so on, keeping a good coat of straw all the way up between the potatoes and the mould, which should be about 6 inches thick all over; beat it close together, and the form it lies in with the trench all round will preserve the potatoes dry, and the sharpest frost will hardly affect them, in a severe time of which the whole may be covered thickly with straw. In the spring look over the stock, and break off the shoots of those designed for the table, and repeat this business to preserve the potatoes the longer good."

Curl Disease.—The disease called curl has in many places proved extremely troublesome and injurious. It has given rise to much discussion, and to detail all the various opinions would be a useless task. It may, however, be remarked, that the experiments of J. Dickson (Caled. hort. mem. 1. p. 55.) show, that it arises from the vegetable powers in the parts of the tuber planted having been exhausted by over ripening, he has shown that cuts taken from the waxy end of the potatoe produce healthy plants, while those from the dry or best ripened end either did not vegetate at all, or produced curled plants. John Shirreff (Caledon. hort. mem. 1. p. 60.) takes a general and philosophical view of the subject, applying to the potatoe the doctrine by which Mr. Knight had accounted for the disappearance of the fine cedar fruits of the seventeenth century. "The maximum of the duration of the life of every individual, vegetable as well as animal, is pre-determined by nature, under whatever circumstances the individual may be placed: the minimum, on the other hand, is determined by these very circumstances. Admitting, then, that a potatoe might re-produce itself from tubers for a great number of years in the shady woods of Peru, it seems destined sooner to become abortive in the cultivated champaign of Britain, insomuch that not a single healthy plant of any sort of potatoe that yields berries, and which was in culture 20 years ago, can now be produced." Mr. Shirreff concludes, therefore, that the potatoe is to be considered as a short-lived plant, and that though its health or vigour may be prolonged by rearing it in elevated or in shady situations, or by cropping the flowers, and thus preventing the plants from exhausting themselves, the only sure way to obtain vigorous plants, and to ensure productive crops, is to have frequent recourse to new varieties raised from seed. The same view, it may be remarked, had occurred to Dr. Hunter. The fact ascertained by Mr. Knight deserves to be noticed, is that by planting late in the season, perhaps in June, or even in July, an exhausted good variety may in a great measure be restored; that is, the tubers resulting from the late planting when again planted at the ordinary season produce the kind in its pristine vigour, and of its former size. Mr. Crichton (Caled. mem. 1. p. 440.) who has made a variety of experiments on the effects of exposure to the air in hampers and open floors, and on exclusion of the air by covering with earth, concludes, "That the curl in the potatoe may often be occasioned by the way the potatoes are treated that are intended for seed. I have observed wherever the seed stock is carefully pitted, and not exposed to the air, in the spring the crop has seldom any curl, but where the seed stock is put into barns and out-houses for months together, such crop seldom escapes turning out in a great measure curled; and if but few curl the first year, if they are planted again it is more than probable the half of them will curl next season."

Forcing the Potatoe.—The potatoe is forced in a great variety of ways; but for a fair crop of tubers, which shall be somewhat dry and floury, and of the size of hens' eggs, plant sets of the ash-leaved variety in single pots, filled one-third with light earth, in January. Place them in a hot-house or hot-bed, earth them up as they appear, and about the middle or end of February, transplant them, with their balls entire, into a pit prepared as for asparagus. Distance from plant to plant 1 foot each way. Give water occasionally, and admit as much air as possible at all times. Potatoes so managed will produce a fair crop the end of March or beginning of April.

Forcing potatoes in hot-beds.—Abercrombie says, "A young crop is easily obtained soon in spring, by planting the early dwarf, or the sort called mules, on a slight hot-bed. Put in the sets pretty thickly, at 6 or 8 inches square distance, as the potatoes are not to grow large. If planted successively in January and February, they will produce young crops for use early in

April and May, to be taken up in small portions as wanted for present eating. During the growth of the plants, open the lights fully in the middle of fine dry days, but shut at night, to guard against frost. Water attentively, as the mould and weather may require. Nicol's plan is the same as that of Abercrombie. Mr. Hogg, a market-gardener in the neighbourhood of London, prepares an old cucumber or melon-bed, by removing the earth from its surface, and laying on instead an inch deep of fresh mould, on which he sets the potatoes, in rows 6 inches apart, and the potatoe sets the same distance from each other, which are then covered 4 inches deep with mould, and the frames and glasses placed upon the bed, and carefully protected from frost. At the end of the fifth day, the outside of the old dung should be cut away close to the frame, in a slanting direction inwards; and strong linings of hot dung applied instead, which should be renewed if necessary at the end of three weeks. Air and water must be carefully given. The potatoes grown in this way are generally ready for use seven weeks after planting. The variety thus cultivated by Mr. Hogg is *Foxe's yellow seedling*. Mr. Knight's mode is to plant the potatoes in pots 6 inches in diameter, in January, one set in each pot; and the pots are then set in the ground and covered with litter, to protect them from frost, and in this situation they remain till the hot-bed is ready to receive them, in which the pots are afterwards plunged.

Forcing potatoes in pots or boxes.—This is sometimes attempted in stoves. One set is placed near the bottom of a large pot, and gradually earthed up. When nearly full grown, it is taken to the cherry or peach-house, for the sake of more air. Another mode of planting in pans or boxes is thus described by Abercrombie: "Plant potatoes of the growth of the season before the last; that is, the produce of 1816 to be planted in December, 1817, or January, 1818. Potatoes so kept will appear as if surrounded by a brood of new potatoes in contact with the seed or parent potatoe. The leaf buds are removed, and the potatoes planted in a circle, and in layers, in earthen pans or wooden boxes, with alternations of fine loose earth. Such pans or boxes may be put into sheds or in shelves in the kitchen. By this treatment no leaves will emerge above the soil, and young potatoes may be reared at any required period. A similar mode has been described by Mr. Sherbrook. The boxes, containing alternate layers of light earth, and potatoes of the preceding year, are placed in a dry, covered place, free from frost; they receive no water, and produce "good, fine, young potatoes in December." For a succession, the process is to be repeated.

Incidental forcing of potatoes.—"Small young spring potatoes are likewise obtained from some of the winter store of old potatoes, as they lie in the house; especially where they have been mixed with sand, and permitted to shoot as they lie, when they produce a few small button potatoes in spring, some of which are occasionally brought to market, but only for immediate use. T. Moffat grows early potatoes thus: "A compost consisting of equal quantities of loam, sand, and coal ashes, with an addition of lime in powder, equal to about one-fifth of the whole, was formed into a bed four feet wide, and four inches deep, on the floor of a dark fruit room. Upon this bed, early in September, large potatoes, of the preceding year's growth, were laid, 3 inches apart every way, with their best eyes downwards; these produced young potatoes, which became fit for use about Christmas."

Forwarding to raise a crop in the open garden.—For this purpose some spread a layer of sets on hot dung, or in boxes placed in any warm situation, whether in the light or in the dark. After they have sprung 3 or 4 inches, they are to be transplanted into the open ground, which should not be sooner than May, unless they have some protection at night; such as fronds of fern, spruce-fir branches, &c. But the best method is to grow the sets one in each pot, and to plant them out with the balls entire, in May.

Substitutes for forcing potatoes.—Dr. Nochden describes the mode by leaves and layers of earth at length (in Hort. trans. 3. p. 48.), and subjoins a method of preserving young potatoes as such for winter use; but this method we consider not worth farther notice, as it appears of no practical utility.

Field culture of the potatoe.—Notwithstanding the value of the potatoe as an article of human food, it is doubtful whether they can be placed so high in the scale as several other articles of produce, when the profit and loss account of the agriculturist is to be ascertained. They require a great deal of manure from the farmer, while, generally speaking, little is returned by them; they are a bulky unhandy article, troublesome in the lifting and carrying processes, and interfering with the seed season of wheat, the most important one to the farmer. After all, from particular circumstances they cannot be vended unless when raised in the vicinity of large towns; hence they are, in most respects, an unprofitable article to the agriculturist. To him the real criterion is the profit which potatoes will return in feeding beasts; and here we apprehend the result will be altogether in favour of turnips and ruta-baga, or Swedish turnip, as the most profitable articles for that purpose, although potatoes are admitted to be more nutritious, and to fatten cattle much quicker.

The varieties of potatoes cultivated in fields are innumerable. The early field varieties are: 1. The early kidney. 2. The nonsuch. 3. The early straw. 4. The early Champion. The last is the most generally cultivated round London. Early varieties with local names are cultivated near most large towns. The late field varieties in most repute are: 1. The red-nose kidney. 2. Large kidney. 3. Bread-fruit, an excellent white, mealy, good-tasted sort, raised from seed in 1810. 4. The Lancashire pink-eye, good. 5. The black-skin, white interior, and good. 6. Purple, very mealy, productive, and keeps well. 7. The red apple, mealy, keeps the longest of any. 8. The Tartan, or purple and white-skinned, an esteemed Scotch potatoe, prolific, mealy, exceedingly well tasted, and keeps well. The varieties grown exclusively as food for live stock are: 1. The Yam or Surinam potatoe, large, red and white-skinned, and the interior veined with red; flavour disagreeable, and not such as to admit of its being used as human food. It succeeds best on heavy lands. This is a most valuable sort for the farmer; as with this variety he has an excellent assistant to his turnip crop, or rather a succedaneum, which is of material benefit when turnips are consumed, in feeding live stock; its produce is 12-15 tons per acre. 2. The oxnoble; large, yellow without and within, very prolific, unfit for human food. 3. The late Champion; large and prolific, white-skinned, and may be used as human food.

The soil in which the potatoe thrives best is a light loam, neither too dry nor too moist; but if rich it is so much the better. They are, however, grown on many other kinds of soil, where they are free from stagnant moisture, with a reasonable portion of manure added. The best flavoured table potatoes are almost always produced from a newly broken-up pasture ground, not manured, or from any new light soil. Repeated on the same soil, they very generally lose their flavour.

In preparing the soil for field potatoes, it is of much importance to free the soil as much as possible from weed roots; both because the horse-hoe must be excluded altogether when the vegetation is vigorous, and because at no period of their growth is it safe to work so near the plants, especially after they have made some progress in growth. The first ploughing is given

soon after harvest; and a second, and commonly a third, early in spring; the land is then laid up into ridglets, from 24 to 30 inches broad, as for turnips, and manured in the same manner.

The best manure for the potatoe appears to be littery farm-yard dung; and the best mode of applying it, immediately under the potatoe sets. Any manure may be applied; and no plant will bear a larger quantity of it, or thrive in coarser or less prepared manure.

The season of planting early potatoes in the fields depends much on the soil. Where the soil is very dry, the potatoe sets may be planted in March; but for a full crop April is the best time. Potatoes, indeed, are often planted in the end of May, or even in June; but the crops, although often as abundant, are neither so mellow or mature as when the sets are planted in April or in the first 8 or 10 days in May.

The time of cutting the sets should always be some days before planting, that the wounds may dry up; and no harm will result from performing the operation several weeks beforehand, provided the sets are not exposed too much to the drought. The sets ought to be large, rarely smaller than the fourth part of the potatoe. At all events, rather err in giving over large sets, than in making them too small; because by the first error, no great loss can be sustained, whereas, by the other, a feeble and late crop may be the consequence.

The modes of planting the potatoe are various; but the best modes are either to plant them by dibber on a plane surface in rows, or by spade in digging, or in drills, in the manner of turnips.

The after culture of potatoes consists in harrowing, hoeing, weeding, and earthing up. All potatoes require to be earthed up, extending 6 or 7 inches round their stem. The reason of this is, that the tubers do not, properly speaking, grow under the soil, but rather on, or partially bedded in its surface. The earth may be thrown up by a spade, draw-hoe, or with a small plough, drawn by one horse. Pinching off the whole of the potatoe blossoms is a part of after culture not unworthy of the attention of the farmer, for the reasons given by Mr. Knight.

A mode of taking part of the crop suited to cottagers and others, especially in years of scarcity, deserves to be mentioned. Having ascertained that some of the tubers have attained an eatable size, go along the rows, and loosen the earth about each plant with a blunt stick, taking 2 or 3 of the largest tubers from each plant, and returning the earth carefully. By this means the tubers which remain will increase in size, having now the nourishment destined to complete the growth of those removed.

Potatoes intended for seed should be taken up a fortnight or 3 weeks before fully ripe, for the reasons already given under garden culture.

Potatoes are stored and preserved in houses, cellars, pies, and camps. Whatever mode is adopted, it is essential that the tubers be perfectly dry, otherwise they are certain of rotting; and a few rotten potatoes will contaminate a whole mass. Putting them into close houses, and covering them well up with straw, is the most effectual mode, and that which is generally adopted. In some parts of Scotland, it is a common practice to dig pits in the potatoe-field, when the soil is dry and light, and putting in potatoes to the depth of 3 or 4 feet, to lay a little dry straw over them, and then cover them up with earth, so deep that no frost can affect them. Another method, which is practised in England as well as in Scotland, is to put them together in heaps, and cover them up with straw, and afterwards cover with earth, and so closely packed together as to exclude frost. Dry weather is absolutely necessary in storing potatoes, as they do not keep well when stored in a wet state; and all cut potatoes should be carefully picked out. Pieing is also a good means of preserving potatoes, which is described under garden culture. Several other modes of preserving potatoes are in use in different places. Capping is a method similar to pieing.

The produce of the potatoe varies from 5 to 8, and sometimes 10 or 12 tons per acre; the greatest produce is from the yam, which has been known to produce 12 tons, or 480 bushels per acre. The haulm is of no use but as manure, and is very generally burned for that purpose, being slow of rotting.

The application of the potatoe crop is of the greatest importance as human food; and is the only root grown in Britain which may be eaten every day in the year, without satiating the palate; they are, therefore, the only substitute that can be used for bread, with any degree of success, and indeed they often enter largely into the composition of the best loaf bread, without at all either injuring its nutritive qualities or flavour.

Among the extraordinary applications of the potatoe may be mentioned cleansing woollens, and making an ardent spirit.

Cleansing woollens.—The refuse of potatoes used in making starch when taken from the sieve, possesses the property of cleansing woollen cloths, without hurting their colour; and the water decanted from the starch powder is excellent for cleansing silks without the smallest injury to the colour.

Wine of considerable quality may be made from frosted potatoes, if not so frosted as to have become soft and waterish.

Ardent spirits.—Potatoes that have been injured by the frost produce a greater quantity of spirit, and of a much finer quality than those that are fresh; they require a proportion of malt-wash to promote the fermentation. About one-fourth part of malt-worts, or wash, ought to be fermented at least 6 hours before the potatoe-wash is joined to it; otherwise the potatoe-wash, having an aptitude to ferment, will be ripe for the still before the malt-wash is ready; hence the effect will be to generate an acid which renders the spirit coarse, and when diluted with water, of a milky or bluish colour. When the spirit is strong, the acid is held in solution, but appears as above when diluted with water. (Farmer's Mag. 17. p. 325.)

In the application of potatoes as food for live stock, they are often joined with hay, straw, chaff, and other similar matters; and have been found useful in many cases, in the later winter months, as food for horses, cows, and other sorts of live stock. With these substances, as well as in combination with other materials, as bean or barley-meal, and pollard, they are used in the fattening of neat cattle, sheep, and hogs. Potatoes are most nutritious when boiled; they were formerly cooked in this way, but are now very generally steamed, especially in the North. The practice has been carried to the greatest extent by Curwen in feeding horses. He gives to each daily $1\frac{1}{2}$ stone of potatoes, mixed with a tenth of cut straw. An acre of potatoes, he considers, goes as far in this way as four of hay. 120 stones of potatoes require $2\frac{1}{4}$ bushels of coals to steam them. The baking of potatoes in an oven has also been tried with success. They are also given raw to stock of every description, to horses and hogs washed, but not washed to cows or oxen. Washing was formerly a disagreeable and tedious business; but it is now rendered an easy matter, whether on a large or small scale, by the use of the washing machine.

Frosted potatoes may be applied to various useful purposes; for food by thawing in cold water, or being pared, then thawed, and boiled with a little salt. Salt and saltpetre, chaff, or bruised oats, boiled with them, will render them fit food for cattle, swine, poultry, &c. Starch and paste for weavers, bookbinders, and shoemakers, may be made from them, when too sweet to be rendered palatable.

The diseases of potatoes are chiefly the scab, the worm, and the curl. The scab, or ulcerated surface of the tubers, has never been satisfactorily accounted for. Some attributing it to the ammonia of horse-dung, others to alkali, and some to the use of coal ashes. Change of seed, and of ground are the only resources known at present for this malady. The worm and grub both attack the tuber; and the same preventative is recommended. The only serious disease of the potatoe is the curl; and this is now ascertained to be produced by the concentration of the sap in the tuber; and this concentration, or thickening, is prevented by early taking up. This discovery was first made by the farmers near Edinburgh observing that seed potatoes procured from the moors, or elevated cold ground, never suffered from the curl; and it consequently became a practice, every 3 or 4 years, to procure a change of seed from these districts. On inquiry, it was found that potatoes of these upland grounds continued in a growing state till the haulm was blackened by the first frosts of October. They were then taken up, when, of course, they could not be ripe. Subsequent experiments has established the fact, that the curl is prevented by using unripe seed. It is also a safe practice frequently to change the seed, and also to change the variety.

Tuberous-rooted Nightshade, or Common Potatoe. Fl. May, Sept. Clt. 1597. Pl. 1 to 2 feet.

2 S. etuberòsum (Lindl. bot. reg. 1712.) rhizoma thick, subterraneous, without tubers; stem herbaceous; leaflets unequal, complicate, much undulated, approximate: alternate ones minute; pedicels articulated; calyxes and corollas 5-angled, glabrous. ♃. H. Native of Chili. Habit of *S. tuberòsum;* but the roots are without tubers: the flowers larger, on shorter pedicels; the calyx glabrous and shining, not hispid. Corollas purple. There is a variety of *S. tuberòsum* with long, creeping rhizoma, without tubers, and white flowers, in the botanic garden of Chelsea, from Chili, which renders the present rather doubtful as a species. We suspect that this and *S. Commersònii* are only varieties of *S. tuberòsum.* The *S. stoloníferum,* Cham. in Linnæa, 8. p. 255. a native of Mexico, also appears to be a variety of *S. tuberòsum.*

Tuberless Nightshade, or Potatoe. Fl. July, Oct. Clt. 1833. Pl. 1-2 feet.

3 S. Commersòni (Poir. suppl. 3. p. 746. Dun. sol. ed. 2d. ined. t. 133. syn. p. 5.) herbaceous; leaves pinnate, sublyrate, pilose; pedicels articulate; corollas 5-cleft. ♃. H. Native of America, about Monte Video, Commerson. Hort. trans. 5. t. 10. Very nearly allied to *S. tuberòsum;* but the root is unknown; it differs, however, from that plant, in the leaves being more profoundly pinnatifid; but the leaflets are sessile, and not alternate, unequal; the terminal leaflet very large; and the corolla is 5-cleft, not 5-angled.

Commerson's Nightshade, or Potatoe. Fl. May, Oct. Clt. 1822. Pl. 1 to 2 feet.

4 S. appendicula'tum (Dun. syn. p. 5. H. B. et Kunth, nov. gen. 3. p. 19.) shrubby? or herbaceous? scandent; leaves quinately impari-pinnate, stipulate at the base; leaflets oblong, acuminated, beset with adpressed hairs above, but downy on the veins beneath; corymbs terminal, few-flowered. ♄.? ◡. G. Native of Mexico, near La Puente de La Madre de Dios, between Totonilco el Grande and Actopan. Branchlets puberulous. Leaflets opposite, terminal one large. Corymbs puberulous. Corolla 5-cleft, white, glabrous, with oblong, acute segments. Calyx half globose, 5-lobed.

Appendiculate-leaved Nightshade. Fl. June, Aug. Clt. 1823. Shrub climbing.

5 S. pinna'tum (Cav. icon. 5. p. 23. t. 439. f. 1.) stem herbaceous, furrowed; leaves impari-pinnate; leaflets decurrent; flowers terminal, corymbose. ♃. H. Native of Chili, near Coquimbo. Stem almost winged from the decurrent leaves. Leaves with 3 pairs of leaflets. Branches of corymbs dichotomous. Corollas deep yellow. Berry glabrous, black, size of a pea.

Pinnate-leaved Nightshade. Pl. 2 feet.

§ 2. *Leaves impari-pinnate. Racemes corymbose, lateral.*

6 S. Calda'sii (Dun. syn. p. 6. H. B. et Kunth, nov. gen. amer. 3. p. 19.) herbaceous; leaves impari or unequally pinnate, soft from tomentum, whitish beneath; racemes dichotomous, cymose. ♃. H. Native of Quito, near Chillo. Dun. sol. ed. 2d. ined. t. 85. f. 2. This species differs from *S. ochránthum,* which it is very like; in the stem being herbaceous; in the leaves being smaller; the leaflets being 3-pair; and in the racemes being spreading and cymose above; in the cymes being longer; and in the flowers being larger.

Caldas's Nightshade. Pl. climbing?

7 S. Jame'sii (Torrey, in ann. lyc. 2. p. 227.) herbaceous, rather pilose; stem unarmed, erect; leaves impari-pinnate; leaflets ovate-lanceolate, abruptly narrowed at the base, obsoletely sinuated; racemes extra-axillary, few-flowered. ⊙. H. Native of the Arkansas? Racemes about 4-flowered. Flowers white.

James's Nightshade. Pl. ½ to ¾ foot.

8 S. ochra'nthum (Dun. syn. p. 6. sol. ed. 2d. ined. t. 85. f. 1. H. B. et Kunth, nov. gen. 3. p. 20.) shrubby, scandent; leaves interruptedly pinnate, hairy above, but clothed with white tomentum beneath; leaflets oblong, nearly entire; corymbs lateral, subdichotomous, on long peduncles, about equal in length to the leaves. ♄. ◡. G. Native of Quito, near Chillo. Leaflets opposite, 4 pairs. Corymbs hairy. Corolla 5-cleft, yellow, hairy outside; segments acutish, rather unequal.

Yellow-flowered Nightshade. Shrub climbing.

9 S. juglandifòlium (Dun. syn. p. 6. sol. ed. 2d. ined. t. 86.) shrubby, scandent; leaves impari-pinnate, rough from hairs above, but clothed with soft hairs beneath; leaflets oblong, subcordate, quite entire; corymbs lateral, dichotomous, divaricate. ♄. ◡. S. Native of New Granada, in the province of Pasto, in humid places near Tusa et Cuesaca. H. B. et Kunth, nov. gen. 3. p. 20. Leaflets opposite, 3 pairs, on short petioles: terminal one rather the largest. Corymbs pilose. Corolla 5-parted, white? pilose outside.

Walnut-leaved Nightshade. Shrub climbing.

§ 3. Pteroi'dea (from πτερον, *pteron,* a wing; and ειδος, *eidos,* form; in reference to the pinnate leaves.) *Leaves impari-pinnate or ternate; leaflets quite entire, acuminated. Peduncles axillary, aggregate, racemose.*

10 S. mi'te (Ruiz. et Pav. fl. per. 2. p. 38. t. 173. f. a.) stem herbaceous, radicant; leaves impari-pinnate; leaflets oblong; racemes axillary, aggregate; berries globose. ⊙. H. Native of Peru, in the province of Panatahua, in forests at Pozuzo and Chincao, in humid places. Glabrous. Stem bluntly angular. Flowers small, secund, white. Berry white, size of a pea. Leaves 8-10 inches long.

Mild Nightshade. Pl. 2 feet, creeping.

11 S. cónicum (Ruiz. et Pav. l. c. t. 172. f. b.) stems herbaceous; leaves impari-pinnate; leaflets oblong-lanceolate; peduncles axillary, usually 3 together, spicate; berry conical. ⊙. H. Native of Peru, in groves at Chincao and Cuchero. Stem pilose, and angular at top. Peduncles solitary, twin or tern, almost the length of the petioles, recurved at top.

Flowers small, secund, whitish-blue. Corolla 5-lobed. Berry white, size of an olive.

Conical-fruited Nightshade. Pl. 2 feet.

12 S. DIFFU'SUM (Ruiz. et Pav. l. c. p. 37. t. 171. f. b.) stem suffruticose; branches twiggy, diffuse; leaves impari-pinnate; leaflets oblong; racemes axillary, few-flowered. ♄. S. Native of Peru, in groves in the province of Huanuco. Plant with the habit of *Jasmine*. Stem branched, angular. Petioles and peduncles downy. Corollas violaceous, 5-lobed.

Diffuse Nightshade. Shrub.

13 S. SEAFORTHIA'NUM (Andr. bot. rep. t. 504. Dun. syn. p. 7.) suffruticose, scandent; leaves pinnate, undulated: superior ones simple, lanceolate; racemes racemosely-panicled, sometimes longer than the petioles. ♄. ◡. S. Native of Barbadoes. Flowers pink. Leaves sometimes ternate.

Seaforth's Nightshade. Fl. July, Sept. Clt. 1804. Shrub climbing.

14 S. TERNA'TUM (Ruiz. et Pav. l. c. p. 38. t. 172. f. a.) stem suffruticose, tetragonal, scandent, radicant; leaves ternate; peduncles few-flowered. ♄. ◡. S. Native of Peru, in humid parts of woods. Plant glabrous. Leaves on long petioles. Leaflets oblong-lanceolate: middle one large. Peduncles many together. Flowers sub-umbellate. Calyx 5-crenated, small. Corolla purplish-violet. Deeply 5-parted.

Ternate-leaved Nightshade. Shrub climbing.

§ 4. *Leaves pinnatifid and entire.*

15 S. LACINIA'TUM (Ait. hort. kew. 1. p. 247.) shrubby or herbaceous, quite glabrous; leaves pinnatifid; segments linear-lanceolate: terminal one elongated; or the leaves are entire, linear-lanceolate, elongated; racemes lateral, corymbose, simple or bipartite, shorter than the leaves; calyx half 5-cleft; segments of corolla emarginate; berry oval. ♃. G. Native of New Zealand; New South Wales, about Port Jackson; and of Van Diemen's Land. Curt. bot. mag. t. 349. R. Br. prod. p. 445. S. pinnatífidum, Lam. dict. 4. p. 292. Poir. dict. 4. p. 287. but not of Ruiz. et Pav. S. aviculàre, Pers. syn. 1. p. 225. Forst. prod. no. 107. ? pl. esc. no. 12. ? S. reclinàtum, Hort. Plant quite glabrous, as in *Lactùca perénnis*. Stem juicy. Racemes corymbose. Corollas blue, size of those of *Gerànium praténse*. Anthers separated, not cohering, as in the rest of the species. Berry nearly globose, depressed, greenish-yellow, edible, size of a plum.

Var. α; shrubby; leaves pinnatifid.

Var. β; shrubby; leaves undivided.

Var. γ; herbaceous; leaves pinnatifid.

Jagged-leaved Nightshade. Fl. July, Aug. Clt. 1772. Pl. 2 to 3 feet.

16 S. QUERCIFÒLIUM (Lin. spec. p. 264.) stem sub-herbaceous, angular, flexuous, scabrous; leaves pinnatifid; racemes corymbose or cymose. ♃. H. Native of Peru; and of Chili, about Valparaiso. Dun. sol. 139. Pers. ench. 1. p. 225. exclusive of the syn. of Fl. per.—Feuill. obs. 2. p. 722. t. 15. ? Habit of *S. Dulcamàra*. Stem erect. Branches angularly winged; wings minutely toothed. Leaves ciliated a little, with usually 5 ovate segments, scabrous beneath, pilose in the young state. Corolla violaceous, with 2 green marks at the base of each segment. Berry ovate. Feuille's figure is referred to *Witheringia multífida* by Poir. in his encyl. 4. p. 287. and suppl. 3. p. 739. According to Dunal, S. rùncinàtum, Ruiz. et Pav. fl. per. 2. p. 36. agrees well with this species, but is perhaps distinct.

Oak-leaved Nightshade. Fl. June, July. Clt. 1787. Pl. 3 to 5 feet.

17 S. TRIFLÒRUM (Nutt. gen. amer. 1. p. 128.) stem unarmed, herbaceous, procumbent; leaves denticulately-pinnatifid, glabrous; segments acute, subundulated, having the margins more or less revolute; peduncles opposite the leaves, 2-3-flowered. ☉. H. Native near Fort Mandan, and elsewhere; and on the banks of the river Platte, commencing near the Pawnee village, and continuing to the mountains. Flowers small, white, revolute. Fruit size of a cherry, green in the mature state. Stems very hairy, diffuse. Leaves subruncinate.

Three-flowered Nightshade. Pl. procumbent.

18 S. RADI'CANS (Lin. fil. dec. 1. t. 10. Dun. sol. p. 140.) stem herbaceous, smooth, nearly terete, prostrate, radicant; leaves deeply pinnatifid; racemes cymose, about equal in length to the petioles. ♃. S. Native of Peru. S. quercifòlium, Ruiz. et Pav. fl. per. p. 36. exclusive of the syn. of Lin. and Feuille. Stems at length ascending, and angularly winged from the decurrent petioles. Leaves with 5 ovate, acute, or lanceolate segments. Racemes sometimes opposite the leaves, but not always. Corollas small, violaceous. Berry globose, size of a pea, red.

Rooting-stemmed Nightshade. Fl. July, Aug. Clt. 1771. Pl. creeping.

19 S. GLABE'RRIMUM (Dun. sol ed. 2d. ined. t. 133. syn. p. 9.) stem quite glabrous, furrowed; leaves rarely entire, usually pinnatifid: the terminal segment elongated; racemes aggregate, many-flowered; segments of corolla acute. ♃. S. Native of the Island of Timor. Habit of *S. laciniàtum*; but differs in the racemes being larger; in the flowers being more copious; in the calyxes being 5-parted; and in the segments of the corolla being acute, not emarginate.

Quite glabrous Nightshade. Pl. 2 to 3 feet.

20 S. RECLINA'TUM (Lher. ined. ex bot. cult. ed. 2. vol. 3. p. 168. Dun. syn. p. 8.) stem quite glabrous, thick, juicy; leaves pinnatifid, sometimes entire; racemes lateral, shorter than the leaves; corolla semiquinquefid, with emarginate segments. ♄. S. Native of Peru, Dombey. S. pinnatífidum, Lam. ill. t. 115. f. 4. Cav. descr. 111. S. laciniàtum, Dun. sol. p. 139. exclusive of the syn. Stem furrowed. Leaves tapering into the petioles; segments linear. Peduncles 2-3-flowered. Calyx deeply 5-toothed. Corollas azure-blue. Berry green, globose, edible, an inch in diameter.

Reclinate Nightshade. Shrub 3 feet.

21 S. SEPTE'MLOBUM (Bunge, in mem. acad. petersb. 2. p. 122.) stem herbaceous, erect, angular; leaves pinnatifid; lobes ovate-oblong, obtuse, entire, or deeply toothed, downy on both surfaces; panicles dichotomous, divaricate, lateral, exceeding the leaves; corollas 5-cleft. ♃. H. Native of China, in waste places about Pekin. Leaves obscure, green, with usually 7 lobes. Corollas deep violet, like those of *S. Dulcamàra*.

Seven-lobed-leaved Nightshade. Pl. 1 to 2 feet.

§ 5. *Leaves ternate or simple. Leaves and leaflets ovate or ovate-lanceolate.*

22 S. HEBE'PHORUM (Dun. syn. p. 7. H. B. et Kunth. nov. gen. 3. p. 21.) herbaceous, much branched; branches angular, puberulous; leaves ternate, clothed with silky down on both surfaces; leaflets oblong, acute, entire; peduncles long, lateral? flowers subracemose. ♃. H. Native of Peru, near Caxamarca, in frigid places, at the altitude of 460 hexapods. Leaflets about 2 inches long. Flowers subumbellate, ex Bonpl. Calyx 5-parted. Corolla quinquefid. The hairs in this and the 4 following species are simple.

Down-bearing Nightshade. Pl. 2 feet.

23 S. MURICA'TUM (Ait. hort. kew. 1. p. 250. Dun. sol. p.

162. syn. p. 8. H. B. et Kunth, nov. gen. 3. p. 21.) stem suffruticose, radicant, ascending; young branches muricated; leaves oblong-lanceolate, entire, downy, but sometimes ternate; racemes terminal, bifid. ♄. G. Native of Peru, common in cultivated places, ex Feuille; Teneriffe, in gardens, ex Broussonet; near the city of Mexico, ex Bonpl. S. scàbrum, Lam. ill. no. 2344. S. variegàtum, Ruiz. et Pav. fl. per. 2. p. 32. t. 162. f. a. Melongèna laurifòlia, fructu turbinato variegato, Feuill. per. 2. p. 735. t. 26. The plant is called *Pepo*, and *Pepino de la Tierra*, in Peru. Branches trigonal. Leaves 15-24 lines long, furnished with 2 small stipulas at the base. Racemes extra-axillary. Corollas size of those of *S. Dulcamàra*, white, painted with violaceous veins, puberulous outside; segments ovate, roundish. Calyx 5-parted, silky. Berry ovate, variegated with purple, drooping, edible; sarcocarp yellow, very thick.

Muricated Nightshade. Fl. July, Aug. Clt. 1785. Shrub 2 to 3 feet.

24 S. diversifòlium (Dun. syn. p. 8. sol. ed. 2d. t. 88. H. B. et Kunth, nov. gen. 3. p. 22.) shrubby; branches puberulous; leaves impari-pinnate, ternate or entire, downy; leaflets sessile, oblong, acuminated, entire: terminal one large; racemes extra-axillary, simple; calyx large, equal in length to the corolla. ♄. S. Native near Caraccas. Branches glandular and hairy. Racemes shorter than the leaves. Corolla rotately subcampanulate, 5-cleft, white, size of those of *Boràgo officinàlis*; segments ovate, acute.

Diverse-leaved Nightshade. Fl. June, July. Clt. 1825. Shrub 2 to 3 feet.

25 S. Caripe'nse (Dun. syn. p. 8. sol. ed. 2d. ined. t. 89. H. B. et Kunth, nov. gen. amer. p. 22.) shrubby, scandent; branches villous; leaves simple and ternate, elliptic-oblong, acutish, rounded at the base, quite entire, clothed with silky hairs, biauriculate at the base; racemes extra-axillary, and nearly terminal, simple, or bifid. ♄. ◡. S. Native of the province of Cumana, near the monastery of Caripe. Leaves $1\frac{1}{2}$ to 2 inches long. Flowers unilateral, size of those of *Veràtrum nìgrum*. Pedicels articulated. Calyx 5-parted, pilose. Corolla rotate, white, ? sinuately 5-lobed.

Caripe Nightshade. Shrub climbing.

26 S. Bulboca'stanum (Moc. et Sesse. fl. mex. icon. Dun. syn. p. 8. sol. ed. 2d. ined. t. 3.) root tuberous; stems herbaceous; leaves ovate, repand, auricled; peduncles 1-flowered, subumbellate. ↄ. H. Native of Mexico. Root solitary, globose, like that of *S. tuberòsum*, mucronate below, without any other radicle. Stem terete. Leaves undulated. Petioles auricled, from 2 sessile leaflets. Peduncles villous, violaceous. Corolla white, with lanceolate, bluntish segments.

Bulbocastanum Nightshade. Pl. 1 foot?

27 S. oliga'nthum (Dun. syn. p. 8. vol. ed. 2d. ined. t. 90.) shrubby, scandent?; branches clothed with hoary tomentum; leaves perhaps always simple, unequal, and cordate at the base, quite entire, glabrous above, but clothed with soft, yellowish, hoary tomentum beneath, auricled at the base; peduncles terminal, few-flowered. ♄. ⊙. ? S. Native near Maypure, on the banks of the Orinoco. H. B. et Kunth, nov. gen. amer. 3. p. 23. Hairs on the plant stellate. Leaves 2 inches long. Auricles sessile, obliquely ovate-sublunate, similar to the leaves.

Few-flowered Nightshade. Fl.? Clt. 1824. Shrub 3 feet.

§ 6. Pachyphy'lla (from παχυς, *pachys*, thick; and φυλλον, *phyllon*, a leaf.) *Leaves pinnate, pinnatifid, or entire. Leaves and leaflets cordate, acute, thick, beset with short simple hairs. Racemes cymose, pendulous. Corollas 5-parted. Berries oval.*

28 S. pe'ndulum (Ruiz. et Pav. fl. per. 2. p. 39. t. 174. f. a.) stem shrubby; leaves simple and irregularly pinnate; leaflets 2-6, obliquely cordate; racemes pendent, forked. ♄. S. Native of Peru, in the province of Panatahua, particularly in shady places about Munna. Dun. sol. p. 168. syn. p. 7. Branches hairy, dichotomous. Leaves pubescent on both surfaces. Corolla elongated, downy, purple, with acute, reflexed segments. Berry large, ovate, yellow, size of a middling pear.

Pendulous-racemed Nightshade. Shrub 10 feet.

29 S. oblìquum (Ruiz. et Pav. fl. per. 2. p. 35. t. 165. f. a.) stem suffruticose; leaves cordate, oblique, acute; racemes cymose, revolute, secund. ♄. S. Native of Peru, in groves at Chincao. Shrub glabrous. Leaves shining above, and downy beneath. Peduncles lateral. Calyx 5-cleft. Corolla purplish violet. Berry oblong, acutish at both ends.

Oblique-leaved Nightshade. Shrub 5 to 10 feet.

30 S. viridiflòrum (Ruiz. et Pav. fl. per. 2. p. 38. t. 173. f. b.) shrubby; leaves cordate-ovate, simple, villous; racemes dependent, about equal in length to the leaves. ♄. S. Native of Peru, in groves. Dun. sol. p. 169. Plant villous. Calyx semiquinquefid. Corolla green, almost 5-parted, with reflexed segments. Berry large, oblong, turbinate, villous, yellowish.

Green-flowered Nightshade. Shrub 6 feet.

31 S. beta'ceum (Cav. icon. 6. p. 599. t. 524. ann. d'hist. nat. 1. p. 44.) shrubby; branches and stem thick, succulent; leaves large, cordate, ovate-oblong, rather downy on both surfaces, with undulated margins; racemes cymose, pendulous, about equal in length to the petioles. ♄. G. Native of New Spain. Dun. sol. 169. Andr. bot. rep. t. 511. S. crassifòlium, Ort. dec. p. 117. Leaves a foot long. Petioles spotted. Racemes axillary and supra-axillary, many times bifid, sometimes simple and trifid. Calyx 5-cleft, spotted at top. Corolla white, tinged with red, small, thick, 5-parted. Anthers yellow. Berry ovate, size of a walnut, 2-celled at first, yellowish green, marked with longitudinal brown spots, afterwards reddish. The whole plant has an ungrateful scent, like that of *Stramònium* or *Henbane*.

Beet-leaved Nightshade. Fl. June, July. Clt. 1803. Shrub 3 to 5 feet.

Subsect. 2. *Leaves lobed, sinuated, angular, toothed, or entire.*

§ 1. *Leaves lobed, and entire.*

32 S. lepta'nthum (Moc. et Sesse, icon. mex. ined. Dun. syn. p. 9. Sol. ed. 2d. ined. t. 28.) stem terete, herbaceous, glabrous; leaves oblong, undulately repand, running into the petioles; racemes dichotomous, cymose at top; corolla pentagonal. ↄ. G. Native of Mexico. Flowers small. Teeth of calyx acute. Berry small, globose, from red to violet. Allied to *S. corymbòsum*. Plant glabrous, erect, or procumbent.

Var. β, parvifòlium (H. B. et Kunth, nov. gen. 3. p. 24.) leaves smaller, nearly sessile; racemes and pedicels shorter; corollas pale violet, not white. ↄ. S. Native of Peru, between Caxamarca and Magdalena.

Slender-flowered Nightshade. Pl. procumbent.

33 S. Línkii; leaves lanceolate, sub-sinuated, rather tomentose, green; peduncles few-flowered; calycine segments ovate, acute. ♄. S. Native country unknown. S. oligánthum, Link, enum. 1. p. 182, but not of Dun. Branches glabrous; petioles clothed with minute, stellate hairs. Leaves undulated, acute, with 1-3 deep recesses, beset with stellate hairs on both surfaces, which are most dense beneath. Pedicels drooping, and are, as well as the calyxes, rather tomentose. Corolla semi-quinquefid, sub-plicate, white.

Link's Nightshade. Fl.? Clt. 1824. Shrub 3 to 4 feet.

34 S. corymbòsum (Jacq. coll. 1. p. 78. icon. rar. t. 40.) stem suffruticose; leaves ovate-lanceolate, entire, or a little lobed; racemes cymose, opposite the leaves; corollas 5-parted. ♄. S. Native of Peru, in cultivated places, through the provinces of Lima and Chancay. Dun. mon. 142. S. corymbíferum, Gmel. syst. 384. S. parviflòrum, Nocca, in Usteri, ann. 6. p. 61. Vittm. summ. suppl. 283. Habit of *S. Dulcamàra*. Branches some erect, and some weak and procumbent, angular. Leaves glabrous, fetid. Racemes 2-3-4-cleft. Corolla small, blue, or violaceous, 5-cleft. Berry of a reddish orange colour, size of a pea.

Corymbose-flowered Nightshade. Fl. July, Aug. Clt. 1786. Shrub 2 to 3 feet.

35 S. cirrhòsum (Dun. syn. p. 9. sol. ed. 2d. ined. t. 91. H. B. et Kunth, nov. gen. 3. p. 24.) shrubby, scandent, tendrilled; leaves oblong, entire, or 3-lobed, acuminated, glabrous: middle lobe large; racemes terminal, panicled. ♄. ◡. S. Native near Cumana, in shady places. S. salígnum, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 663. Habit of *S. Dulcamàra*. Shrub glabrous. Tendrils spirally revolute, extra-axillary. Leaves entire, ternate, or 3-lobed. Flowers rose-coloured, size of those of *S. nìgrum*. Calyx small, angularly 5-toothed. Stamens sometimes 6.

Tendrilled Nightshade. Shrub climbing.

36 S. Dulcama'ra (Lin. spec. p. 264.) shrubby, scandent, flexuous; leaves ovate-cordate: superior ones jagged; corymbs almost opposite the leaves. ♄. ◡. H. Native of Europe, Asia, and North America, in hedges and among bushes; plentiful in Britain. Smith, engl. bot. t. 565. Pursh. fl. amer. sept. 1. p. 156. Curt. fl. lond. 1. t. 14. Fl. dan. t. 607. Bull. herb. t. 23. Reit. et Abel, t. 72. Dreves et Heyne, t. 60. Guimpel. t. 12. Plenck, off. t. 119. Svensk. bot. t. 20. Woodv. med. bot. 97. t. 33. Sav. mat. med. p. 47. t. 14. Stev. et Church. med. bot. icone. S. scándens, Neck. gallob. 119. Dulcamàra flexuòsa, Mœnch. meth. p. 514. Sol. scándens seu Dulcamàra, Tourn. inst. p. 149. Amàra dúlcis, Gerard, emac. 350. Dúlcis amàra, Trag. 816. Glycipìcros seu Dulcamàra, Bauh. hist. 2. p. 109. icone. La Morelle. Grimpànte, Regnault bot. icone. Shrub glabrous. Leaves cordate: superior ones hastate, all quite entire. Corymbs panicled. Corolla violaceous, with reflexed segments, each segment furnished with 2 green spots at the base. Berries elliptic, red. The roots and stalks of this, the *Woody Nightshade*, upon being chewed, first cause a sensation of bitterness, which is soon followed by a considerable degree of sweetness; whence it has obtained the names of *Dulcamàra*, or *Bitter-sweet*. The berries excite vomiting and purging. Floyer says, thirty of them killed a dog in less than 3 hours, remaining undigested on the stomach. As they are common in hedges, and may be mistaken by children for red currants, this circumstance is the more worthy of notice. In such a case it is advisable to pour down as much warm water as possible, to dilute the poison, and provoke vomiting. The old botanists recommend the plant as a medicine in many diseases. Ray informs us, that the inhabitants of Westphalia make use of a decoction of the whole plant as their common drink with success against scurvy. Boerhaave says, it is a medicine far superior to China and Sarsaparilla, as a sweetener and restorative: and Linnæus, that an infusion of the young twigs is an admirable medicine in acute rheumatisms, inflammations, fevers, and suppression of the lochia. Dr. Hallenberg advises it in ischiatic and rheumatic pains, jaundice, scurvy, and lues venerea. They direct a pint of boiling water to be poured upon 2 drachms of the stalks, sliced and dried; after standing half an hour it must be boiled 10 or 15 minutes. The dose is 2 tea-cups full or more morning and evening. Murray and Bergius regard it as promoting all secretions. Dr. Cullen says, "We have only employed the slender twigs, but some parcels of these were very mild, and most others considerably acrid. In the latter state we have employed a decoction of these in the cure of rheumatism sometimes with advantage, but at other times without effect. The *Dulcamàra* is inserted in the catalogue of diuretics, but this property it hardly, if at all, possesses. The twigs when gathered in autumn or spring will be most powerful; if used dry a somewhat larger dose must be taken. The plant is generally given in decoction or infusion, and to prevent it exciting vomit it should be diluted with milk: small doses also are recommended at the beginning, for large ones have been found to produce convulsion, delirium, and palsy of the tongue, ex Woodv.

Var. α, violàceum; corollas violaceous.—Hort. eyst. p. 385. t. 384. no. 3.

Var. β, álbum; corollas white.—Lin. fl. suec. p. 66.

Var. γ, cárneum; corollas flesh-coloured.—Cels. ups. 32. Lin. fl. suec. l. c.

Var. δ, plènum; corollas double.—Tourn. inst. 149. Hort. eyst. l. c.

Var. ε, variegàtum; leaves variegated.—Munt. fig. 156. Tourn. inst. 149.

Var. η, hirsùtum; plant hairy, or downy. Flowers violaceous. —On the sea-coast.

Var. ι, rupéstre (Schmidt, fl. boh. p. 96.) stem erect; leaves ovate, quite entire; racemes few-flowered, dichotomous.—Native of Bohemia.

Bitter-sweet, or Woody Nightshade. Fl. June, July. Britain. Shrub climbing.

37 S. Kieserílzkii (Meyer, verz. pfl. p. 113.) stem shrubby, unarmed, erect; leaves nearly glabrous, scattered, petiolate, ovate-oblong, quite entire, acuminated, attenuated at the base; racemes lateral, few-flowered; segments of corolla 5, reflexed, each marked with 2 spots at the base. ♄. H. Native of Caucasus, in woods near Lenkeron.

Kieserilzki's Nightshade. Shrub.

38 S. Pe'rsicum (Willd. mss. Ledeb. fl. alt. 1. p. 237.) stem terete, scandent; leaves rather downy, ovate-lanceolate, cordate, quite entire; racemes cymose, lateral, glabrous; corolla 5-parted; berries ovate. ♄. ◡. H. Native of Persia, and of Siberia, frequent on the banks of rivers and rivulets, in humid places near Uimon and Barnaoul. S. Dulcamàra, Patrin, fl. barn. ined. Similar to *S. Dulcamàra* in habit, inflorescence, flowers, and berries; but the leaves are always entire, never hastate or auricled. Calyx 5-toothed. Corolla pale violet. Berries red.

Persian Woody Nightshade. Shrub climbing.

39 S. Tegòre (Aubl. guian. 1. p. 212. t. 84.) shrubby, very hairy; lower leaves pinnatifidly sinuated: upper ones cordate. ♄. S. Native of Guiana, in cultivated places near the habitations of the natives. Dun. sol. p. 142. syn. p. 10. Lower leaves large, with acute lobes: upper ones smaller. Flowers small, greenish, corymbose in the forks of the branches. Berry yellowish, globose, size of a filbert. *Tegore* is the native name.

Tegore Nightshade. Fl. June, July. Clt. 1823. Shrub 5 to 6 feet.

40 S. lyra'tum (Thunb. jap. p. 92.) stem herbaceous, erect, tomentose, as well as both surfaces of the leaves: lower leaves lyrate: superior ones hastate. ♃. G. Native of Japan, near Nagasaki, where it is called *Fijodori Diogo* by the natives. Dun. sol. p. 143. Segments of the leaves nearly opposite, 4 or more, entire: the terminal one larger. Flowers panicled, axillary, and terminal. Panicles sub-dichotomous.

Lyrate-leaved Nightshade. Pl.

41 S. pygmæ'um (Cav. icon. 5. p. 23. t. 439. f. 2.) stem herbaceous, an inch in height; leaves ovate, 3-lobed: middle lobe elongated, obtuse. ⊙. H. Native of Buenos Ayres, in the plains called Pampas. Dun. sol. p. 145. Stem simple, usually terminating in two flowers. Leaves small. Peduncles at first erect, but afterwards deflexed. Corolla pale blue, 5-parted. Berry small, villous, globose.

Pygmy Nightshade. Fl. June, July. Clt. 1819. Pl. 1 inch.

§ 2. *Leaves sinuated, angular, or toothed.*

42 S. grandiflòrum (Ruiz. et Pav. fl. per. 2. p. 35. t. 168. f. b.) stem arboreous, woolly; leaves ovate, sinuated, or quite entire, hispid above, and woolly beneath; racemes cymose, recurved, short; flowers secund. ♄. S. Native of Peru, in groves at Pozuzo. Dun. sol. p. 143. t. 30. syn. p. 10. Stem clothed with stellate fulvous wool. Calyx increasing after florescence. Corolla large, violaceous, 5-parted, with 5 woolly zones outside. Berry large, woolly, yellowish, dependent.

Great-flowered Nightshade. Tree 15 to 30 feet.

43 S. Quitoe'nse (Lam. ill. no. 2326. Poir. encycl. 4. p. 285.) stem suffruticose; leaves subcordate, sinuately angular, tomentose on both surfaces; racemes lateral, very short, hairy. ♂. S. Native of Peru, in the gardens of Quito and Lima, where it is called *Narangitas de Quito* by the natives. Dun. sol. p. 144. ed. 2d. ined. t. 92. f. 6. syn. p. 10. Hook. bot. mag. t. 2739. S. angulàtum, Ruiz. et Pav. fl. per. 2. p. 36. t. 170. f. b.—Feuill. obs. 3. p. 61. t. 46.—Burm. pl. amer. 219. t. 224. f. 2.? exclusive of the syn. of Dill. and Lin. Lycospérmum arborescens foliis angulatis, fructu aureo, Plum. cat. p. 4. Tourn. inst. p. 150. Plant very hairy. Leaves large, with acute segments, and having the petioles and nerves purplish. Calycine segments acute. Corolla large, white inside, and violacèous outside. Berry globose, size and colour of a small orange, when young clothed with short wool. The natives of Peru call this species *Narangitas de Quito*, and some drops of the juice are mixed with the drink called matte.

Quito Nightshade. Fl. June, Aug. Clt. 1825. Shrub 6 feet.

44 S. Tweedia'num (Hook. bot. mag. 3385.) plant clothed with clammy down; leaves cordate, angularly-toothed at the base, on long petioles; racemes umbellate; flowers nutant. ♃. G. Native of Buenos Ayres, Tweedie. Corollas 5-cleft, large, pale blue. Peduncles opposite the leaves.

Tweedie's Nightshade. Fl. June, July. Clt. 1833. Pl. 1½ foot.

45 S. Sandwice'nse (Hook. et Arn. in Beech. voy. pt. bot. p. 92.) stem shrubby; branches terete; branchlets canescent; leaves angularly sinuated, ovate, glabrous above, clothed with hoary down beneath; racemes corymbose, terminal or lateral; corolla minute, 5-cleft; stamens equal. ♄. G. Native of the Sandwich Islands.

Sandwich-Island Nightshade. Shrub.

46 S. Topìro (Dun. syn. p. 10. sol. ed. 2d. t. 92. f. 1. H. B. et Kunth, nov. gen. amer. 3. p. 25.) stem herbaceous, tomentose; leaves somewhat ovate, acute, sinuately angular, unequal at the base, beset with adpressed pili above, and fine hoary tomentum beneath; flowers extra-axillary, aggregate; berry ovate. ♃. S. Native in humid places on the banks of the Orinoco, near San Fernando de Atabapo, &c., where it is called *Topiro*. Leaves 9-10 inches long, and 6 broad, with acute angles. Calyx tomentose. Corolla greenish, with rather unequal, ovate-oblong, acute segments, clothed with stellate tomentum outside. Berry 4-celled, edible, propped by the calyx.

Topiro Nightshade. Pl. 6 feet.

47 S. macroca'rpum (Lin. mant. p. 205.) stem herbaceous, glabrous; leaves cuneated at the base, sinuated, quite glabrous; peduncles few-flowered, short. ♃. S. Native of Peru. Mill. fig. t. 294. Willd. spec. 1. p. 1033, exclusive of the syn. of Feuill, and Plum. Lam. ill. no 2325. Dun. sol. p. 144. syn. p. 10.—Plum. spec. 4. icon. t. 224. f. 2.? Leaves large, repandly sinuated, sometimes obtuse, and sometimes acute. Calycine segments very long. Corollas large, blue, sub-campanulate, half 5-cleft, many sterile. Berry fleshy, globose, yellow, size of an apple.

Large-fruited Nightshade. Fl. May, Sept. Clt. 1759. Pl. 1 to 2 feet.

48 S. pentada'ctylum (G. Don, in Loud. hort. brit. p. 72.) stem erect, or flexuous, glabrous; leaves runcinately sinuated, with ăcute segments, glabrous, shining above; corymbs short, terminal, or in the forks of the stem; fruit large, ovate, furnished with 5 regular protuberances at the base. ♄. S. Native of Trinidad, about St. Ann's and the Port of Spain. Leaves large. Fruit large, yellow. Flowers middle-sized, blue.

Five-fingered-fruited Nightshade. Fl. June, Aug. Clt. 1818. Shrub 2 to 3 feet.

49 S. calycìnum (Moc. et Sesse. icon. mex. ined. Dun. syn. p. 10. sol. ed. 2d. t. 29.) stem twisted, glabrous, thick; leaves sinuately repand; peduncles short, 1-flowered, solitary; calyx increasing after florescence. ♃. G. Native of Mexico. Habit of *S. macrocárpum*. Plant glabrous. Calycine segments with many sinuated nerves. Corolla blue, 5-angled. Berry globose, yellow, size of a small apple.

Large-calyxed Nightshade. Fl. June, July. Clt. 1820. Pl. 1½ foot.

50 S. Baueria'num (Endl. fl. norf. p. 54. Bauer. icon. t. 158.) stem shrubby; leaves oblong, acuminated, angularly-toothed, glabrous; corymbs terminal, rather loose; peduncles drooping. ♄. G. Native of Norfolk Island. Leaves 1-2 inches long. Corollas white, size of those of *S. tuberòsum*. Berry ovate-oblong, of a vermilion colour.

Bauer's Nightshade. Shrub 1 to 2 feet.

§ 3. Pseudo-capsica (false capsicums.) *Leaves angularly repand, or entire. Corollas somewhat 5-parted. Berries spherical, torulose, or smooth.*

51 S. racemiflòrum (Dun. sol. 147. syn. p. 11.) stem herbaceous, scabrous; leaves ovate, repandly angular, scabrous; racemes lateral; berries furrowed. ⊙. H. Native country unknown. S. scàbrum, Jacq. schœnbr. 3. p. 45. t. 333, but not of Vahl. Plant scabrous from numerous pungent hairs or strigæ. Stem green, suffused with purple. Leaves thickish. Racemes many-flowered, more or less than an inch long. Calyx scabrous. Corolla white, rose-coloured beneath. Berry like that of *S. Æthiópicum*, but smaller.

Raceme-flowered Nightshade. Fl. July, Sept. Clt. 1818. Plant 2 feet.

52 S. Æthiópicum (Lin. amœn. 4. p. 307.) stem herbaceous; leaves ovate, repandly angular, glabrous; peduncles usually 1-flowered, drooping; berries torulose. ⊙. H. Native of Æthiopia, China, and Japan. Jacq. hort. vind. t. 12. Thunb. jap. p. 92. Dun. sol. p. 148. syn. p. 11. Pseùdo-cápsicum torulòsum, Mœnch. meth. p. 477. Lycopérsicum Æthiópicum, Mill. dict. no. 3.—Barrel. icon. 1108. Nussubi, or Ka and Kja of the Japanese ex Kœmpf. amœn. p. 810. Fokke, or Fokkes of the Dutch, ex Thunb. Leaves a hand long. Fruit large, red, depressed. Corymbs few-flowered. Corollas white. One of the pedicels in each corymb bears a fertile flower, the rest are usually sterile.

Var. β, violàceum; unarmed; flowers violaceous; berries white, or purple. ⊙. H. Native of China. S. Æthiópicum, Lour. coch. 1. p. 130. The name is *Ca Tien* in China. Flow-

ers solitary. Calyx and corolla 6-cleft. Berry spheroid, 6-lobed, large, edible. Perhaps a proper species.

Var. γ, aculeàtum (Dun. sol. p. 148.) ⊙. H. Native of Europe, in gardens. Stem prickly. Leaves rather tomentose beneath; umbels axillary. Calyx unarmed. S. integrifòlium, Lam. dict. 4. p. 301. Poir. suppl. 3. p. 740. Màla Æthiópica, Ray. hist. 673.—Dod. pempt. p. 459. icon. S. pomíferum herbariòrum, Lob. icon. 264.—Mor. hist. sect. 3. p. 525. sect. 13. t. 2.—Plukn. phyt. t. 226. f. 4. Lycopérsicum fructu striato duro, Tourn. inst. p. 150. Perhaps a species. Berries small, yellow, size of peas.

Æthiopian Nightshade. Fl. July, Sept. Clt. 1597. Pl. ½ to 1 foot.

53 S. Zuccagnia'num (Dun. sol. p. 149. t. 11. syn. p. 11.) stem sub-herbaceous; leaves ovate, angularly repand, glabrous, unequal at the base; peduncles usually 1-flowered, drooping; berries nearly globose. ♃. H. Native country unknown, but cultivated in the gardens of Florence and Montpelier. S. scàbrum, Zuccag. cent. no. 50, but not of Vahl. or Jacq. Plant green, beset with minute crystalline warts when examined by a lens. Corolla 5-parted, white, with acute segments. Berry cherry shaped, round, sub-umbilicate, mucronate, red when ripe. Peduncles solitary, or twin, 1 rarely 2-flowered. Habit of *S. Æthiópicum*, from which it differs in the leaves being minutely warted, in the berries being much smaller, smooth, or deeply furrowed. It also comes near to *S. racemiflòrum*.

Zuccagni's Nightshade. Fl. June, July. Clt. 1823. Pl. 2 feet.

54 S. tríquetrum (Cav. icon. 3. p. 30. t. 259. descr. p. 110.) stem frutescent, triquetrous; leaves cordate-deltoid, acuminated, glabrous; umbels opposite the leaves, pedunculate. ♄. S. Native of New Spain. Dun. sol. 147. syn. p. 11. Stems slender, sometimes erect, and sometimes trailing, triquetrous in the young state. Peduncles very short; pedicels 3-4 umbellate, drooping. Corollas small, white, somewhat 5-parted, with linear curled segments. Berry nutant, globose, red, size of a pea.

Triquetrous-stemmed Nightshade. Fl. June, July. Clt. 1820. Shrub 2 to 4 feet.

55 S. microca'rpum (Vahl, symb. 2. p. 40.) stem shrubby; leaves oblong-lanceolate, somewhat repand; racemes lateral. ♄. G. Native of Egypt. Dun. sol. p. 149. t. 10. S. pseùdo-cápsicum, var. microcárpum, Pers. ench. 1. p. 224. S. diphýllum, Forsk. pl. cat. ægypt. p. 63. no. 134. Leaves 3-4 inches long, green, glabrous. Racemes extra-axillary, 1 inch long. Flowers sub-cymose. Corolla white, 5-parted, pilose outside. Berries smooth, red, size of pepper berries.

Small-fruited Nightshade. Shrub 2 to 3 feet.

56 S. pseu'do-ca'psicum (Lin. spec. p. 263.) stem shrubby; leaves lanceolate, or oblong-lanceolate, sub-repand; peduncles generally 1-flowered, extra-foliaceous. ♄. G. Native of Madeira; and in gardens almost every where. Dun. sol. 150. syn. p. 11. Pseùdo-cápsicum undulatifòlium, Mœnch. meth. p. 477.—Sabb. hort. rom. p. 12. t. 59. S. fruticòsum baccíferum, Tourn. inst. 149. Mor. hist. 3. p. 526. S. arboréscens, Cæsalp. p. 215. Strychnodéndros, Bauh. hist. 3. p. 614. Besl. hort. eyst. p. 317. t. 316. Pseùdo-cápsicum, Dod. pempt. 718. icon. S. Americànum, Dalech. lugd. p. 599. icone. In Spain the fruit is called *Guindas de las Indias*; in France *Morelle cerisette, petit ceresier d'hiver, Amome des Jardiniers*; in England *Winter Cherries*, or *Tree Nightshade*. Plant glabrous. Corolla small, white, 5-parted. Berry globose, red, or scarlet, size of a cherry.

Var. β, lùteum; berries yellow, ex Poir. encycl. 4. p. 281.

False-Capsicum, or Tree Nightshade. Fl. June, Sept. Clt. 1596. Shrub 3 to 4 feet.

57 S. pseu'do-quìna (St. Hil. pl. usuell. bras. t. 21.) stem arboreous, unarmed; leaves lanceolate-oblong, narrow, acute, quite entire, glabrous above, but with fascicles of villi in the axils of the nerves beneath; racemes extra-axillary, short, bearing 1, or few-fruit; calyx glabrous. ♄. G. Native of Brazil, in the district of Curitiba in St. Paul, without the tropic. The bark is very bitter, and the inhabitants use it with great success in the cure of fevers, and for that reason is called by them *Quina*, from considering it the same as the Quina of Peru.

False-quina Nightshade. Shrub.

§ 4. More'lla (Morelle is the generic name of *Solànum* in French; and is from the Celtic word *mor*, black. In old French *mor* is the root of many names, expressing dark or black things.) *Stem herbaceous, or sub-herbaceous. Leaves acuminated at both ends. Racemes short, panicled, intra-foliaceous; pedicels subumbellate, or panicled, drooping. Flowers small, white, or pale violet. Berries small, globose.*

58 S. nodiflòrum (Jacq. coll. 2. p. 288. icon. rar. 2. t. 326.) stem suffruticose; branches terete, and are, as well as the leaves, glabrous; leaves ovate, quite entire; flowers sub-umbellate. ♄. S. Native of India, Lin.; Guiana, Aubl.; Brazil, Piso; Mauritius, Jacq. &c. Dun. sol. 151. S. stríctum, Zucc. cent. 1. p. 49. S. nìgrum, β, pátulum, Lin. spec. p. 267. Willd. spec. 1. p. 1035. Branches thickened at the nodi. Leaves half a foot long. Calycine segments oblong, obtuse. Corollas white, with a yellow base; segments lanceolate, acute. Berry small, black.

Knot-flowered Nightshade. Fl. June, July. Clt. 1822. Pl. 10 feet.

59 S. Desva'uxii (Hamilt. prod. p. 26.) stem about 2 feet high, erect; leaves ovate-lanceolate, quite entire, or sub-repand; berries small, globose, black. ⊙. H. Native of the Island of Nevis. S. nodiflòrum, Desv. herb. Stem herbaceous.

Desvaux's Nightshade. Pl. 2 foot.

60 S. Dille'nii (Schultes, œstr. fl. ed. 2d. 1. p. 393. Rœm. et Schultes, syst. 4. p. 586.) stem and branches terete, glabrous; leaves ovate, spreading horizontally, glabrous; peduncles filiform; fructiferous cymes erectly spreading. ⊙. H. Native of Hungary, in the woods of Matra, Kitaibel. S. nìgrum, β, pátulum, Willd. spec. 1. p. 1035. Roth. catalect. 2. p. 23.—Dill. elth. 367. t. 275. f. 355. Nearly allied to *S. pàtulum*, Ruiz. et Pav. Flowers white, much smaller than those of *S. nìgrum*. Berry marked with small white dots before maturity.

Dillenius's Nightshade. Fl. June, Sept. Clt. 1818. Pl. 2 feet.

61 S. microspe'rmum (Dun. syn. p. 12. sol. ed. 2d. t. 93. ined.) stem terete, herbaceous, glabrous; leaves solitary, or twin ovate, subcordate, entire, glabrous, shining; racemes subumbellate. ⊙. H. Native country unknown.

Small-seeded Nightshade. Pl. 1 to 2 feet.

62 S. Guinee'nse (Lam. ill. no. 2339. Mill. dict.) stem herbaceous; branches glabrous, angularly-toothed; leaves ovate, glabrous, quite entire; flowers numerous, somewhat umbellate. ⊙. H. Native of Guinea. Dun. sol. p. 152. syn. p. 12. S. nìgrum, δ, Guineénse, Lin. spec. p. 266 Willd. spec. 1. p. 1035.—Dill. elth. 360. t. 274. f. 354.—Boerh. lugdb. 2. p. 68. Bross. icon. t. 13. S. Memphíticum, Mart. mss. Nearly allied to *S. nìgrum*. Angles of the stem toothed. Corolla whitish, or pale violet. Berry globose, size of a small cherry, black and shining at maturity.

Guinea Nightshade. Fl. June, Sept. Clt. 1817. Pl. 1½ to 3 feet.

63 S. nìgrum (Lin. spec. p. 266. mat. med. 66.) stem herbaceous, angular; leaves ovate, toothed, nearly naked; flowers sub-umbellate. ⊙. H. Native throughout Europe; a weed in cultivated ground; as well as of Africa and Asia, in like situations. Dun. sol. p. 152. syn. p. 12. Willd. enum. 1. p. 236. S. nìgrum, α, vulgàtius, Lin. spec. 266. Smith, engl. bot. t. 566. Curt. lond. fasc. 2. t. 14. Plench, icon. t. 120. Oed. fl. dan. t. 460. Bull. herb. t. 67. Sturm. fl. germ. fasc. 1. icon. Hayne, term. bot. t. 28. Schkuhr, handb. t. 46. S. officinàrum acinis nigricantibus et acinis luteis, Tourn. inst. p. 148. S. officinàrum, Zanich. venez. t. 268. S. horténsis, Blackw. t. 107. &c.—Mor. hist. 3. p. 520. sect. 13. t. 1. f. 1. —Lob. icon. 262.—Tab. icon. 577. *Yerba mora* of Brazil, Peru, and Spain. *Morelle a fruits noir* and *Morelle creve chien* of the French. Plant downy. Stem branched, and is, as well as the branches, angular-toothed. Common peduncles short. Flowers few, 5-6 together, white. Berries size of currants, black, rarely yellow. The herb is fetid, and diuretic; it also promotes perspiration. Too large a quantity occasions violent sickness, with headache, giddiness, drowsiness, and other dangerous symptoms. In short its effects on the nervous system are so uncertain, and sometimes so considerable, that it must ever be administered with the greatest caution. S. nìgrum, Thunb. jap. p. 92, and Ruiz. et Pav. fl. per. p. 32, are probably distinct varieties.

Var. β, *melanocérasum* (Dun. sol. 153.) branches angularly toothed; leaves ovate, toothed, angular, glabrous; racemes sub-umbellate, extra-foliaceous. ⊙. H. Native of the South of Europe. S. melanocérasum, Willd. enum. p. 237.

Var. γ, *atriplicifòlium*; leaves sinuated, angular. ⊙. H. S. atriplicifòlium, Desportes in herb. D. C.

Black-fruited Nightshade. Fl. June, Sept. Britain. Pl. 1 to 1½ foot.

64 S. fistulòsum (Rich. herb. Dun. syn. p. 12. sol. ed. 2d. ined. Nees in Lin. trans. 17. p. 37.) branched, herbaceous; stem fistular, angular; leaves ovate, with a blunt acumen, somewhat repand, running into the narrow petioles at the base; pedicels when bearing the fruit equal in length to the common peduncle; pollen yellow. ⊙. H. Native of the Mauritius, East Indies, and cultivated in America. Very like *S. nodiflòrum*, and *S. Guineénse*, but differs from them in the peduncles being stronger and shorter, in the leaves being repand, and the stems being angular and more blunt, in the flowers being smaller, the anthers shorter, and in the pollen being yellow, not violaceous.

Var. α; berries black. ⊙. H. S. fistulòsum, Rich. l. c. Dun. syn. p. 12. S. Rhinoceròtis, Blum. bijdr. p. 695.? S. nìgrum, Wall. cat. no. 2615.

Var. β; berries red. ⊙. H. S. rùbrum, Gmel. syst. p. 384. Willd. spec. 1. p. 1034. S. erythræ'um, Dun. sol. 238. S. nìgrum fructu rubro, Hamilt. herb. Wall. cat. no. 2615.

Fistular-stemmed Nightshade. Pl. 1 to 2 feet.

65 S. ince'rtum (Dun. sol. 155. syn. p. 13. Nees in Lin. trans. 17. p. 38.) branched, diffuse, herbaceous; stem angular; angles smooth, or denticulated; leaves deltoid, or deltoid-oblong, triangularly acuminated, sinuately toothed in the middle; fructiferous pedicels reflexed, equal in length to the common peduncle. ⊙. H. Native of India, in sandy places, Silhet, Wallich. Flowers sub-umbellate, small, white. Berries round, size of peas.

Var. α; leaves narrower, sharply and sinuately toothed; fruit red, or yellow; stem rather scabrous. ⊙. H. S. nìgrum, Wall. cat. no. 2615, from Oude and Rungpur.

Var. β; leaves broadly deltoid, sparingly angular, or somewhat hastately angular.

* Berries red, or copper-coloured. ⊙. H. Native of India, Arabia, and the South of Europe. S. nìgrum, Forsk. fl. ægypt. p. 46. Wall. cat. no. 2615. C. N. S. miniàtum, Bernh. ex Willd. enum. 1. p. 236. Dun. sol. p. 156. S. nìgrum, β, Judàicum, Lin. spec. p. 266.? S. officinàrum acinis puniceis, Tourn. inst. p. 148. S. puníceum, Cord. hist. 158. Nelan Tsjunda, Rheed. mal. 10. p. 145. t. 73. Mesælleha hadie of the Arabs, ex Forsk. l. c.

** Berries black. ⊙. H. Native of Nipaul. S. nìgrum, var. melanocérasum, Wall. cat. no. 2615. F.

Uncertain Nightshade. Fl. June, July. Clt. 1823. Pl. 1½ to 3 feet.

66 S. ru'brum (Mill. dict. no. 4. Ait. hort. kew. 1. p. 249. Dun. sol. p. 155.) herbaceous, branched, diffuse; stem angular, with the angles and ribs of leaves denticulated; leaves ovate-oblong, attenuated at the base and apex, repandly toothed; fructiferous pedicels divaricate, shorter than the common peduncle, which is slender; pollen yellow. ⊙. H. Native all over India in cultivated places; and of Java, Amboyna; California (but with broader leaves). This species differs from *S. nìgrum* and *S. incértum*, in the stem being more elongated, in the angles of the stems, petioles, and ribs of the leaves on the under side being muricated, and furnished with strigulose down when young, in the leaves being attenuated at both ends, narrower and softer, never deltoid; in the umbels being smaller, and also the berries.

Var. α; berries red, or copper-coloured; flowers smaller; stem and leaves smoothish. ⊙. H. S. rùbrum, Roxb. fl. ind. 2. p. 216. S. nìgrum, η, rùbrum, Willd. spec. 1. p. 1036. S. Rúmphii, Dun. sol. p. 157. S. nìgrum, Wall. cat. part. S. ásperum, Horn. herb. Gunth. from California. S. nìgrum, fructu rubro, Wall. cat. no. 2615. A. B. Halicacabus Indicus minor niger, Rumph. amb. 6. t. 26. f. 2.

Var. β; berries red, or copper-coloured; flowers smaller; stem and leaves hairy, both erosely toothed. ⊙. H. India. S. Rúmphii, Blum. bijdr. p. 693, but not of Dun. S. chenopodioìdes, Lam. ill. no. 234. Dun. sol. p. 157.—Feuill. per. 2. t. 14. Berries pale, or whitish, and watery. S. nìgrum, herb. Heyne, part. Stems clothed with hoary villi, having the angles more muricated than in var. α, and the leaves are more rhomboid, and erosely toothed to the top, villous, obscure.

Var. γ; berries black, flowers larger. ⊙. H. Native of tropical America. S. oleràceum, Richard, herb. Dun. syn. p. 12. S. nìgrum, Blum. bijdr. p. 694. S. nìgrum fructu nigro, Wall. cat. no. 2615. H. Aquara-Quiya, Piso, lib. 4. cap. 50. f. 3. Branches downy at top.

Red-berried Nightshade. Fl. June, July. Clt. 1817. Pl. 1 to 3 feet.

67 S. erythroca'rpum (Meyer. esseq. p. 109.) stems permanent; leaves oblong-ovate, acuminated at both ends, quite entire; racemes subumbellate, interfoliaceous. ♃. S. Native in plantations about the Essequibo. S. rùbrum, Lin. syst. veg. p. 173. ed. 15.? Habit and stature of *S. nìgrum*. Stem branched, obsoletely angular, puberulous, as well as the branches. Leaves twin, or solitary, sometimes downy, sometimes glabrous. Corolla white, downy; segments oblong, acute. Berry pendulous, smaller than a pea, yellowish, and shining.

Red-fruited Nightshade. Pl. 2 to 3 feet.

68 S. furca'tum (Poir. suppl. 3. p. 750. Dun. syn. p. 13. sol. ed. 2d. ined. t. 135.) stem herbaceous, somewhat dichotomous, angularly-toothed; leaves ovate, toothed; racemes forked. ⊙. H. Native of Peru. The flowers are said to be the largest of its congeners.

Var. α, *glàbrum*; plant glabrous.

Var. β, *pilòsum*; plant pilose.

Forked Nightshade. Pl. 1 to 2 feet?

69 S. pterocau'lum (Dun. sol. p. 153. syn. p. 13.) stem

herbaceous, and is, as well as the branches, angular and toothed; leaves subovate, sinuately angular; flowers subumbellate. ⊙. H. Native of South America, in various places; and of New Holland. H. B. et Kunth, nov. gen. 3. p. 25. S. nìgrum, var. ε, Virgínicum, Lin. spec. 266. Aubl. guian. 1. p. 215. Swartz, obs. p. 83. R. Br. prod. p. 445. S. scàbrum, Mill. dict. no. 6, but not of Vahl. nor Jacq. S. alàtum, Mœnch. meth. p. 474.—Dill. elth. p. 367. t. 275. f. 256. Branches puberulous; angles somewhat ciliated, rather prickly at the base of the cilia. Leaves glabrous. Calyx downy. Corolla white, ex H. B. et Kunth, l. c. pale violet at first, at length pale, ex Dun. Berries round, black at maturity, size of peas. Anthers yellow.

Wing-stemmed Nightshade. Fl. June, Sept. Clt.? Pl. 1 to 2 feet.

70 S. Juda'icum (Schultes, æstr. fl. ed. 2d. vol. 1. p. 393. Bess. fl. gall. p. 183. no. 278. Rœm. et Schultes, syst. 4. p. 589.) stem herbaceous, almost unarmed; branches angular, muricated; prickles incurved; leaves ovate, sinuately-angular; corymbs distich, nutant. ⊙. H. Native of Austria and Galicia, &c. by way-sides. S. nìgrum, δ, Judàicum, Willd. spec. 1. p. 1035. S. nìgrum Virgínicum, β, Judàicum, Pers. syn. 1. p. 224. Stem nearly terete. Leaves almost glabrous. Corollas white. Anthers distinct, yellow, connivent. Pedicels deflexed. Berries black.

Jewish Nightshade. Fl. June, Aug. Clt. 1816. Pl. 1 to 2 feet.

71 S. suffruticòsum (Schousb. ex Willd. enum. p. 236. Dun. sol. p. 154. syn. p. 13.) stem unarmed, suffruticose; leaves ovate, dentately angular, nearly glabrous, ciliated; flowers sub-panicled, ex Dun.; umbels extra-foliaceous, pedunculate, ex Willd. ♄. H. Native of Barbary. Branches 2-edged, or quadrangularly-winged from the decurrence of the petioles; angles toothed. Leaves large, glaucous, covered with soft hairs above while young. Flowers white. Berries black. Very like *S. nìgrum*, but the stem is shrubby, the leaves larger, and the flowers more numerous, &c.; it also differs from *S. quadrangulàre*, in the leaves being always dentately angular, and in the flowers being white, not violaceous.

Suffruticose Nightshade. Fl. May, Sept. Clt. 1804. Shrub 4 feet.

72 S. quadrangula're (Thunb. prod. 36. Lin. suppl. p. 147.) stem shrubby, tetragonal; leaves ovate, entire, and angular; flowers panicled. ♄. G. Native of the Cape of Good Hope. This species is readily recognized by its tetragonal, hairy, scabrous stem; angles curled. Branches scabrous. Leaves glabrous. Flowers terminal, bluish.

Var. β; leaves lanceolate, entire.

Quadrangular-stemmed Nightshade. Pl. 2 to 3 feet.

73 S. triangula're (Lam. ill. no. 2342.) stem herbaceous, trigonal; leaves oblong-ovate, quite entire, naked; flowers panicled. ⊙. H. Native of the East Indies. Poir. encycl. 4. p. 290, exclusive of the synonyme of Rumph. S. quadrangulàre, var. triangulàre, Pers. ench. 1. p. 225. Stem trigonal, not winged. Leaves soft, acute. Corolla small, pale violet, with reflexed segments. Berries size of peas, greenish.

Triangular-stemmed Nightshade. Fl. June, Aug. Clt. 1800. Pl. 1½ to 2 feet.

74 S. bractea'tum (Thunb. in act. gorensk. 1812. fl. cap. 2. p. 57.) stem unarmed, shrubby, tetragonal; leaves ovate, serrated; racemes leafy. ♄. G. Native of the Cape of Good Hope. Stem stiff, glabrous; angles curled. Leaves glabrous. Bracteas similar to the leaves, convolute, serrulated. Calyxes acute. Berries black. It differs from *S. quadrangulàre* in the calyx, inflorescence, and leaves.

Bracteate Nightshade. Shrub.

75 S. hu'mile (Bernh. ex Willd. enum. p. 236. Dun. sol. p. 156.) stem herbaceous; branches rather angular, toothed, downy; leaves ovate, sub-repand: superior ones almost entire; flowers subumbellate. ⊙. H. Native of the South of Europe. S. officinàrum acinis e luteo-virescentibus, Tourn. inst. p. 148. Stems prostrate. Leaves rather downy, with a few teeth. Alternate pedicels drooping. Corolla small, white. Berry nearly globose, size of a pea, green, or yellowish green, smaller than in *S. nìgrum*.

Humble Nightshade. Fl. June, July. Clt. 1823. Pl. pros.

76 S. fla'vum (Kit. in Schultes, austr. ed. 2d. vol. 1. no. 871.) stem herbaceous; branches angular, toothed, clothed with strigose down; leaves ovate-oblong, angularly-sinuated, rather hairy; flowers subumbellate. ⊙. H. Native of the South of Hungary, and of France, about Andegaveny. S. ochroleùcum, Dun. syn. p. 14. Bast. in Desv. journ. bot. 3. 1814. p. 20. D. C. fl. fr. suppl. p. 418. Dun. sol. ed. 2d. ined. Nearly allied to *S. villòsum*, but the leaves are narrower, and more sinuately-toothed; the corollas are cream-coloured; the umbels fewer-flowered. Berries yellowish, at length dark brown.

Yellow-fruited Nightshade. Fl. June, July. Clt. 1817. Pl. 2 feet.

77 S. villòsum (Lam. ill. no. 2338. Dun. sol. 157. syn. p. 14.) stem herbaceous, villous; leaves ovate, angularly-toothed, villous; flowers subumbellate. ⊙. H. Native of Europe, in cultivated and waste places. Willd. enum. 1. p. 236. S. lùteum, Gmel. fl. bad. 1. p. 521. Mill. dict. no. 3. S. nìgrum, γ, villòsum, Lin. spec. 266. Willd. spec. 1. p. 1035. Bieb. fl. cauc. 1. p. 165. S. nìgrum villòsum moschàtum, Pers. ench. 1. p. 224. S. Ægyptìacum, Forsk. descr. p. 46.—Hall. helv. no. 576.—Sabb. hort. rom. 2. p. 12. t. 61.—Dill. elth. 366. t. 274. f. 353. S. officinàrum acinis luteis, Tourn. inst. p. 148. The whole plant is canescent from soft hairs. Berries at first green, but of a dirty copper colour, or almost red at maturity, nearly globose. Corollas white, larger than those of *S. nìgrum*, to which it is nearly allied.

Villous Nightshade. Fl. June, Sept. Clt. 1820. Pl. 1 to 3 feet.

78 S. hirsu'tum (Dun. sol. p. 158. syn. p. 14.) stem and branches terete, hairy; leaves quite entire, hairy; flowers subumbellate. ⊙. H. Native of Egypt, in gardens. S. nìgrum, δ, hirsùtum, Vahl. symb. 2. p. 40. S. Ægyptìacum, b. Forsk. fl. ægypt. p. 46. S. Memphíticum, Gmel. syst. p. 385. S. nìgrum hirsùtum, Forsk. descr. p. 46. Enab eddib. i. e. Fox grape in Arabic. Umbels nutant. Berries edible. This species differs from *S. villòsum* in the berries being black, and the leaves quite entire.

Hairy Nightshade. Fl. June, Sept. Clt. 1817. Pl. 1 to 2 feet.

79 S. Kitaibe'li (Schultes, fl. austr. ed. 2d. vol. 1. p. 395.) stem herbaceous, and is, as well as the leaves, clothed with tomentose pubescence; corymbs few-flowered. ⊙. H. Native of Hungary, Kitaibel. S. incànum, Kit. mss. This species differs from *S. hirsùtum*, in the leaves being hardly an inch long, and sinuated only at the base. Berries fuscescent, 4-5 together.

Kitaibel's Nightshade. Fl. June, Sept. Clt. 1822. Pl. 1 foot.

80 S. Besse'ri (Weinm. ex Rœm. et Schultes, syst. 4. p. 593.) stem herbaceous, rather angular; leaves ovate, acuminated, quite entire, downy; racemes subumbellate, extra-foliaceous, pendulous. ⊙. H. Native of America. Leaves 5-6 inches long. Calyx 5-toothed. Corolla white or bluish, with reflexed segments. Berries size and colour of those of *S. nìgrum*.

Besser's Nightshade. Fl. June, Aug. Clt. 1820. Pl. 1 foot.

Subsect. III. Holophy'lla (from ὁλος, *holos*, entire; and φυλλον, *phyllon*, a leaf; in reference to the entire leaves.) *Leaves quite entire, solitary. Calyx 5-parted. Stamens equal.*

§ 1. *Racemes terminal.*

81 S. se'ssile (Ruiz. et Pav. fl. per. 2. p. 35. t. 167. f. a. Dun. sol. p. 159. syn. p. 14.) stems shrubby, glabrous; leaves oblong-spatulate, acuminated, sessile, quite glabrous; racemes recurved. ♄. S. Native of Peru, in waste places about Munna. Shrub glabrous. Leaves a foot long. Corolla white. Anthers dark purple. Berry white, size of a cherry. Peduncles terminal, solitary, a span long.

Sessile-leaved Nightshade. Shrub 10 to 12 feet.

82 S. allogònum (Bernh. mss. ex Schlecht, in Linnæa, 8. p. 252.) corolla greenish, physaloid, furnished with a large spreading calyx, remaining under the berry; and is, as well as the stem, angularly winged. ⊙.? H. Native of Mexico, at Jalapa and Hacienda de La Laguna. Perhaps a proper genus.

Diverse-angled Nightshade. Pl.

83 S. anonæfòlium (Dun. syn. p. 15. sol. ed. 2d. t. 95. H. B. et Kunth, nov. gen. amer. 3. p. 27.) arboreous, glabrous; leaves oblong, acuminated, acute at the base, quite entire, glabrous, blistered above, and pilose in the axils of the veins beneath; corymbs terminal, branched. ♄. S. Native of New Granada, on the banks of the river Magdalena, between Teneriffe and Monpox. Branches terete. Leaves 5 inches long. Corollas white? with ovate-oblong, obtuse segments.

Anona-leaved Nightshade. Tree.

84 S. pa'tulum (Pers. ench. 1. p. 223. Dun. sol. 162. syn. p. 15.) stem shrubby; branches powdery; leaves oblong-lanceolate, acute, powdery on both surfaces, and particularly on the under side; racemes loose, spreading; pedicels twin. ♄. S. Native of Peru, in groves at Munna and Tambo-nuevo, S. lanceolàtum, Ruiz. et Pav. 2. p. 33. t. 164. f. a. but not of Cav. Leaves subpetiolate, about 5 inches long. Calyx powdery. Corolla large, violaceous, glabrous, powdery outside. Berry black, size of a cherry.

Spreading Nightshade. Fl. June, Sept. Clt. 1818. Shrub 4 to 5 feet.

85 S. pulverule'ntum (Pers. ench. 1. p. 223.) stem shrubby; branches powdery; leaves lanceolate-linear, nerved beneath, undulated; racemes rameal, powdery; pedicels twin. ♄. S. Native of Peru, in groves of Huanuco, at Acamago. Dun. sol. p. 163. syn. p. 15. S. angustifòlium, Ruiz. et Pav. fl. per. 2. p. 33. t. 163. f. b. but not of Lam. Stem much branched. Leaves powdery. Corolla whitish-violet, powdery outside. Berry black, subovate, size of a *chick-pea*.

Powdery Nightshade. Shrub.

86 S. longiflòrum (Vahl, eclog. 1. p. 20.) stem shrubby; leaves oblong or elliptic, attenuated, rather tomentose on both surfaces; racemes bifid, cymose; corolla 5-parted. ♄. S. Native of Guiana. S. longifòlium, Dun. sol. p. 163. t. 9. syn. p. 15. S. salvifòlium, Lam. ill. no. 2308.? S. subenérme, Jacq.? Branches terete, rather tomentose from minute starry hairs at top, as well as the peduncles, pedicels, leaves, and calyxes. Leaves unequal, 2-9 inches long, reflexed, undulately repand, green above. Corolla bluish-violet, with narrow, blunt segments, tomentose outside. Teeth of calyx subulate. The young branches are said by Link, ex enum. 1. p. 184. to be furnished with soft prickles.

Long-flowered Nightshade. Fl. June, Aug. Clt. 1823. Shrub 4 to 6 feet.

87 S. ni'tidum (Ruiz. et Pav. fl. per. 2. p. 33. t. 163.) stem shrubby; branches glabrous, shining; leaves ovate-lanceolate, acute; racemes subcymose, clothed with powdery tomentum. ♄. S. Native of Peru, in groves of Tarma, where it is called *Rapace* by the natives. Leaves entire or repand. Corolla whitish-violet, powdery outside. Berry black, size of a chick-pea.

Shining-branched Nightshade. Shrub.

88 S. angustifòlium (Lam. ill. no. 2343. Dun. syn. p. 15.) stem shrubby; branches subherbaceous; leaves narrow-lanceolate, quite glabrous, bluntish; flowers corymbose. ♄. G. Native of Buenos Ayres, in fields. Dun. sol. ed. 2d. ined. t. 32. Branches smooth. Leaves petiolate, similar to those of the *Laurel*. Peduncles long, branched. Corolla white? with ovate, blunt segments. Anthers large, yellow.

Narrow-leaved Nightshade. Shrub.

89 S. stenophy'llum (Dun. syn. p. 15. H. B. et Kunth, nov. gen. amer. 3. p. 27.) stem sub-herbaceous, clothed with powdery tomentum; leaves narrow, oblong-linear, almost sessile, quite glabrous above, but clothed with powdery tomentum beneath; racemes coarctate. 2. ? S. Native of Peru, on the Andes, near Olleros and Yanto. Dun. sol. ed. 2d. t. 97.

Narrow-leaved Nightshade. Pl. 2 feet?

90 S. Loxe'nse (Dun. syn. p. 16. H. B. et Kunth, nov. gen. 3. p. 28.) stem tomentose, scandent; leaves subcordate, ovate-lanceolate, hairy, and woolly beneath; racemes terminal, divaricate. 2. ᔓ. S. Native of Quito, frequent between Loxa, Gonzanama, and the banks of the river Catamayo, at the altitude of 1060 hexapods. Dun. sol. ed. 2d. ined. t. 98. Stem angular, a little winged, downy at base. Tomentum stellate, whitish-yellow. Leaves on short petioles, unequal at the base. Panicles terminal. Calycine segments truncate, mucronate. Corolla small, with oblong, acute segments.

Loxa Nightshade. Pl. climbing.

91 S. cri'spum (Ruiz. et Pav. fl. per. 2. p. 31. t. 158. f. a. Dun. sol. 159. syn. p. 16.) stem shrubby; leaves ovate and subcordate, undulately curled, acuminated, quite entire; flowers corymbose, terminal. ♄. G. Native of Chili, in waste places. Plant very bitter, and called by the natives *Natre*. Stem glabrous. Calyx 5-toothed. Corolla pale blue, slightly puberulous. Berry pale yellow, globose, size of a pea.

Curled-leaved Nightshade. Fl. June, July. Clt. 1824. Shrub 12 to 15 feet.

92 S. au'reum (Dun. syn. p. 16. H. B. et Kunth, nov. gen. 3. p. 28.) stem shrubby, twining; leaves petiolate, ovate, shining above, and rather pilose beneath; racemes dichotomous, clothed with brownish-yellow tomentum. ♄. ᔓ. G. Native of America, in frigid places at the bottom of Mount Chimborazo, near Calpi and Yanaurcu, at the altitude of 1620 hexapods. Stem clothed with powdery, brownish-yellow tomentum, as well as the pedicels, racemes, calyxes, &c. Racemes paniculately corymbose. Corolla violaceous; segments lanceolate, with revolute edges.

Golden-haired Nightshade. Shrub twining.

93 S. pyrifòlium (Lam. ill. p. 2345. Dun. sol. p. 160. syn. p. 16.) stem sub-herbaceous; leaves ovate, entire, acute, naked on both surfaces, on long petioles; racemes panicled, terminal; calycine segments obtuse, mucronate. ♄.? S. Native of Martinico. Dun. sol. ed. 2d. ined. t. 34. Allied to *S. quercifòlium*; but differs in the leaves being entire, and the flowers larger. Corolla white; with oval, obtuse segments. Calyx glabrous; segments blunt.

Pear-leaved Nightshade. Shrub 2 to 3 feet?

94 S. macranthe'rum (Moc. et Sesse. pl. mex. icon. ined. Dun. syn. p. 16. sol. ed. 2d. ined. t. 100. H. B. et Kunth, nov. gen. 3. p. 28. t. 195.) shrubby, scandent; leaves on long petioles, ovate, acuminated, acute at the base, quite entire, hairy or downy; panicles terminal, branched; flowers subcorymbose.

ħ . ⏑. G. Native of Mexico, near Cuernavaca. S. dulcamaroìdes, Poir. suppl. 3. p. 750. Branches rather angular, downy. Leaves 3 or 3½ inches long. Panicles downy. Calyx downy, sinuately 5-lobed. Corolla violaceous, size of those of *S. tuberòsum*, glabrous; with ovate, acute segments. Berry globose, red, an inch in diameter. Nearly allied to *S. pyrifòlium*. Anthers large, sessile, approximate.

Large-anthered Nightshade. Shrub climbing.

95 S. Bombe'nse (Jacq. p. 49. eclog. t. 24. H. B. et Kunth, nov. gen. 3. p. 29. Dun. sol. p. 160. ed. 2d. ind. t. 101. syn. p. 16.) shrubby; leaves petiolate, lanceolate-oblong, attenuated at both ends, acute, subundulated, glabrous; corymbs extra-axillary, trifid. ħ . S. Native of the Island of Tierra Bomba, about Carthagena; and of Mexico, near Moran, Regla, and Omitla. Plant glabrous. Leaves about 3 inches long. Peduncles opposite the leaves, an inch long, racemosely umbellate, ex Dun. Corollas white, size of those of *S. nìgrum*, green outside; segments ovate-oblong, acute, downy towards the margins. Calyx 5-toothed, a little ciliated.

Tierra-Bomba Nightshade. Fl. June, July. Clt. 1822. Tree 12 feet.

96 S. pubi'gerum (Dun. sol. 160. t. 6. syn. p. 16.) stem erect, shrubby; leaves ovate-lanceolate, attenuated at both ends, downy; racemes di-trichotomous. ħ . G. Native of Mexico. Moc. et Sesse, icon. mex. ined. Poir. suppl. 3. p. 751. S. microcárpum, Cerv. elench. hort. matr. 1803. Brouss. cat. hort. monsp. 1804. S. Cervantèsii, Lag. gen. et spec. nov. p. 10. no. 145. Stem marked with small tubercles. Young branches green, downy, rather angular. Leaves undulately repand. Racemes corymbose, downy. Flowers small, white, drooping. Calyx 5-toothed. Segments of corolla ovate, reflexed. Berry black, size of a pea. This species differs from *S. Bombénse* in being clothed with silky tomentum; and from *S. terminàle*, in the stems being erect, not decumbent; and in the flowers being cymose, not umbellate.

Down-bearing Nightshade. Fl. May, June. Clt. 1818. Shrub 3 to 5 feet.

97 S. termina'le (Forsk. ægypt. p. 45. Vahl, symb. 2. p. 40.) stem shrubby, decumbent; leaves ovate-lanceolate, almost quite entire, pilose; umbels terminal, villous. ħ . F. Native of Arabia Felix, on the higher mountains of Yemen, and shady places at Mocha. Dun. sol. 161. syn. p. 17. Stems warted, downy at top. Leaves villous beneath, acute at both ends, with undulately denticulated, ciliated edges. Calyx 5-toothed; segments lanceolate, obtuse. Corolla white. Berries taste of those of *S. Dulcamàra*. Anthers yellow.

Terminal-flowered Nightshade. Shrub decumbent.

98 S. a'sperum (Vahl, eclog. 2. p. 17. Dun. sol. p. 164. t. 7. syn. p. 17.) stem shrubby; leaves ovate-lanceolate or elliptic, rough; cymes on long peduncles. ħ . S. Native of South America, Vahl; Cayenne, Rich; Guadaloupe, D. C. herb. Branches scabrous from stellate hairs. Leaves 6 inches long, approximate towards the tops of the branches, attenuated at both ends, scabrous from minute, stellate hairs. Peduncles dichotomous, clothed with yellowish-white, stellate pili, as well as the peduncles, calyxes, and corollas. Segments of corolla oblong, acute. Berry almost globose.

Rough Nightshade. Shrub.

99 S. ra'dula (Vahl, eclog. 2. p. 16.) stem shrubby; leaves oblong-elliptic, acuminated at both ends, quite entire, very scabrous above, but clothed with canescent down beneath; corymbs terminal, dichotomous, hairy, ex Kunth; tomentose, ex Vahl. ħ . S. Native of Cayenne; and on the banks of the river Magdalena, near Badilla. Dun. sol. p. 164. ed. 2. ined. t. 35. syn. p. 17. H. B. et Kunth, nov. gen. amer. 3. p. 29. S. salvifòlium, Lam. ill. no. 2308. S. ásperum, Rich. in act. soc. p. 19. Branches clothed with stellate pili, as well as the leaves, &c. Leaves 2-4 inches long, scabrous and green above. Cymes clothed with starry down, twice or thrice bifid. Corollas small, white; with ovate segments.

Rasp-leaved Nightshade. Shrub.

100 S. lepidòtum (Dun. syn. p. 17. sol. ed. 2d. t. 102. H. B. et Kunth, nov. gen. 3. p. 30.) stem arboreous, terete; leaves ovate-lanceolate, falcate, rather scabrous above, and clothed with scaly tomentum beneath, shining on both surfaces; racemes subdichotomous. ħ . S. Native of New Granada. Branches, peduncles, pedicels, calyxes, and corollas, rubiginose from minute, scale-like, stellate hairs, as well as the under sides of leaves. Berry globose.

Scale-dotted Nightshade. Tree.

101 S. laurifòlium (Lin. suppl. p. 148. Dun. sol. p. 165. t. 8. syn. p. 17.) stem arboreous; leaves ovate-oblong, acute, glabrous above, and tomentose beneath; panicles dichotomous; pedicels cymose. ħ . S. Native of South America, in woods. Branches tomentose. Leaves on short petioles, quite entire, yellowish-brown beneath. Panicles tomentose. Calycine segments mucronulate. Corolline segments ovate.

Laurel-leaved Nightshade. Fl. June, July. Cult. 1820. Tree.

102 S. ripa'rium (Pers. ench. 1. p. 221.) stem shrubby; leaves oblong-acuminated, hoary from powdery, white tomentum; corymbs terminal, dichotomous, many-flowered, pedunculate. ħ . S. Native of Peru, in the province of Huanuco, on the edges of waterfalls. Dun. sol. p. 163. syn. p. 17. S. dichótomum, Ruiz. et Pav. fl. per. 2. p. 34. t. 166. f. b. but not of Lour. Almost all parts of the plant are canescent from powdery tomentum. Flowers small. Corolla violaceous. Berry yellow, size of a filbert.

River-side Nightshade. Shrub.

103 S. verbascifòlium (Lin. spec. 184. Mill. dict. no. 22.) shrubby; leaves ovate-oblong, acuminated, quite entire, tomentose, white beneath, without any leaves in the axils; corymbs nearly terminal, dichotomous; calyx semiquinquefid. ħ . S. Native of Asia, America, tropical parts of New Holland, &c. R. Br. prod. p. 444. Dun. sol. 165. syn. 17. Jacq. hort. vind. 1. t. 13. Willem. herb. maur. p. 17. S. pubéscens, Roxb. fl. ind. 2. p. 244. Blum. bijdr. 698. S. eriánthum, D. Don, prod. fl. nep. p. 96. S. adulterìnum, Hamilt. herb. S. bícolor, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 661.—Burm. amer. p. 241. t. 245. f. 2.—Plukn. alm. 351. t. 316. f. 1. Every part of the plant is clothed with powdery, white tomentum. Leaves broad, greenish-yellow above, and of a whitish-yellow colour beneath. Corollas small, white. Berries size of small cherries.

Var. β, adulterìnum (Hamilt. herb.) leaves a little broader, more ovate, and less tomentose. ħ . S. India.

Mullein-leaved Nightshade. Fl. June, July. Clt. 1749. Shrub 6 to 7 feet.

104 S. auricula'tum (Ait. hort. kew. 1. p. 246.) shrubby; leaves ovate-oblong, acuminated, quite entire, tomentose, of the same colour on both surfaces: axils furnished with oblique small leaves; corymbs subterminal, dichotomous, pedunculate; calyx semiquinquefid. ħ . S. Native of the Islands of Madagascar, Mauritius, and Bourbon. Dun. sol. p. 166. syn. p. 17. Vahl, symb. 3. p. 38. Wall. in Roxb. fl. ind. 2. p. 245. S. Mauritiànum, Scop. del. 3. p. 16. t. 8. Lam. ill. no. 2307. Leaves 6-7 inches long. All parts of the plant are clothed with yellowish tomentum. Corolla villous outside, violaceous inside. Berry globose, yellowish. Nearly allied to *S. verbascifòlium*.

Auricled-leaved Nightshade. Fl.? Clt. 1773. Shrub 6 to 7 feet.

105 S. umbellíferum (Eschscholtz, in mem. acad. st. pe-

tersb. 10. p. 286. Hook. et Arn. p. 152.) plant clothed with hoary down; stem suffruticose; leaves petiolate, ovate, acutish, quite entire; racemes umbellate, terminal, few-flowered; calyx urceolate, 5-cleft: with acute segments; corolla 5-cleft, 3 times longer than the calyx. ♄. H. Native of California. Corolla at first campanulate. Anthers biporose at the apex, with a tendency to split.

Umbelliferous Nightshade. Shrub.

106 S. Bahame'nse (Mill. dict. no. 24.) shrubby; leaves lanceolate, sinuately toothed, glabrous; umbels erect. ♄. F. Native of the Bahama Islands, Catesby. Dill. elth. t. 363. Bark brown. Leaves $3\frac{1}{2}$ inches long, and $1\frac{1}{2}$ broad, acuminated, pale green. Umbels small, lateral. Flowers large, white; segments acuminated.

Bahama Nightshade. Shrub 4 to 6 feet.

§ 2. *Racemes, cymes, or corymbs, lateral, rameal, not axillary nor opposite the leaves.*

107 S. va'gum (Heyne, ex Wall. cat. no. 2624. Nees, in Lin. trans. 17. p. 48.) shrubby; leaves ovate-oblong, repandly sinuated, clothed with powdery tomentum beneath while young, as well as the young branches; cymes lateral, bifid; calycine segments long-acuminated; berries small, globose. ♄. S. Native of the East Indies. S. corymbòsum, Wight, herb. This is a very distinct species, nearly allied to *S. longifòlium*, and *S. Bombénse*, or *pubigerum*, Dun.; but differs in the leaves being repandly angular; from the first it differs in the flowers being smaller, and white; and from the last in the calycine segments being long-acuminated.

Common Nightshade. Shrub.

108 S. lu'teo-a'lbum (Pers. ench. 1. p. 221. Dun. sol. 168. syn. p. 18.) stem shrubby; leaves ovate, acute, downy on both surfaces; racemes cymose, lateral; flowers secund. ♄. S. Native of Peru, in groves at Cuchero. S. pubéscens, Ruiz. et Pav. fl. per. 2. p. 36. t. 169. f. b. Corolla pale yellow. Berry globose, shining, orange-coloured, size of a cherry. Habit of *S. pubéscens;* but differs in the flowers being cymosely branched, less umbellate, and not opposite the leaves. Calycine segments deflexed, acute.

Yellow-white-flowered Nightshade. Shrub.

109 S. chlora'nthum (Spreng. syst. 1. p. 682.) leaves oblong, attenuated at the base, shining above, and quite glabrous, but clothed with stellate tomentum beneath; peduncles sub-umbellate; corollas minute, green; calyx 5-parted. ♄. S. Native of Brazil.

Green-flowered Nightshade. Shrub.

110 S. la'xum (Spreng. syst. 1. p. 682.) leaves ovate, acute, glabrous, veiny; branches cirrhiferous, scandent; peduncles racemose, loose; calyx 5-parted. ♄. ◡. S. Native of Monte Video, Sello.

Loose Nightshade. Shrub climbing.

111 S. dichótomum (Lour. coch. 1. p. 160.) stem suffruticose, pilose; leaves cordate-lanceolate, quite entire, tomentose; peduncles dichotomous. ♄. G. Native of China. Dun. sol. p. 167. syn. p. 18. Stem diffuse, branched. Berry small, globose, red.

Forked-peduncled Nightshade. Shrub.

112 S. filifórme (Ruiz. et Pav. fl. per. 2. p. 31. t. 159.) stem suffruticose; leaves ovate and cordate, obtuse, pubescent; peduncles filiform, bifid, subumbellate. ♄. S. Native of Peru, on hills at Lomas de Atiquipa. Dun. sol. 171. syn. p. 18. Habit of *Sálvia*. Stem granular. Flowers drooping. Corolla pale blue, thrice as large as the calyx.

Filiform-peduncled Nightshade. Shrub.

113 S. vi'ride (R. Br. prod. p. 445.) suffruticose; leaves ovate-oblong, acute, entire, flat, membranous, glabrous; racemes corymbose, simple or bipartite; calyx and corolla 5-cleft. ♄. G. Native of New Holland, within the tropic, on the sea shore. Perhaps the same as *S. víride*. Forst. pl. escul. p. 42. Spreng. mant. 1. p. 37.

Green Nightshade. Shrub.

114 S. seri'ceum (Ruiz. et Pav. fl. per. 2. p. 33. t. 161. f. b. Dun. sol. p. 181. syn. p. 19.) stem shrubby; branches slender; leaves small, ovate-lanceolate, silky, quite entire; peduncles 2-flowered, or few-flowered, cymose. ♄. S. Native of Peru, at Huassen-huassi, in woods. Branches silky. Leaves hoary. Corolla bluish-violet, silky outside. Berry red. Ruiz. et Pav. say that this species agrees with *S. eleagnifòlium*, and probably, like it, prickly at the base.

Silky Nightshade. Shrub $4\frac{1}{2}$ feet.

115 S. Linkia'num (Rœm. et Schultes, syst. 4. p. 601.) stem shrubby, much branched; branches twiggy, thickish, strigose; leaves ovate-lanceolate, strigose on both surfaces, somewhat repand; peduncles 2-flowered. ♄. S. Native of Brazil. S. diffùsum, Link, herb. Leaves $1\frac{1}{2}$ inch long, and $\frac{1}{2}$ an inch broad. Peduncles extra-foliaceous, nearly an inch long, deflexed. Calyx 5-parted, hairy, with lanceolate segments. Berry glabrous, size of a pea.

Link's Nightshade. Shrub.

§ 3. *Racemes opposite the leaves, or almost so, tomentose, downy, or clothed with leprous-like silvery, powdery down.*

116 S. nu'tans (Ruiz. et Pav. fl. per. 2. p. 34. t. 166. f. a.) shrubby; leaves oblong-ovate, acuminated, woolly beneath; racemes very short, opposite the leaves, cymose, recurved, many-flowered; flowers secund, drooping. ♄. S. Native of Peru, in waste places on the road to Pillao, where it is called *Chuculate* by the natives. Dun. sol. p. 167. syn. p. 19. Shrub rusty; branches granular. Leaves quite entire, granular above, and nearly glabrous. Corollas small, white. Calyx woolly. Berry yellow, globose.

Drooping-flowered Nightshade. Shrub.

117 S. venòsum (Dun. syn. p. 19. sol. ed. 2d. t. 105. H. B. et Kunth, nov. gen. amer. 3. p. 32.) arborescent; branches floccosely pilose; leaves lanceolate-oblong, acuminated, acute at the base, quite entire, rather pilose above, and hairy beneath; corymbs opposite the leaves. ♄. S. Native of New Granada, on the Andes of Quindiu. Leaves floccose on the midrib beneath, 5 or $5\frac{1}{2}$ inches long; petioles floccose. Calyx small, with roundish segments. Berry nearly globose, size of a sloe.

Veiny-leaved Nightshade. Shrub or Tree.

118 S. Swartzia'num (Rœm. et Schultes, syst. 4. p. 602.) shrubby; leaves petiolate, ovate-lanceolate, quite entire, coriaceous, glabrous, clothed with stellate hairs, beset with orbicular, golden-yellow scales beneath; racemes solitary, terminal. ♄. S. Native of Brazil, near Villa Ricca. S. aúreum, Swartz, in litt. Branches terete, beset with rusty scales. Racemes 5-flowered; pedicels deflexed, scaly. Calyx pentagonal, scaly outside. Corolla beset with scales outside, dark purple inside, with acuminated segments. Anthers purple.

Swartz's Nightshade. Shrub.

119 S. gnaphalioi'des (Pers. ench. 1. p. 223.) stem shrubby; leaves lanceolate, repand, glabrous, shining; umbels opposite the leaves, tomentose; berries drooping. ♄. S. Native of Peru, in shady places at Tarma; and in hedges about Acabamba, where it is called *Nununya* by the natives. Dun. sol. p. 178. syn. p. 19. S. calygnaphàlium, Ruiz. et Pav. fl. per. 2. p. 31. The calyxes being clothed with tomentum, the plant has much the appearance of a species of *Gnaphàlium*. Corollas violaceous. Berries dark red, saponaceous, size of a filbert.

Gnaphalium-like Nightshade. Shrub 10 to 12 feet.

120 S. Vellozia'num (Dun. sol. 236. ed. 2d. ined. t. 37. syn. p. 19.) branches leprosely tomentose, rufescent; leaves large, oblong-lanceolate, leprously tomentose beneath, but quite glabrous above; racemes short, almost opposite the leaves, multifid, cymose. ♄. S. Native of Brazil. Vand. spec. fl. bras. p. 13. and in Rœm. script. hisp. p. 86. Poir. suppl. 3. p. 754. Leaves petiolate, a foot long, dark green above, and rufescent beneath, like the racemes. Calyx deeply 5-cleft, with obtuse segments. Corolla small, deeply 5-cleft. Style villous.

Vellozi's Nightshade. Shrub.

121 S. arge'nteum (Dun. syn. p. 19. sol. ed. 2d. t. 39.) branches leprously silvery; leaves ovate-oblong, shining on both surfaces, leprously silvery beneath, but green and glabrous above: they are twin on the primary branches, and solitary on the secondary ones. ♄. S. Native about Rio Janeiro. Poir. suppl. 3. p. 755. Peduncles twin or tern, very short, 1-flowered, silvery, like the calyxes and outside of the corolla. Flowers small. Calyx 5-toothed. Segments of corolla oblong, acute.

Silvery Nightshade. Fl. June, July. Clt. 1824. Shrub 3 to 4 feet.

§ 4. *Glabrous trees or shrubs. Leaves glabrous, rarely pilose in the axils of the nerves. Racemes simple, cymose, cymosely umbellate, opposite the leaves. Corolla somewhat 5-cleft.*

122 S. urceola'tum (Pers. ench. 1. p. 223. Dun. sol. p. 171. syn. p. 20.) stem shrubby; leaves oblong, acuminated, undulately repand; peduncles opposite the leaves, few-flowered, very short. ♄. S. Native of Peru, in woods at Vitoc. S. oppositifòlium, Ruiz. et Pav. fl. per. 2. p. 35. t. 168. f. a. Shrub glabrous. Leaves shining above. Peduncles 2-4-flowered. Calyx 5-toothed, in the floriferous state small, but large in the fructiferous state. Corolla 5-cleft, with hooked segments.

Urceolate-calyxed Nightshade. Shrub 6 feet.

123 S. læviga'tum (Dun. syn. p. 20. sol. ed. 2d. ined. t. 106. H. B. et Kunth, nov. gen. 3. p. 32.) shrubby; branches and leaves glabrous, but pilose in the axils of the veins beneath; leaves on short petioles, elliptic-oblong, acuminated, cuneated at the base, quite entire; umbels opposite the leaves; pedunculate, few-flowered. ♄. S. Native of New Granada, near Fusagasuga. Leaves 4½ inches long, and 2 broad. Calyx 5-cleft, puberulous, with short, ovate, acutish segments. Allied to *S. tríste*, ex Kunth.

Smooth Nightshade. Shrub 4 to 6 feet?

124 S. obova'tum (Dun. syn. p. 21. sol. ed. 2d. ined. t. 112. H. B. et Kunth, nov. gen. 3. p. 35.) arboreous; branchlets angular, clothed with fuscous tomentum; leaves elliptic-oblong, acuminated, somewhat cuneated at the base, quite entire, glabrous, but pilose in the axils of the veins beneath; flowers opposite the leaves, umbellate, polygamous. ♄. S. Native of Peru, on the Andes of Quito, near Cuenca. Branches terete, glabrous. Leaves petiolate, 3 or 3½ inches long. Umbels sessile, many-flowered; and in each umbel there are 3-4 fertile flowers, which stand on long pedicels; the rest are small and abortive, and stand on short pedicels. Pedicels and calyxes clothed with fuscous tomentum. Calyx 5-lobed: lobes bluntish, unequal. Corolla smoothish, white? segments of the limb linear-oblong, acute, equal, mucronately tubercled under the apex.

Obovate-leaved Nightshade. Tree.

§ 5. *Racemes or cymes axillary, solitary or twin.*

125 S. incu'rvum (Ruiz. et Pav. fl. per. 2. p. 34. t. 164. f. b. Dun. sol. p. 171. syn. p. 21.) pubescent; stem angular, herbaceous; leaves ovate, acuminated; racemes twin, one shorter than the other; pedicels incurved, secund. ♃. ? S. Native of Peru, in woods at Munna. S. recúrvum, Poir. suppl. 3. p. 755. Stem thickened at the nodi, glabrous; the rest downy. Pedicels cymose, violaceous. Calyx campanulate, deeply 5-toothed. Corolla whitish-violet, 5-parted.

Incurved-pedicelled Nightshade. Pl. 2 feet.

126 S. a'nceps (Ruiz. et Pav. fl. per. 2. p. 36. t. 169. f. a. Dun. sol. 171. syn. p. 21.) stem herbaceous; leaves oblong-lanceolate; peduncles axillary, very short, 2 or 3 together; berries conical, 2-edged. ♃. ? S. Native of Peru, in woods at Cuchero. Leaves quite entire, downy. Calyx and corolla 5-parted. Peduncles cymose. Flowers secund, small, green. Berry whitish, many-angled towards the top.

Two-edged-berried Nightshade. Pl. 3 feet.

127 S. Bassòvia (Rich. herb. ined. Dun. syn. p. 22.) stem shrubby; leaves ovate-oblong, attenuated at both ends, glabrous; cymes small, axillary, solitary. ♄. S. Native of Guiana, in woods, Richard. Poir. suppl. 3. p. 754. no. 132. S. rugòsum, Rich. herb. Bassòvia sylvática, Aubl. guian. p. 217. t. 85. Lam. ill. t. 102. Willd. spec. 1. p. 1065. Leaves large, petiolate, shining; nerves rough above. Cymes shorter than the leaves. Calyx 5-toothed; teeth obtuse. Corolla pubescent, greenish; anthers yellow. Berry conical, somewhat compressed, wrinkled, greenish-white. This differs from its nearest ally, *S. ánceps*, in the stem being shrubby, and the cymes being solitary.

Bassovia Nightshade. Shrub 3 to 4 feet.

§ 6. *Peduncles axillary, 1-flowered, solitary, twin, or many together.*

128 S. brevifòlium (Dun. syn. p. 22. sol. ed. 2d. ined. t. 113. H. B. et Kunth, nov. gen. 3. p. 36.) suffruticose, scandent; branches and leaves glabrous; leaves ovate, obtuse, obsoletely cordate; peduncles almost opposite the leaves, 1-flowered, solitary. ♄. ◡. S. Native of Quito, near the town of Ibarra, climbing on trees. Stems radicant; branches rather angular. Leaves 9-10 lines long, furnished with a small twin or solitary leaf in the axils. Calyx 5-toothed. Corolla pale violet; segments lanceolate. Berries globose, red, size of those of *S. nìgrum*; Fructiferous calyx 5-cleft. Perhaps a species of *Witheríngia*.

Short-leaved Nightshade. Shrub climbing.

129 S. Havane'nse (Jacq. amer. p. 49. t. 35. ed. pict. t. 48. Dun. sol. 147. syn. p. 22.) shrubby; branches angular, and are, as well as the leaves, glabrous; leaves oblong-lanceolate, acute, shining, quite entire, narrowed at the base, rather coriaceous; peduncles sub-axillary, 1-flowered, solitary; berries oval. ♄. S. Native of Martinico, Jamaica, Peru, in shady parts of woods by the sea side; and of Cuba, near Havana, Regla, and Guanavacoa. H. B. et Kunth, nov. gen. 3. p. 36. Swartz, obs. 82. Ruiz. et Pav. fl. per. 2. p. 39. Leaves sometimes twin, but very seldom, 2½ inches long. Corollas blue, an inch in diameter; segments broad, short, emarginate. Berry ovate, deep blue, shining, ex Jacq.; globose, red, ex Kunth. Peduncles 2-3-flowered, ex Jacq.; 1-flowered, ex Kunth. Calyx 5-parted.

Havana Nightshade. Fl. July, Aug. Clt. 1793. Shrub 5 to 8 feet.

130 S. Montevide'nse (Spreng. syst. 1. p. 684.) leaves oblong, attenuated at the base, sub-repand, scabrous on both surfaces; branches powdery; peduncles erect, 1-flowered. ♄. S. Native of Monte Video.

Monte Video Nightshade. Shrub.

131 S. coria'ceum (Hook. bot. mag. 2703.) shrubby, glabrous; leaves petiolate, oblong, coriaceous, shining, entire, rather veiny; peduncles terminal and axillary, generally 1-flowered; corolla 5-lobed: lobes blunt, and plicæ mucronate, and longer than the lobes; calyx 4-5-parted. ♄. G. Native of Mexico. Corollas bluish-purple; anthers yellow beyond the throat.

Coriaceous-leaved Nightshade. Fl. July, Aug. Clt. 1820. Shrub 2 to 4 feet.

Subsect. IV. Gemina'ta (from *geminus*, twin; in reference to the leaves being twin.) *Leaves quite entire, twin, and sometimes solitary on the same branch, rarely aggregate. Calyx 5-parted. Stamens equal.*

§ 1. *Peduncles axillary, 1-flowered, solitary, twin, or aggregate.*

132 S. conoca'rpum (Rich. herb. Dun. syn. p. 22. sol. ed. 2d. ined. t. 30.) stem shrubby; leaves twin or tern, unequal, entire, obtuse, nearly sessile; peduncles solitary or twin, 1-flowered; berries oval, very acute. ♄. S. Native of the Island of St. John, Richard. Poir. suppl. 3. p. 748. Habit of a species of *Céstrum*. Branches wrinkled, yellowish. Leaves coriaceous, obovate or elliptic. Calycine segments ovate. Corolla blue, deeply 5-parted. Berry twice the size of a cherry, edible. Very nearly allied to *S. Havanénse*; and perhaps only differs in the colour of the berry, which is blue in *S. Havanénse*.

Cone-fruited Nightshade. Shrub.

133 S. membrana'ceum (Wall. cat. no. 2625, A. B. Nees, in Lin. trans. 17. p. 41.) stem herbaceous, dichotomous; leaves twin, ovate and oblong, acuminated at both ends, oblique at the base, unequal, hairy above; flowers usually twin, axillary; calyx 5-toothed: teeth subulate. ♃.? ⊙. S. Native of the Neelgherry Mountains, Noton, along with *S. bigeminàtum*.

Membranous-leaved Nightshade. Pl.

134 S. læ've (Dun. syn. p. 22. sol. ed. 2d. t. 36.) plant herbaceous, glabrous; leaves twin, one much smaller than the other, ovate, acute at both ends, acuminated, entire; peduncles usually twin, axillary; calyx 5-toothed: teeth subulate. ♃. S. Native of the East Indies. S. membranàceum, Wall. cat. no. 2625. B. Peduncles short. Calyx coriaceous, with 5 linear teeth. Berry globose. Seeds subtriangular, dotted.

Sleek Nightshade. Shrub.

135 S. aggrega'tum (Jacq. coll. 4. p. 124. icon. rar. t. 323.) stem shrubby; leaves somewhat ovate, obtuse, aggregate; peduncles 1-flowered, slender, many from the same bud, interfoliaceous; corollas campanulate. ♄. S. Native of Africa, on the sea shore; in Guinea; and at the Cape of Good Hope. Dun. sol. p. 146. syn. p. 22. Lam. ill. no. 2320. S. Guinee'nse, Lin. spec. p. 263. S. sempervírens, Mill. dict. no. 25. Lin. spec. ed. 1. p. 185. Sáracha Guinee'nsis, Pers. ench. 1. p. 219. A'tropa solanàcea, Lin. mant. 205. Willd. spec. 1. p. 1018. Vogel. icon. rar. t. 16. ex Lam. l. c.—Commel. hort. 2. p. 191. t. 96. Shrub glabrous. Leaves many from the same bud, quite entire, petiolate, shining, an inch long. Fructiferous pedicels drooping; all length of leaves. Corolla pale purplish-violet, an inch in diameter, with lanceolate segments. Berries globose, yellow, shining, 2-celled, size of peas.

Aggregate-leaved Nightshade. Fl. June, July. Clt. 1821. Shrub 4 to 6 feet.

136 S. hygro'philum (Schlecht, in Linnæa, 8. p. 254.) shrubby; branches villous; leaves twin, on short petioles, lanceolate, yellowish-green, acute at both ends, pilose above, and rather villous beneath; flowers forming umbels, on very short peduncles, opposite the leaves, few-flowered; teeth of calyx broad-ovate, acute; corollas white, 5-cleft, at length reflexed, pilose outside; berries globose, glabrous. ♄. G. Native of Mexico, in humid woods about Jalapa. Corolla white. Stamens regular. Leaves unequal in size, larger one 3½ inches long, and 1¼ broad.

Water-loving Nightshade. Shrub.

§ 2. *Glabrous trees or shrubs. Leaves glabrous, but sometimes pilose in the axils of the veins beneath. Racemes simple, cymose, or cymosely umbellate, opposite the leaves. Corollas 5-parted.*

137 S. nu'dum (Dun. syn. p. 20. sol. ed. 2d. ined. t. 107. H. B. et Kunth, nov. gen. amer. 3. p. 33.) shrubby; branches and leaves glabrous; leaves twin, one much smaller than the other, elliptic oblong, acuminated at both ends, quite entire; umbels nearly opposite the leaves, on short peduncles, few-flowered; pedicels at length reflexed. ♄. G. Native of Mexico, near Jalapa, in humid places. Leaves 3 or 3½ inches long, and about 1½ broad. Corolla white, size of those of *S. nìgrum*. Berry globose, glabrous, size of a large pea. Very like *S. diphýllum*; and hardly differs from it, unless in the leaves being all acute, deeper green: and in the pedicels being deflexed.

Naked Nightshade. Shrub.

138 S. diphy'llum (Lin. spec. 264. Aubl. guian. 1. p. 215.) stem shrubby; leaves twin: the larger one oblong, attenuated at both ends, obtuse; the smaller one obovate-elliptic, sometimes emarginate; cymes small; umbels short, opposite the leaves; floriferous pedicels drooping, fructiferous ones erect. ♄. S. Native of tropical America. Jacq. coll. 2. p. 231. icon. rar. 2. t. 322. Dun. sol. p. 172. syn. p. 20.—Pluck. alm. p. 349. phyt. t. 111. f. 4. An evergreen, fetid shrub. Stem blackish, terete. Leaves nearly sessile. The larger leaf 2 to 4 inches long. Corolla white, with lanceolate, acute segments. Berries globose, succulent, pale orange-coloured, size of a chick pea.

Two-leaved Nightshade. Fl. June, July. Clt. 1696. Shrub 2 to 4 feet.

139 S. arbòreum (Dun. syn. p. 20. sol. ed. 2d. ined. t. 198.) arboreous; branches flexuous, and are, as well as the leaves, glabrous; leaves twin, oblong, acuminated, cuneated at the base, quite entire, one of which is very small, and nearly sessile; cymes small, opposite the leaves. ♄. S. Native of the province of New Andalusia, near Cumanacoa. Branches angular, glabrous, or a little downy. Leaves shining above, 7-8 inches long, and 3 broad: upper ones twin, the smaller one roundish, ovate, an inch long. Cymes very minute, simple. Calyx 5-toothed; teeth ovate, acute. Corolla white, with oblong, acute segments, 6 times as long as the calyx.

Tree Nightshade. Fl. June, July. Clt. 1819. Tree 40 feet.

140 S. acumina'tum (Ruiz. et Pav. fl. per. 2. p. 34. t. 159. f. a. Dun. sol. 172. syn. p. 20.) shrubby; leaves twin, ovate-oblong, and elliptic, acuminated: the point straight or twisted; racemes cymose, opposite the leaves, many-flowered; flowers secund. ♄. S. Native of Peru, in woods at Chincao. Plant glabrous. Leaves on short petioles, quite entire, shining above. Racemes recurved at apex; pedicels slender, but thickened

at top. Corollas small, white. Berry black, globose, size of a chick pea.

Acuminated-leaved Nightshade. Shrub.

141 S. fœ́tidum (Ruiz. et Pav. fl. per. 2. p. 34. t. 165. f. b. Dun. sol. p. 173. syn. p. 20.) stem shrubby; leaves usually twin, ovate, dependent; cymes short, umbellate, drooping, opposite the leaves. ♄. S. Native of Peru, about Tarma, in the fissures of rocks, and in waste places. Plant glabrous, very fetid when bruised. Leaves veiny beneath. Corolla whitish blue, or pale blue; anthers declinate. Berry golden yellow, size of a small walnut. The leaves mixed with the flowers of *Sambùcus* are used for bathing ulcers in Peru.

Fetid Nightshade. Shrub 6 feet.

142 S. tríste (Jacq. amer. p. 50. t. 40. ed. pict. t. 49.) stem shrubby; leaves twin, lanceolate-oblong, somewhat repand, acuminated; cymes short: flowers secund. ♄. S. Native of Martinico, among bushes on the banks of rivers; and of Peru, in woods at Pillao. Vahl. symb. 3. p. 38. Willd. spec. 1. p. 1031. Dun. sol. p. 170. syn. p. 21. S. oblóngum, Ruiz. et Pav. fl. per. 2. p. 34. t. 165. f. 6. Dun. sol. p. 172. Leaves petiolate, a hand long, dark green. Peduncles lateral, an inch long, many-flowered. Corollas small, white, ex Jacq., whitish violet, ex Ruiz et Pav. with lanceolate segments. Berry globose, dusky yellow, size of a chick pea. Calyx 5-toothed, ex Ruiz. et Pav. Calycine segments roundish, ex Jacq.

Sorrowful Nightshade. Fl. June, July. Clt. 1820. Shrub 8 feet.

143 S. spira'le (Roxb. fl. ind. 2. p. 247. Wall. cat. no. 2619.) stem shrubby; branches compressedly angular, glabrous; leaves twin, the one 2 or 3 times smaller than the other, oblong-lanceolate, attenuated at the base, glabrous, quite entire; racemes sub-cymose, almost opposite the leaves, secund, revolute at apex; calyx beset with glandular dots. ♄. S. Native of Silhet, and Gualpara. S. Naratìda, Hamilt. herb. This species is nearly related to *S. tríste*, Jacq. but differs from it in the branches being angular; in the leaves being cuneated a long way at the base, acute, not acuminated, always entire; in the flowers being larger and white; and in the calyxes being glandular. Though rather fetid this species is still ornamental, on account of its smooth deep green foliage, spiral racemes of pretty white flowers, and numerous small round yellow berries.

Spiral Nightshade. Shrub.

144 S. cornifòlium (Dun. syn. p. 21. sol. ed. 2d. ined. t. 110. H. B. et Kunth, nov. gen. amer. 3. p. 34.) shrubby; branches and leaves glabrous; leaves elliptic-oblong, acuminated, acute at the base, quite entire, somewhat parallelly veined, twin, one of which is very minute; umbels opposite the leaves, on short peduncles. ♄. S. Native of New Granada, in the valley of the river Cauca, betwixt Palace and Popayan. Branches angular. Larger leaves about 3 inches long, downy when young: the smaller ones obovate, almost sessile. Calycine segments obtuse. Corollas white, size of those of *Lysimàchia vulgàris*, with ovate, acuminated segments. Ovarium villous.

Dogwood-leaved Nightshade. Shrub.

145 S. leucoca'rpum (Rich. herb. Dun. syn. p. 21. sol. ed. 2d. ined. t. 38.) branches twiggy; leaves twin, one 3 times smaller than the other, nearly orbicular, the other elliptic-lanceolate; cymes unilateral, few-flowered, opposite the leaves. ♄. S. Native of the Island of St. Martha, Richard. Nearly allied to *S. tríste*, but differs particularly in the leaves, in the unilateral cymes, and colour of the berries. Shrub glabrous. Branches terete. Leaves shining on both surfaces. Calyx coriaceous, small, 5-crenate. Corolla white, rather large, with acute segments. Berry spherical, shining, white.

White-fruited Nightshade. Shrub.

146 S. psychotrioìdes (Dun. syn. p. 21. sol. ed. 2d. ined. t. 111. H. B. et Kunth, nov. gen. amer. 3. p. 35.) arboreous; branches glabrous, suberosely warted, angular; leaves twin, lanceolate-oblong, or obovate-oblong, acuminated, acute at the base, quite entire, glabrous, but pilose in the axils of the veins beneath; umbels opposite the leaves, nearly sessile. ♄. S. Native of New Granada, on the banks of the river Magdalena near Mompox, and Teneriffe. Larger leaves 3-4 inches long. One of the leaves smaller than the other. Umbels 3-4-flowered. Flowers size and structure of those of *S. cornifòlium*. Fructiferous pedicels thickened at top, suberose.

Psychotria-like Nightshade. Shrub or tree.

§ 3. *Racemes lateral, rameal, not axillary, nor opposite the leaves.*

147 S. crotonifòlium (Dun. syn. p. 18. sol. ed. 2d. ined. t. 103. f. b. H. B. et Kunth, nov. gen. 3. p. 30.) shrubby; branches tomentose; leaves twin, oblong, narrow-acuminated, rounded and unequal at the base, somewhat repand, clothed with canescent down above, and soft white tomentum beneath; racemes supra-axillary, bifid; flowers unilateral. ♄. S. Native of New Granada, near the port of Carthagena, in hot places. Hairs stellate. One of the leaves is twice the size of the other, the largest 4-5 inches long. Calyx and corolla tomentose outside; segments of the latter linear-lanceolate. Berry globose, smoothish, size of a pea.

Croton-leaved Nightshade. Shrub.

148 S. Nare'nse (Dun. syn. p. 18. sol. ed. 2d. ined. t. 103. f. 8. H. B. et Kunth, nov. gen. 3. p. 31.) shrubby; branches tomentose; leaves twin, ovate, acute, cordate at the base, and unequal, clothed with canescent down above, and with white soft tomentum beneath; lower leaves sinuately angular; racemes lateral, bifid; flowers unilateral. ♄. S. Native of New Granada, in shady places on the banks of the river Magdalena, between Nares and Honda. Tomentum and down stellate. One of the leaves smaller than the other, petiolate. Larger leaves 7-8 inches long, and 5-6 broad. Flowers size of those of the preceding, pale yellow, ex Bonpl. Very like the preceding species, and only differs in the tomentum being more dense, in the leaves being broader and cordate, and in the lower ones being sinuately angular.

Nares Nightshade. Fl. June. Shrub 6 to 12 feet.

149 S. trachyphy'llum (Dun. syn. p. 18. sol. ed. 2d. ined. t. 104.) shrubby; branches tomentose; leaves twin, oblong, acuminated, rounded at the base and unequal, quite entire, roughish above, but clothed with soft hoary tomentum beneath; racemes lateral, dichotomous; flowers unilateral. ♄. S. Native of the province of Popayan, between Buga and Carthage. Branches terete. One of the leaves smaller than the other. Tomentum and down stellate. Larger leaves 5-6 inches long, and 2 or 2½ broad. Flowers like those of *S. crotonifòlium*, but a little smaller. Very nearly allied to *S. crotonifòlium*, but the tomentum is more dense; the leaves green and roughish above, and the flowers a little smaller.

Rough-leaved Nightshade. Shrub 6 to 10 feet?

150 S. tetra'ndrum (R. Br. prod. p. 445.) suffruticose, erect; leaves generally twin, oblong-ovate, entire, membranous, beset with a few scattered hairs; racemes corymbose, simple; flowers quadrifid. ♄. S. Native of New Holland, within the tropic, on the sea-shore. Dun. syn. p. 18. no. 98.

Tetrandrous-flowered Nightshade. Shrub.

151 S. geminifòlium (Schlecht, et Cham. in Linnæa, 5. p. 112.) shrubby; branches, inflorescence, and under sides of

leaves clothed with cream-coloured tomentum; upper surfaces of leaves green, but beset with stellate hairs; leaves twin, unequal in size, obovate, obtuse: the larger one ovate, acuminated, rounded at the base, $2\frac{1}{2}$ inches long; cymes terminal and lateral, pedunculate, many-flowered; calyx suburceolate, 5-toothed: teeth rounded; berry globose. ♄. G. Native of Mexico, at Jalapa. Flowers hardly larger than those of *S. nìgrum*.

Twin-leaved Nightshade. Shrub.

§ 4. *Racemes terminal.*

152 S. pterópodum (Dun. syn. p. 14. sol. ed. 2d. ined. t. 94. H. B. et Kunth, nov. gen. amer. 3. p. 26.) stem herbaceous, winged; leaves twin, sessile, decurrent, elliptic-oblong, sub-acuminated, very narrow at the base, undulately repand, smoothish above, but clothed with fine powdery down beneath; corymbs opposite the leaves, dichotomous; peduncles winged. ♃. ? S. Native of South America, near the city of Quito, at the altitude of 1500 hexapods. Leaves 8-10 inches long, and $3\frac{1}{2}$ broad. Peduncles many-flowered, one-half shorter than the leaves; branches and pedicels clothed with powdery down. Calycine lobes truncate, mucronate. Corolla white, with oblong acute segments. Ovarium glabrous, nearly globose. Said to be nearly allied to *S. séssile*.

Wing-peduncled Nightshade. Pl. 2 to 3 feet?

153 S. oblongifòlium (Dun. syn. p. 14. sol. ed. 2d. t. 95. H. B. et Kunth, nov. gen. amer. 3. p. 27.) herbaceous; leaves twin, elliptic-oblong, acute, narrowed at the base, almost quite entire, glabrous, downy on the veins beneath; racemes nearly terminal, bifid. ♃. S. Native of New Granada, on the Andes of Quindiu. Branches terete, glabrous. One of the leaves one-half smaller than the other, green above; larger ones 6-7 inches long, and $2\frac{1}{2}$ to 3 inches broad: the smaller ones nearly orbicular. Pedicels thickened under the top, and are, as well as the branches, villous. Calycine segments obtuse. Corolla white, glabrous; with ovate, obtuse segments.

Oblong-leaved Nightshade. Pl.?

154 S. pu'lchrum (Dun. syn. p. 15. sol. ed. 2. ined. t. 35.) stem shrubby; branches rugose; leaves oblong-ovate, ending in the petioles; racemes large, terminal, sub-dichotomous. ♄. S. Native of Brazil. Poir. suppl. 3. p. 750. Branches terete, glabrous. Leaves usually twin, acute, or obtuse, rather downy beneath. Pedicels cymose. Segments of corolla lanceolate, acute. Berry globose. Nearly allied to *S. crìspum*, but the leaves are less cordate, and the racemes are larger.

Fair Nightshade. Shrub.

Subsect. 4. *Branches spinescent. Leaves solitary, entire. Peduncles axillary, filiform, 1-flowered, solitary, or aggregate. Calyx 5-toothed, or 5-cleft. Stamens unequal. Seeds bony.*

155 S. lycioi'des (Lin. mant. 45. Jacq. icon. rar. 1. t. 46.) shrubby; branches spinescent, numerous; leaves elliptic, or oblong, obtuse, cuneated at the base, or acute at both ends, glabrous, or hairy; peduncles extra-axillary, solitary, 1-flowered. ♄. S. Native of Peru. Dun. sol. p. 172. syn. p. 22. Branches terete, glabrous; branchlets angular, hairy. Leaves 7-8 lines long. Pedicels solitary. Calyx urceolate, truncate, 5-toothed; teeth linear, subulate, remote. Corolla pale violet; limb angularly 5-lobed; throat yellow. Anthers yellow, a little arched. Berry globose, glabrous, red, size of a pea.

Var. β; leaves hairy. ♄. S. S. lycioides, var. β, Dun. syn. p. 23. H. B. et Kunth, l. c.

Lycium-like Nightshade. Fl. May, June. Clt. 1791. Shrub 3 to 4 feet.

156 S. candi'cans (Dun. syn. p. 23.) shrubby; branches spinescent; leaves obovate-cuneiform, obtuse, clothed with white tomentum beneath, but scabrous above; peduncles filiform, 1-flowered, solitary. ? ♄. S. Native of Peru, on argillaceous rocks of Huanuco and Tarma. S. lycioìdes, Ruiz. et Pav. fl. per. 2. p. 41. t. 177. f. 6, exclusive of the synonymes, but not of Lin. S. lycioìdes * tomentòsum, Dun. sol. p. 174. Stem much branched; branches ending in floriferous leafy spines. Calycine segments appendiculate. Corolla blue, with a yellowish bottom. Anthers free. Berry globose, of a reddish copper colour.

Whitish-leaved Nightshade. Shrub 3 to 5 feet.

Subsect. V. Holocla'ina (from ὁλος, *holos*, entire; and χλαινα, *chlaina*, an outer cloak; in reference to the entire calyx.) *Leaves quite entire, solitary, or twin. Calyx truncate, entire. Flowers twin, or fascicled at the sides of the leaves.*

157 S. bigemina'tum (Nees in Lin. trans. 17. p. 42.) stem suffruticose; lower leaves solitary: superior ones twin, densely clothed with bristles above, elliptic-oblong, acuminated at both ends, unequal in size; flowers usually twin at the sides of the leaves; calyx quite entire, smooth; peduncles erect while bearing the fruit. ♄. S. Native of Travancore. S. flexuòsum, and S. angulòsum, Herb. madr. Fruit size of a pea, seated on an erect, thick peduncle.

Twice-twin-flowered Nightshade. Shrub.

158 S. Neesia'num (Wall. cat. suppl. 248. Nees in Lin. trans. 17. p. 42.) stem suffruticose; branches tetragonal, roughish towards the summit; lower leaves solitary; superior ones twin, scabrous above from rough dots, oblong-lanceolate, acuminated at both ends, unequal in size; flowers fascicled at the sides of the leaves; calyx quite entire, smooth; peduncles spreading in the fruit-bearing state. ♄. S. Native of the mountains of Silhet. Corolla white, glabrous; segments lanceolate. Berry round, smaller than a pea.

Nees's Nightshade. Shrub.

159 S. Blu'mii (Nees in Blum. bijdr. 696, in Lin. trans. 17. p. 45.) leaves twin, of two forms, smaller one ovate, clothed with dense bristles on the upper surface; stem violaceous; flowers many in a fascicle. ♄. S. Native of Java. Calyx quite entire.

Blume's Nightshade. Shrub.

160 S. parasi'ticum (Blum. bijdr. p. 697.) stem nodose; leaves all solitary, glabrous; calyx entire. ♄. S. Native of Java.

Parasitical Nightshade. Shrub.

Subsect. VI. Poly'meris (from πολυς, *polys*, many; and μερις, *meris*, a part; the divisions of the calyx are numerous.) *Leaves quite entire, solitary, or twin. Calyx 10-toothed, or 10-cleft. Peduncles 1-flowered, axillary, or interfoliaceous.*

§ 1. *Leaves twin. Corolla plicate, 5-angled. Stamens sometimes unequal.*

161 S. uniflòrum (Dun. syn. p. 33. sol. ed. 2d. ined. t. 42.) stem dichotomous; branches glabrous, rough from dots; leaves usually twin, ovate, bluntish, glabrous, and shining above, but clothed with leprous tomentum beneath; peduncles solitary. ♄. S. Native of St. Domingo. Poir. suppl. 3. p. 757. S. dichótomum, Richard. Shrub elegant; branches brown, angu-

lar. Peduncles glabrous. Calyx glabrous, 10-cleft; the alternate segments smaller. Corolla with a 5-rayed star. Stamens equal. Berry globose, mucronate, size of a small cherry.

One-flowered Nightshade. Fl. May, July. Clt. 1820. Shrub 2 to 3 feet.

162 S. MONA'NTHUM (Rœm. et Schultes, syst. 4. p. 608.) leaves usually twin, almost sessile, elliptic; peduncles axillary, 1-flowered; calyx 10-cleft. ♃. S. Native of New Spain. S. uniflòrum, Lag. gen. et. spec. nov. p. 10. no. 142. Herbaceous, roughish from scattered, short, stellate hairs. Corolla dark purple, or blue, 3 times as long as the calyx. Calycine segments oblique, short. Berry ovate, quite smooth, size of a small hen's egg.

One-flowered Nightshade. Fl. June, July. Clt. 1818. Pl. 2 to 3 feet?

163 S. SPECIÒSUM (Dun. sol. p. 179. syn. p. 23.) arboreous; branches flexuous; leaves oblong, acuminated, solitary, or twin; peduncles solitary, axillary; margins of corolla crenulated. ♄. S. Native of the Caribbee Islands.—Burm. amer. p. 242. t. 245. f. 5.—Plum. cat. p. 4. Tourn. inst. p. 150. Leaves veiny: superior ones twin. Flowers showy. Corolla large, expanded, semiquinquefid, rather pentagonal. Berry spherical, erect, drooping at maturity.

Showy Nightshade. Tree.

164 S. NEGLE'CTUM (Dun. sol. p. 177. syn. p. 23.) stem shrubby; leaves ovate, undulated; peduncles solitary and twin; calycine segments reflexed. ♄. S. Native of the West India Islands.—Burm. amer. p. 242. t. 245. f. 4.—Plum. mss. vol. 4. f. 34. ex Aubl. guian. 1. p. 217.—Tourn. inst. p. 150. Much branched. Leaves quite entire. Lower peduncles solitary: upper ones twin, or tern. Calyx denticulated, according to the figure 10-16-toothed. Berry roundish, scarlet. This species is nearly allied to *S. geminàtum*, but differs in the stem not climbing, and in the more numerous retroflexed calycine teeth.

Neglected Nightshade. Fl. June, July. Clt. 1824. Shrub 4 to 5 feet?

165 S. TRÍCOLOR (Moc. et Sesse. pl. mex. icon. ined. Dun. syn. p. 24. sol. ed. 2d. ined. t. 41. Poir. suppl. 3. p. 756.) stem terete, dichotomous; leaves twin, one of them smaller than the other, ovate, acutish, clothed with shining tomentum; peduncles 4, together; anthers 5, one of which is twice as long as the others. ♄. S. Native of Mexico. Nearly allied to *S. léntum*, but differs in there being 3 green spots at the base of each segment of the corolla, and in the anthers being unequal, &c. Stem woolly. Peduncles villous. Calyx 10-toothed. Corolla white, somewhat reflexed, with a violaceous star in the middle. Berry globose, red.

Three-coloured-flowered Nightshade. Shrub.

166 S. PAUCIFLÒRUM (Vahl. eclog. 1. p. 21. Dun. sol. p. 176. syn. 24.) branches villous, tomentose above; leaves ovate, quite entire, glabrous above, tomentose beneath: rameal ones twin, unequal; peduncles twin, unequal. ♄. S. Native of Martinico. Branches herbaceous, clothed with rusty tomentum, as well as the under sides of the young leaves. Leaves 2-3 inches long. Flowers drooping, clothed with rusty tomentum. Calyx short, truncate, 10-toothed; teeth linear. Corolla glabrous, length of peduncles.

Few-flowered Nightshade. Pl.?

167 S. SYLVA'TICUM (Dun. syn. p. 24. sol. ed. 2d. ined. t. 114. H. B. et Kunth, nov. gen. amer. 3. p. 37.) shrubby, scandent; leaves ovate, acuminated, rounded at the base, subrepand, glabrous, but hairy on the veins beneath: superior ones twin, unequal; flowers extra-axillary, usually by threes; calyx 10-toothed: teeth subulate. ♄. ◡. S. Native near Cumana and Bordones, in woods. Branchlets hairy. Leaves about 2 inches long. Corolla large, pentagonal, marked by a 5-rayed star. Stamens 5, one longer than the others. Berry globose, glabrous, size of a sloe.

Wood Nightshade. Shrub climbing.

168 S. LYSIMACHIOI'DES (Wall. in Roxb. fl. ind. 2. p. 257. cat. no. 2609. Nees in Lin. trans. 17. p. 44.) herbaceous; stem creeping at the base, but ascending at the top, as well as the branches; leaves usually twin, nearly equal, ovate, acute at both ends, quite entire, pubescent; flowers solitary, smoothish, placed between the leaves; calyxes 8-10-toothed: teeth subulate, equal in length to the fruit. ♃. G. Native of Sheopore, Chundragiri, and Chitlong. Corollas white. Berries globular, size of a gooseberry, scarlet, or red.

Loostrife-like Nightshade. Pl. creeping, 1 foot long.

169 S. RETROFRA'CTUM (Vahl. eclog. 1. p. 21. Dun. sol. 176. t. 5. syn. p. 24.) stem shrubby, flexuous; axillary branches retrofracted; leaves ovate, glabrous: upper ones twin, unequal; peduncles filiform, many together, umbellate, axillary and terminal; calyx truncate, toothless, glabrous. ♄. S. Native of tropical America. Shrub twining.? Leaves petiolate, quite entire, 1½ inch long. Calyx 10-cleft; segments linear, subulate, unequal, joined by a pellucid membrane, whence it appears toothless. Corolla as in *S. virgàtum*, but smaller, 3 times longer than the calyx. Stamens equal.

Retrofracted Nightshade. Shrub twining?

170 S. GLANDULÒSUM (Ruiz. et Pav. fl. per. 2. p. 35. t. 167. f. b. Dun. sol. p. 180. syn. p. 25.) stem suffruticose, scandent; leaves twin, ovate-cordate; peduncles 3-5 together, interfoliaceous; calycine teeth gland-formed. ♄. ◡. S. Native of Peru, in groves at Vitoc, in the province of Tarma. Leaves on short petioles, very veiny, unequal at the base. Calyx turbinate, angularly striated, usually 10, rarely 12-14-toothed. Corolla white, spreading; limb plicate. Berry globose, pale red.

Glandular-toothed-calyxed Nightshade. Shrub climbing.

171 S. CUTACE'NSE (H. B. et Kunth, nov. gen. amer. 3. p. 38.) shrubby, scandent?; branches clothed with downy tomentum; leaves twin, ovate, sub-acuminated, quite entire, clothed with silky hairs on both surfaces, canescent beneath; flowers extra-axillary, twin, or terminal, by threes; calyx 10-toothed. ♄. ◡. S. Native of Peru, in woods near Ayavaca and Rio Cutaco. Branchlets angular. Leaves petiolate, one a little smaller than the other. Corolla sinuately 5-lobed, white, with a violaceous star, downy outside. Hairs simple, not stellate.

Cutaco Nightshade. Shrub climbing.

172 S. MA'CRODON (Wall. cat. no. 2621.) shrubby, erect; lower leaves solitary: superior ones twin, the one 2 or 3 times smaller than the other, oblong-lanceolate, acuminated at both ends, quite entire, hairy above, as well as the branchlets; flowers solitary, or in fascicles placed between the leaves; calyx furrowed, 10-toothed: teeth subulate, longer than the fruit. ♄. S. Native of the Pundua mountains. Similar to *S. denticulàtum* in habit, but differs in the teeth of the calyx being very long.

Long-toothed-calyxed Nightshade. Shrub.

173 S. DECEMDENTA'TUM (Roxb. fl. ind. 2. p. 247. Wall. cat. no. 2614.) herbaceous, erect, perennial; lower leaves solitary: superior ones twin, ovate, acute at both ends, hairy, the one smaller than the other; flowers fasciculately aggregate at the sides of the leaves; calyx 10-toothed, and is, as well as the pedicels, glabrous: teeth linear-subulate, equal. ⊙. G. Native of China and Singapore. Berries the size of a pea, smooth, bright red when ripe.

Ten-toothed Nightshade. Pl. 2 to 3 feet.

174 S. crassipe'talum (Wall. in Roxb. fl. ind. 2. p. 256. cat. no. 2618. Nees in Lin. trans. 17. p. 42.) shrubby; lower leaves solitary: superior ones twin, ovate-oblong, acuminated at both ends, ciliated, hairy above, one smaller than the other; flowers fasciculately aggregate at the sides of the leaves; calyx somewhat 10-toothed; teeth subulate: alternate ones shorter. ♄. G. Native of Nipaul. S. denticulàtum, var. α, Blum. bijdr. p. 697. S. biflòrum, D. Don, prod. fl. nep. p. 96, exclusive of many synonymes, and probably of Lour. coch. 1. p. 159.? Corolla purple, or white. Berry globular, scarlet, ½ an inch in diameter.

Thick-petalled Nightshade. Shrub 2 to 3 feet.

175 S. mollíssimum (Blum. bijdr. p. 698.) flowers fascicled at the sides of the leaves; teeth of calyx equal in length to the tube; leaves of two forms, tomentose beneath, the one ovate, and the other oblong. ♄. S. Native of Java.

Very-soft Nightshade. Shrub.

§ 2. *Leaves solitary. Corolla plicate, 5-angled. Stamens sometimes unequal.*

176 S Mocinia'num (Dun. syn. p. 23. sol. ed. 2d. ined. t. 43.) stem herbaceous, pilose; leaves almost sessile, ovate-lanceolate, acute, pilose; peduncles solitary; calyx 10-cleft. ⊙.? H. Native of Mexico. Poir. suppl. 3. p. 757.—Moc. et Sesse, pl. mex. icon. ined. Nearly allied to *S. viridiflòrum*. Peduncles axillary, longer than the leaves. Corolla violaceous, with acute angles. Anthers nearly sessile. Berry ovate-oblong, yellowish green.

Mocino's Nightshade. Pl.

177 S. fu'gax (Jacq. coll. 4. p. 123. icon. rar. t. 324. Dun. sol. 178. syn. p. 23.) stem shrubby, dichotomous, divaricate; leaves lanceolate, smoothish; peduncles solitary; calyx 10-toothed. ♄. S. Native of Caraccas. Lam. dict. 4. p. 282. Bark blackish, roughish with dots. Peduncles from the divarication of the branches, or opposite the leaves. Calyx small, truncate, 10-striped. Corolla large, white, with a yellow 5-rayed star, as in *S. stellàtum*, expanding about 5 in the morning, but closes in a short time afterwards, hence the specific name.

Fugacious-flowered Nightshade. Fl. May, July. Clt. 1816. Shrub 5 to 6 feet.

178 S. stella'tum (Jacq. coll. 3. p. 254. and 5. t. 5. f. 2. icon. rar. t. 325. Dun. sol. p. 178. syn. p. 24.) stem shrubby, scandent, flexuous; leaves ovate-lanceolate, glabrous, acuminated; peduncles generally twin; calyx unequally toothed. ♄. ◡. S. Native country unknown. Shrub evergreen, glabrous, green. Peduncles sometimes solitary, and by threes. Corollas elegant, large, blue, marked by a 5-rayed star, which is greenish and protuberant beneath, stretched out beyond the limb of the corolla into acute points, as in *S. fùgax*, *S. virgàtum*, and others. Berry globose, orange-coloured. Nearly allied to *S. geminàtum*, and *S. retrofráctum*, but differs in the larger flowers and unequally-toothed calyx.

Starry-flowered Nightshade. Fl. June, July. Clt. 1805. Shrub climbing.

179 S. gemina'tum (Vahl. eclog. 1. p. 21. Dun. sol. 177. syn. p. 24.) stem scandent; leaves ovate, quite entire, glabrous, as well as the calyxes and pedicels; peduncles axillary, usually twin; calyx 10-toothed: teeth linear-subulate. ♄. ◡. S. Native of Cayenne. Branches terete, powdery, when examined by a lens. One of the peduncles is longer than the other. Corolla glabrous.

Twin-flowered Nightshade. Shrub climbing.

180 S. biflòrum (Lour. coch. 159.) stem shrubby; leaves ovate, villous; peduncles twin; calyx 10-cleft. ♄. G. Native of China and Cochinchina, where it is called *Thien-phao*. Dun. sol. p. 177. syn. p. 24. Leaves quite entire. Calycine segments subulate. Berry small, roundish, red.

Two-flowered Nightshade. Shrub 3 to 4 feet.

181 S. phillyreoi'des (Dun. syn. p. 24. sol. ed. 2d. ined. t. 115. H. B. et Kunth, nov. gen. 3. p. 37.) stem shrubby, erect, dichotomous; leaves oblong, or lanceolate-oblong, tapering to both ends, acuminated, quite entire, glabrous above, and downy beneath; flowers alar, and lateral, 2 to 4 together; calyx somewhat 10-toothed. ♄. S. Native of New Granada, in the valley of the river Magdalena, near Teneriffe and Badilla. Branchlets angular, downy. Leaves glabrous, and green above, but pale and downy beneath. Corollas size of those of *S. lycioìdes*. Teeth of calyx linear-subulate, remote: the alternate ones very small, and placed in the middle of the tube. Corolla sinuately 5-angled, marked by a violaceous star. Berry globose.

Phillyrea-like Nightshade. Shrub.

182 S. virga'tum (Lam. ill. no. 2310. Dun. sol. p. 174. t. 4. syn. p. 25.) stem shrubby; branches twiggy; leaves ovate-oblong, acute, tomentose beneath, as well as the peduncles and calyxes; peduncles numerous, filiform, axillary, and in the forks of the branches; filaments unequal. ♄. G. Native of the Canary Islands. Tomentum stellate. Leaves quite entire. Calyx 10-cleft; segments joined by a pellucid membrane: alternate ones short. Corolla violaceous, marked by a 5-rayed star, tomentose outside. Stamens 5, one of which is longer than the others.

Twiggy Nightshade. Fl. June, Sept. Clt. 1820. Shrub 4 feet?

183 S. le'ntum (Cav. icon. 4. p. 4. t. 308.) shrubby, scandent; branches and under sides of the leaves clothed with starry hoary tomentum, but clothed with stellate down above; leaves ovate, acute, quite entire; extra-axillary flowers twin, and the terminal ones numerous; calyx 10-toothed: teeth linear-filiform. ♄. ◡. S. Native of New Spain, Cav.; in the province of Caraccas, near Cura, in the valley of Aragua. Dun. sol. 175. syn. p. 25. H. B. et Kunth, nov. gen. amer. 3. p. 38. Solànum scándens, foliis tomentosis, Plum. cat. p. 4.? Tourn. inst. p. 150.?—Plum. ed. Burm. p. 242. t. 245. f. 3.? Superior leaves twin.? Corolla sinuately 5-lobed, violaceous, with a white star, downy outside. One of the stamens is twice as long as the other 4.

Pliant Nightshade. Fl. June, Sept. Clt. 1823. Shrub cl.

§ 3. *Leaves twin. Calyx slightly* 10-*toothed. Flowers fascicled, or twin at the sides of the leaves.*

184 S. denticula'tum (Blum. bijdr. p. 697. Nees in Lin. trans. 17. p. 41.) stem suffruticose; lower leaves solitary: superior ones twin, smoothish, the larger one oblong, acuminated at both ends, the smaller one subovate; flowers fasciculately aggregate at the sides of the leaves; calyx minutely 10-toothed, furrowed. ♄. S. Native of Silhet; Java, in shady places on the higher mountains of Gede and Burangrang. There is a var. of this plant described by Blum. having the leaves, peduncles, and calyxes hairy; and another variety having the peduncles solitary, and the flowers tetrandrous from abortion.

Denticulated-calyxed Nightshade. Shrub.

§ 4. *Leaves solitary, rarely twin. Corollas 5-parted. Stamens equal.*

185 S. sca'ndens (Lin. suppl. 147. amœn. acad. 8. p. 253.) stem herbaceous, twining; leaves cordate, ovate, dependent,

very soft beneath; flowers sub-umbellate, terminal. ♄. ◠. S. Native of Surinam. Dun. sol. p. 179. syn. p. 25. Racemes compound. Corolla rotate, with lanceolate, recurved segments. Berry globose, size of a cherry.

Climbing Nightshade. Fl. July, Aug. Clt. 1820. Shrub twining.

186 S. sideroxyloi'des (Schlecht. in Linnæa, 8. p. 253.) shrubby; branches flexuous, tomentose; leaves ovate, or oblong-ovate, entire, acute, or sub-acuminated, bluntish at the base, roughish above, and clothed with rough tomentum beneath; tomentum stellate, of a rusty yellow colour; calyx hemispherical, 10-toothed: teeth short, obtuse; corollas white, downy outside; berries globose, glabrous. ♄. G. Native of Mexico, near Hacienda de La Laguna. Umbels sessile, axillary. Anthers regular. Pedicels and calyxes tomentose. Leaves very similar to those of the pear tree. There is an unnamed species very like this from Hayti. in Willd. herb. no. 4410.

Iron-wood-like Nightshade. Shrub.

187 S. lanuginòsum (Dun. syn. p. 25. sol. ed. 2d. ined. t. 116. H. B. et Kunth, nov. gen. amer. 3 p. 36.) shrubby; branchlets tomentose; leaves ovate, acutish, subcordate, quite entire, beset with stellate hair above, but clothed with hoary, villous tomentum beneath; peduncles tomentose, opposite the leaves, twin, or 3 together; calyx 10-toothed, tomentose. ♄. S. Native of Quito, near Mulalo, at the altitude of 1690 hexapods. Tomentum stellate. Berry size of a sloe, globose.

Woolly Nightshade. Shrub.

188 S. chrysophy'llum (Dun. syn. p. 25. sol. ed. 2d. ined. t. 117. H. B. et Kunth, nov. gen. 3. p. 39.) shrubby, scandent; branches tomentose; leaves elliptic, acute, quite entire, clothed with stellate pubescence above, and fuscescent tomentum beneath, of a golden rusty colour when young, as well as the branchlets; peduncles subaxillary, solitary; calyx 5-toothed. ♄. ◡. S. Native of the kingdom of Quito. Tomentum stellate. Leaves 2 inches long: superior ones twin, unequal in size. Corolla 5-parted, with ovate, oblong segments.

Golden-leaved Nightshade. Shrub climbing.

189 S. lasiophy'llum (Dun. syn. p. 25. sol. ed. 2d. t. 118. H. B. et Kunth, nov. gen. 3. p. 39.) shrubby; branches somewhat dichotomous, hispid from pili; leaves twin, oblong, subacuminated at both ends, quite entire, hispid above, but yellowish and softer beneath; peduncles alar and subaxillary, solitary or twin; calyx 10-toothed. ♄. S. Native of New Granada, on the Andes of Pasto, between Menezes and Zeindala, at the altitude of 1400 hexapods. Hairs simple. Calyx hispid; teeth linear, filiform; alternate ones a little shorter. Corolla whitish-violet, pilose outside; with oblong-lanceolate segments.

Woolly-leaved Nightshade. Shrub 2 to 3 feet.

190 S. linea'tum (Ruiz. et Pav. fl. per. 2. p. 31. t. 158. f. b.) stem shrubby; leaves twin, ovate, acuminated, lined, villous beneath; berries inclosed within the segments of the corolla, peduncled, interfoliaceous; calyx 10-toothed. ♄. S. Native of Peru, in groves at Munna. Dun. sol. p. 180. Peduncles hairy. Calyx 10-cleft, hairy; segments linear. Corolla white, length of calyx. Berry fuscous, size of a chick-pea.

Lined-leaved Nightshade. Shrub.

191 S. biformifòlium (Ruiz. et Pav. fl. per. 2. p. 32. t. 161. f. a.) stem suffruticose, flexuous; leaves twin, oblong-lanceolate: the smaller ones orbicular; peduncles interfoliaceous; calyx 10-toothed; berry inclosed within the segments of the calyx. ♄. S. Native of Peru, in groves at Chincao. Dun. sol. p. 180. syn. p. 26. Peduncles usually twin, but sometimes 3-4-5 together. Calyx hispid; teeth long-linear. Corolla purplish-violet. Berry yellowish-red, size of a pea.

Two-formed-leaved Nightshade. Shrub.

192 S. acutifòlium (Ruiz. et Pav. fl. per. 2. p. 33. t. 162. f. b. Dun. sol. p. 180. syn. p. 26.) stem suffruticose, flexuous; leaves twin, or 3 together, lanceolate; peduncles interfoliaceous; calyx 10-toothed. ♄. S. Native of Peru, in groves at Munna. Plant hairy. Leaves rather hispid on both surfaces, deflexed. Corolla white, 5-parted. Berry roundish, orange-coloured.

Acute-leaved Nightshade. Shrub.

Section II. Aculea'ta. Prickly shrubs and plants.

Subsect. I. *Leaves entire, repand, or sinuately angular. Peduncles or racemes simple, or nearly so.*

§ 1. Lepróphora (from λεπρος, *lepros*, rough; and φορεω, *phoreo*, to bear.) Dun. sol. p. 181. *Stems and leaves white from leprous, powdery tomentum. Racemes lateral, seldom axillary or opposite the leaves, few-flowered. Prickles straight, acerose.*

193 S. eleagnifòlium (Cav. icon. 3. p. 22. t. 243.) stem shrubby; leaves discoloured: lower ones sinuated and prickly: superior ones entire, unarmed; peduncles few-flowered. ♄. G. Native of Chili. Dun. sol. p. 181. syn. p. 26. Old stems prickly: young ones unarmed. Prickles short. Leaves white beneath, and greenish-yellow above. Calyx 5-cleft. Corolla blue, large, clothed with powdery tomentum outside, like the rest of the plant. Berry globose, yellow, glabrous, size of a chick-pea. Leaves very like those of *Eleágnus angustifòlius*.

Eleagnus-leaved Nightshade. Fl. June, July. Clt. 1823. Shrub 4 to 6 feet.

194 S. dealba'tum (Lindl. hort. trans. 7. p. 52.) suffruticose, hoary from stellate, leprous tomentum all over; leaves oblong-lanceolate, obtuse, having the petioles and midrib prickly beneath; lower leaves subsinuated: superior ones entire; racemes axillary, few-flowered; calyxes prickly. ♄. G. Native of Chili. Corolla pale lilac. Allied to *S. eleagnifòlium*, and *S. lepròsum*.

Whitened Nightshade. Fl. June. Clt. 1824. Shrub 2 to 3 feet.

195 S. lepròsum (Ortega, dec. 9. p. 115. Dun. sol. 182. syn. p. 26.) stem shrubby; leaves discoloured, all sinuated, and prickly on both surfaces, hoary beneath; peduncles few-flowered; calyx prickly. ♃. G. Native of Chili. The whole plant is canescent from short tomentum. Stem prickly. Prickles small, reddish-yellow; those on the calyx sometimes stellately pilose at top. Corolla large, pale blue, clothed with powdery down outside. Berry yellowish, size of a cherry. This species differs from *S. eleagnifòlium* in the leaves being all sinuated and prickly; and in the branchlets, peduncles, and calyxes being also prickly.

Leprous Nightshade. Pl. 2 feet.

196 S. obtusifòlium (Dun. syn. p. 26. sol. ed. 2d. t. 119. H. B. et Kunth, nov. gen. amer. 3. p. 40.) stem shrubby; branches prickly, and are, as well as the leaves, clothed with silvery tomentum; leaves oblong, obtuse, sinuately repand, prickly along the middle nerve beneath; peduncles lateral, solitary, few-flowered, and are, as well as the calyxes, prickly. ♄. G. Native of Mexico, near Regla; and Totonilco el Grande, at the altitude of 1200 hexapods. Tomentum stellate. Prickles yellow, short. Calyx 5-6-cleft. Corolla clothed with white tomentum outside, and blue inside, size of those of the potatoe; segments oblong, acutish. Stamens 5-6. Fruit unknown.

Obtuse-leaved Nightshade. Shrub.

197 S. fla'vidum (Torrey, in ann. lyc. 2. p. 227.) suffruti-

cose, densely clothed with yellowish tomentum all over; branches and calyxes prickly; leaves solitary, oblong, bluntish, sinuately repand: superior ones obsoletely sinuated; racemes opposite the leaves, usually 3-flowered. ♄. G. Native of North America, but the exact locality is unknown. Stem armed with simple, scattered prickles. Racemes at the extremities of the branches. Calycine segments subulate. Corolla large; lobes triangularly-lanceolate.

Yellowish Nightshade. Shrub.

§ 2. Lepróphoris affìnia. *The plants contained in this division are very like those of the last.*

198 S. furfura'ceum (R. Br. prod. p. 446.) stem shrubby; prickles acerose; leaves narrow-lanceolate, quite entire, furnished with a few prickles above, or unarmed, glabrous, smooth, but clothed with cinereous tomentum beneath; umbels lateral, 2-4-flowered, sessile; calyx unarmed. ♄. S. Native of New Holland, within the tropic. Dun. sol. 182. syn. p. 26.

Furfuraceous Nightshade. Shrub.

199 S. parvifòlium (R. Br. l. c.) stem shrubby; prickles acerose; leaves narrow-lanceolate, quite entire, flat, glabrous above, and furnished with a few prickles, but tomentose beneath, and unarmed, as well as the calyxes; umbels lateral, 2-4-flowered, sessile. ♄. S. Native of New Holland, on the sea shore, within the tropic.

Small-leaved Nightshade. Shrub.

200 S. orbicula'tum (Dun. syn. p. 27. sol. ed. 2d. ined. t. 44. Poir. suppl. 3. p. 762.) stem prickly; prickles acerose, red; leaves nearly orbicular, clothed with leprous tomentum on both surfaces, small; flowers twin or solitary, on short peduncles. ♄. G. Native of New Holland. Branches greyish-yellow. Prickles long, tomentose at the base, one to each petiole. Leaves somewhat petiolate, unarmed, cream-coloured below, and greenish-grey above. Peduncles and calyxes clothed with rusty tomentum.

Orbicular-leaved Nightshade. Shrub.

201 S. stelli'gerum (R. Br. prod. p. 445.) stem shrubby; prickles few, acerose; leaves entire, almost unarmed, lanceolate, glabrous above, smooth, grey and tomentose beneath; corymbs lateral, subumbellate, simple, nearly sessile; calyx unarmed. ♄. G. Native of New South Wales, about Port Jackson. Dun. sol. p. 201. syn. p. 27. Flowers pale blue. Fruit red. Tomentum stellate.

Var. α; prickles of the stem much curved. ♄. G. Stem and branches tomentose. Corolla pale purple. Stamens equal. Berry globose, scarlet. S. stellígerum, Smith, exot. bot. 2. p. 57. t. 88.

Var. β; prickles of the stem straight. ♄. S. Native of New Holland, within the tropic, on the sea shore. Dun. sol. ed. 2d. ined. t. 57. Tomentum on the under sides of the leaves rusty. Corolla villous outside, pale blue. Berry small, scarlet.

Star-bearing Nightshade. Fl. June, Aug. Clt. 1823. Shrub 3 feet.

202 S. discólor (R. Br. prod. p. 445.) stem shrubby; prickles setaceous, straight; leaves elliptic, subrepand, glabrous above, and tomentose beneath, cinereous, and are, as well as the calyxes, unarmed; racemes lateral, many-flowered, undivided. ♄. S. Native of New Holland, on the sea shore, within the tropic. Dun. sol. 183. syn. p. 27.

Two-coloured leaved-Nightshade. Shrub.

203 S. dianthóphorum (R. Br. l. c. but not of Lour.) nearly unarmed; stem furnished with a very few acerose prickles, and sometimes there are no prickles; leaves oblong-ovate, entire, tomentose, unarmed; peduncles lateral, 2-flowered or twin; calyx 5-cleft, acuminated. ♄. S. Native of New Holland, within the tropic, on the sea shore. Dun. sol. 183. syn. p. 27. Branches clothed with rusty-yellow, stellate tomentum, as well as the under sides of leaves. Leaves often twin, dark green above. Calyx woolly, longer than the corolla; anthers violaceous.

Pink-bearing Nightshade. Shrub.

204 S. elli'pticum (R. Br. l. c.) stem shrubby; prickles straight, tomentose at the base; leaves oblong-oval, obtuse, entire, tomentose on both surfaces, and are, as well as the calyxes, prickly; peduncles usually 3-flowered. ♄. S. Native of New Holland, within the tropic, on the sea shore.

Elliptic-leaved Nightshade. Shrub.

205 S. hórridum (Dun. syn. p. 28. sol. ed. 2d. ined. t. 46.) stem terete, pilose, prickly; leaves on long petioles, ovate-oblong, entire, villous on both surfaces, and prickly, as well as the peduncles, which are 1-flowered. ♄. G. Native of New Holland. Poir. suppl. 3. p. 763. The whole plant is clothed with stellate hairs. Leaves greyish-green above, and cream-coloured beneath. Segments of corolla acute. Berry globose, size of a large cherry.

Horrid Nightshade. Shrub.

206 S. echina'tum (R. Br. prod. p. 447.) stem erect; prickles setaceous, straight, acerose; leaves ovate-oblong, entire, unarmed, tomentose on both surfaces; racemes opposite the leaves, simple; berry somewhat 4-celled, inclosed in the echinated calyx. ♄. S. Native of New Holland, on the sea shore, within the tropic.

Echinated-calyxed Nightshade. Shrub.

207 S. Rodschìedii (Meyer. prim. esseq. p. 111.) stem shrubby; leaves oblong, sinuated or entire, subcordate at the base, or attenuated, tomentose beneath, and prickly; racemes lateral; calyxes mutic. ♄. S. Native about the Essequibo, on the American continent. The whole plant, except the adult branches and genitals, is beset with elegant stellate hairs. Branches, petioles, and leaves prickly; prickles solitary, compressed, yellow: rameal ones curved, the rest straight. Calycine segments short, bluntish. Corolla like that of *S. mammòsum*, violaceous, clothed with tomentum outside, as well as the calyx. Berry size of a cherry.

Rodschiede's Nightshade. Shrub.

§ 3. Persica'riæ (so named from the leaves of most of the species resembling those of *Persica*, or the peach.) Dun. sol. 183. Leaves entire or repand, narrow, oblong-lanceolate. Racemes simple, elongated, extra-foliaceous; pedicels secund, erect in the flowering state, but drooping in the fruit-bearing state. Corollas 5-parted.

208 S. racemòsum (Jacq. amer. p. 50. t. 36. ed. pict. t. 50. Lin. mant. 47.) stem unarmed, shrubby; leaves lanceolate, repand, undulated, acute; corollas 5-parted. ♄. S. Native of Martinico, on the declivities of mountains, Jacquin; Surinam, Lin. Leaves shining, petiolate. Racemes length of leaves. Corolla white; segments deep, oblong-lanceolate. Berry red, size of a small pea.

Racemose-flowered Nightshade. Fl. July, Aug. Clt. 1781. Shrub 3 to 4 feet.

209 S. i'gneum (Lin. spec. p. 270.) stem shrubby; leaves lanceolate, acuminated, revolute on both sides at the base; corollas 5-parted. ♄. S. Native of the Caribbee Islands, and Guiana. Jacq. hort. vind. t. 14. Aubl. guian. 1. p. 207. exclu-

sive of the syn. of Plum.—Burm. amer. 241. t. 245. f. 1.—Sloane, jam. 1. p. 38. t. 11. f. 3.—Plukn. alm. 350. phyt. t. 225. f. 5. Solànum fruticòsum, lauri foliis, aculeàtum, Plum. cat. p. 4. Tourn. inst. p. 149. Shrub sometimes prickly, and sometimes unarmed. Leaves clothed with stellate villi on both surfaces, but most so beneath. Prickles long, of a reddish, fiery colour, subulate, straight. Corolla white or purplish; with long, narrow, reflexed segments. Berry red, size of a cherry, ex Poir; yellowish, size of a pea, ex Jacq.

Var. β, parvifòlium (Vahl. eclog. 1. p. 23.) ♄. S. Native of the Island of Santa Cruz. This differs from the species in habit; in the stem and branches being more slender; in the leaves being much smaller, less acuminated; and in the prickles being 2 or 3 times longer.

Fiery-spined Nightshade. Fl. March, Nov. Clt. 1714. Shrub 5 to 6 feet.

210 S. subarma'tum (Willd. enum. p. 240.) stem shrubby, rather prickly; leaves lanceolate, downy beneath, quite entire, having the margins revolute at the base; racemes simple. ♄. S. Native country unknown. Dun. sol. p. 185. syn. p. 28. Down stellate. Leaves glabrous above, having the midrib sometimes furnished with one prickle beneath. Corolla white, with lanceolate segments. This plant is sometimes to be found in the gardens under the name of *S. Bahaménse*. According to Poiret it is perhaps a mere variety of *S. ígneum*.

Half-armed Nightshade. Fl. May, June. Clt. 1820. Shrub 5 to 7 feet.

211 S. persicæfòlium (Dun. sol. p. 185. syn. p. 28.) stem shrubby; leaves oblong-lanceolate, narrow; racemes simple; corollas 5-cleft. ♄. S. Native of the Caribbee Islands.—Burm. amer. p. 240. t. 244.—Plum. cat. 4. Stem scabrous, unarmed. Leaves prickly on the middle nerve beneath. Calyx unarmed. Berry globose, drooping. This species differs from *S. ígneum* in the leaves being narrower.

Peach-leaved Nightshade. Shrub 4 to 6 feet.

212 S. Bahame'nse (Lin. spec. ed. 1st. p. 188. ed. 2d. p. 270.) stem shrubby; leaves lanceolate, repand or sinuated, obtuse, with reflexed margins; corollas 5-parted. ♄. G. Native of Providence, one of the Bahamas. Dun. sol. p. 186. syn. p. 28. S. fruticòsum, Mill. dict. no. 18.—Sloan. hist. p. 236. t. 145.—Dill. elth. 263. t. 271. f. 250. Stem and leaves prickly. Leaves villous. Prickles brownish, straight. Corolla bluish-purple, with narrow, reflexed segments. Berry size of a pea, yellowish. Said to be nearly allied to *S. polyacánthum;* but the leaves are broader, and the flowers racemose, not solitary, &c.

Bahama Nightshade. Fl. June, July. Clt. 1732. Shrub 5 to 6 feet.

213 S. graciliflòrum (Dun. syn. p. 29. sol. ed. 2d. ined. t. 47.) branches smoothish, prickly; prickles straightish; leaves ovate-oblong, unequal at the base, sinuated, prickly on both surfaces, rather pilose; pili very minute, stellate, distant; racemes short, cymosely umbellate. ♄. S. Native of Java. Prickles yellowish, rather villous at top. Pedicels and flowers slender. Calyx small, 5-toothed.

Slender-flowered Nightshade. Shrub.

214 S. Dunalia'num (Gaud. in Freyc. voy. pt. bot. p. 448. t. 58.) shrubby; leaves elliptic, acute, running into the petioles at the base, quite entire, glabrous, spiny on the middle nerve beneath, as well as on the branches and petioles; flowers corymbose, tetrandrous; calyx glabrous, with ovate, acute lobes; corolla clothed with powdery tomentum outside, with ovate-lanceolate segments; berries globose. ♄. S. Native of the Moluccas.

Dunal's Nightshade. Shrub.

215 S. mólle (Dun. syn. p. 28. sol. ed. 2d. ined. t. 120. H. B. et Kunth, nov. gen. amer. 3. p. 40.) stem suffruticose, prickly; branches unarmed, clothed with hoary tomentum, as well as the under surfaces of the leaves, but the upper surfaces of the leaves are clothed with canescent down, they are oblong, acuminated, sinuated, prickly on the nerve beneath; racemes almost opposite the leaves, subdichotomous, and are, as well as the calyxes, unarmed. ♄. S. Native of the province of Caraccas, near St. Geronimo del Pyrital, on the banks of the river Guarico. Prickles straight, yellowish. Down stellate. Corolla white, clothed with hoary tomentum outside. Berry round, variegated with white and green, ex Bonpl.

Soft Nightshade. Fl. June, Sept. Clt. 1818. Shrub 4 to 5 feet.

§ 4. Poly'gama (from πολυς, *polys*, many; and γαμος, *gamos*, a marriage; in reference to the greater number of male flowers than of hermaphrodite ones.) *Flowers small: hermaphrodite ones solitary, on short peduncles: male ones racemose. Leaves entire, or repand.*

216 S. polyaca'nthum (Lam. ill. no. 2377. Poir. dict. 4. p. 304.) very prickly; prickles acicular; leaves linear-lanceolate, nearly sessile, obtuse, villous on both surfaces; peduncles axillary, 1-flowered. ♄. S. Native of the Island of Dominica. Vahl, eclog. 1. p. 24. Dun. sol. p. 186. syn. p. 29. S. parviflòrum, Cav. icon. 3. p. 19. t. 236.—Burm. amer. p. 218. t. 224. f. 1. exclusive of the syn. of Lin. and Dill.—Plum. mss. 5. p. 51. ex Burm. l. c. Villi stellate, yellowish. Prickles straight, yellowish-brown at top. Corollas small, white; segments linear, villous outside. Berry globose, glabrous, shining, size of a coriander seed.

Many-spined Nightshade. Fl. June, Sept. Clt. 1821. Shrub 3 to 4 feet.

217 S. microphy'llum (Dun. sol. p. 187. syn. p. 29.) stem branched; leaves small, ovate, entire, rather tomentose; flowers quadrifid, tetrandrous. ♄. S. Native of the Caribbee Islands. Aquártia microphýlla, Lam. ill. no. 1604. t. 82. f. 2. Poir. suppl. 1. p. 410. Habit of *S. lycioìdes*. Prickles acicular, sometimes solitary, and sometimes twin at the base of the branches, or infrafoliaceous. Leaves size of those of wild thyme, or hardly larger, acute or obtuse. Peduncles extrafoliaceous, very short, solitary or twin. Segments of corolla linear.

Small-leaved Nightshade. Shrub.

218 S. Aqua'rtia (Dun. sol. 187. syn. p. 29.) stem branched, prickly; leaves subovate, obtuse, entire, tomentose; flowers 4-cleft, tetrandrous. ♄. S. Native of St. Domingo, at Bayaba, on rocks by the sea side. Aquártia tomentòsa, Lam. ill. no. 1603. t. 62. f. 1. Poir. dict. 1. p. 217. Aquártia aculeàta, Jacq. amer. t. 15. Branches armed with short, subulate prickles, but almost unarmed in the young state. Peduncles lateral, 1-flowered, very short. Calyx tomentose; segments unequal. Corolla white, tomentose outside; segments linear, bluntish. Berry globose, yellow, shining, size of a small pea.

Aquart's Nightshade. Fl.? Clt. 1819. Shrub 4 feet.

219 S. crotonoìdes (Lam. ill. no. 2383. Poir. dict. 4. p. 306.) stem shrubby; leaves discoloured, elliptic-lanceolate, glabrous above, and tomentose beneath, unarmed; racemes short; flowers quadrifid, tetrandrous. ♄. S. Native of the Caribbee Islands. Dun. sol. p. 188. t. 13. syn. p. 29. Branches tomentose, rusty at top. Prickles acicular, few, straight. Peduncles lateral, clothed with rusty tomentum, forked and cymose at top. Segments of corolla linear.

Croton-like Nightshade. Shrub 3 to 4 feet.

220 S. reticula'tum (Dun. syn. p. 29. sol. ed. 2d. ined. t. 48.) branches tomentose at top, powdery; leaves ovate-lanceolate, unequal, quite glabrous and reticulated above, nerved be-

neath, and clothed with leprous tomentum; peduncles 1-flowered; flowers quadrifid? ♄. S. Native of St. Domingo. Poir. suppl. 3. p. 764. Habit of *S. crotonoìdes*, prickly or unarmed. Berries globose, mucronate.

Reticulated-leaved Nightshade. Fl. June, July. Clt. 1820. Shrub 3 to 4 feet.

221 S. poly'gamum (Vahl, symb. 3. p. 39. t. 55. Dun. sol. 188. ed. 2d. ined. t. 49. syn. p. 39.) stem shrubby; leaves ovate-oblong, nearly entire, rather scabrous above, but tomentose beneath. ♄. S. Native of the Island of Santa Cruz. Branches, and under surfaces of leaves, and peduncles, clothed with rusty tomentum. Prickles straight, reddish-yellow. Leaves subcordate at the base, unequal, 2-3 inches long. Flowers small, cymose. Calyx and corolla tomentose outside, 4-5-parted. Stamens 4-5. Some of the flowers are male, and some hermaphrodite, as has been observed by D. West, ex Vahl.

Polygamous-flowered Nightshade. Shrub.

222 S. integrifòlium (Poir. dict. 4. p. 301. Dun. sol. p. 189.) stem shrubby; leaves ovate, subrepand, rather tomentose beneath; umbels axillary. ♄. S. Native of the Mauritius. Stem prickly, as well as pilose. Leaves sometimes twin, sometimes aggregate, smoothish above, but furnished with distant, minute pili, and prickles; prickles few, small. Calyx villous, 5-toothed. Corolla small, whitish. Berry globose, yellowish, size of a grape, ex Poir.

Entire-leaved Nightshade. Shrub.

§ 5. Eriophy'lla (from *εριον*, *erion*, wool; and *φυλλον*, *phyllon*, a leaf; leaves woolly.) Dun. sol. p. 189. *Leaves repand, angular or sinuated, woolly on both surfaces. Peduncles solitary, many-flowered; or aggregate, 1-flowered, short. Flowers small.*

223 S. hi'rtum (Vahl, symb. 2. p. 40. icon. 3. t. 21.) stem shrubby; leaves cordate, angular, tomentose, prickly; peduncles lateral, aggregate, and are, as well as the calyxes, hairy. ♄. S. Native of Trinidad. Dun. sol. p. 189. syn. p. 30. Prickles small, straight, acicular. Stem tomentose at top. Leaves a hand long, whitish beneath. Peduncles supra-foliaceous, 1-flowered. Calyx and corolla hairy outside; three of the segments of the corolla are longer than the other two.

Hairy Nightshade. Fl. June, July. Clt. 1821. Shrub.

224 S. cordifòlium (Dun. syn. p. 30. sol. ed. 2d. ined. t. 135.) stem hairy, prickly; leaves on long petioles, cordate, angularly repand, villous on both surfaces, unarmed; racemes simple, lateral. ♄. S. Native of Brazil, at Rio Janeiro. Poir. suppl. 3. p. 764. The whole plant is clothed with stellate and simple, soft, rust-coloured hairs. Leaves unequal at the base. Segments of corolla equal. This species differs from *S. hirtum*, in the leaves being unarmed; in the flowers being racemose; and in the corolla being regular.

Heart-leaved Nightshade. Shrub.

225 S. eriophy'llum (Dun. syn. p. 30. sol. ed. 2d. ined. t. 50.) branches clothed with white tomentum, prickly; leaves clothed with white tomentum on both surfaces, ovate, sinuated, obtuse, on short petioles; calyxes woolly, subcampanulate. ♄. G. Native of New Holland. S. lasiophýllum, Poir. suppl. 3. p. 764. Prickles small, slender. Segments of calyx obtuse, rarely prickly. Corolla blue, pentagonal, the star villous outside. Berry globose.

Woolly-leaved Nightshade. Shrub.

226 S. tomentòsum (Lin. spec. ed. 1st. p. 188. ed. 2d. p. 269.) stem shrubby, prickly; prickles acerose; leaves cordate, subrepand, undulated, densely tomentose on both surfaces; tender parts clothed with purplish powder. ♄. S. Native of North America, ex Lin. spec. ed. 1st.; Æthiopia, ex Lin. spec. ed. 2d.; Guiana, ex Aubl.; Peru, where it is called *Hormis*, ex Ruiz. et Pav.; Cape of Good Hope, ex Thunb. prod. p. 36. Aubl. guian. 1. p. 216. Ruiz. et Pav. fl. per. 2. p. 41. Dun. sol. p. 190. syn. p. 30.—Sabb. hort. rom. 2. t. 58.—Triumf. præl. 46. t. 6.—Bocc. sic. 8. t. 5.—Plukn. alm. 351. t. 316. f. 2.? The whole plant is densely clothed with greenish-yellow tomentum. Leaves usually 3 inches long, and about 1 inch broad, sometimes unarmed, sometimes prickly beneath. Prickles straight, yellowish-green. Racemes shorter than the petioles, at length drooping. Corolla bluish-violet. Berry subglobose, rather tomentose while young; but glabrous, and of a dirty orange colour, and about the size of a gooseberry when mature.

Tomentose Nightshade. Fl. June, July. Clt. 1662. Shrub 2 to 3 feet.

227 S. hy'bridum (Jacq. vind. 2. t. 113. Dun. sol. 191. syn. p. 30.) stem shrubby, prickly; leaves ovate, almost unarmed, acute, repand; the tender parts clothed with violet powder on the back and margins. ♄. S. Native of Guinea. Leaves repandly angular, pale green, undulated, unequal at the base. Peduncles clothed with violet tomentum: some umbellate, and others 1-flowered. Corolla pale blue; segments 5-10. Some of the flowers are sterile. Berry roundish, depressed, orange-coloured, pendulous. Prickles strong, straight or recurved, sometimes wanting on the leaves. Perhaps only a variety of *S. tomentòsum*.

Hybrid Nightshade. Fl. June, July. Clt. 1815. Shrub 2 to 3 feet.

228 S. cocci'neum (Jacq. misc. 2. p. 239. icon. rar. 1. t. 43.) stem shrubby, prickly; leaves ovate, somewhat cordate, repand, tomentose; berries scarlet. ♄. S. Native country unknown, and probably of garden origin. Dun. sol. 191. syn. p. 31. S. tomentòsum, var. coccíneum, Willd. spec. 1. p. 1045. Pers. ench. 1. p. 228. Prickles straight, subulate, brown. Leaves green, sometimes prickly on the middle nerve and petioles. Racemes opposite the leaves, simple, tomentose. Corolla white or purplish. Calycine segments ovate-lanceolate, acute. Berry pea-shaped, red at first, but at length dirty white, ex Jacq. It is very like *S. tomentòsum*, but smaller in all its parts, and less tomentose.

Scarlet-berried Nightshade. Fl. June, July. Clt. 1810. Shrub 2 to 3 feet.

229 S. brevi'pilum (Dun. sol. p. 191. t. 21. syn. p. 31.) stem shrubby; leaves twin, sessile, obtuse-angled, tomentose on both surfaces; calyx 5-parted. ♄. S. Native of the West Indies; as of St. Thomas and Porto Rico. This species differs from *S. Jamaicénse* in the peduncles, pedicels, and calyxes being unarmed; and in the calyx being 5-parted, not 5-toothed. Every part of the plant is clothed with stellate tomentum. Leaves of a rusty yellow colour on both surfaces, often unarmed.

Short-haired Nightshade. Shrub 4 to 6 feet.

230 S. Jamaice'nse (Swartz, fl. ind. occ. 1. p. 454.) stem shrubby; leaves twin, cuneated, broadest in the middle, and obtuse-angled, tomentose on both surfaces, as well as the rachi and calyxes; calyx 5-toothed; prickles reflexed. ♄. S. Native of Jamaica and Hispaniola, among rubbish. Dun. sol. 191. syn. p. 31. Stem and midrib of leaves beneath furnished with strong prickles. Racemes lateral, much shorter than the leaves, simple, many-flowered; flowers pedicellate, subcymose. Corolla small, pale blue or white, with reflexed segments, tomentose beneath. Berry round, black when ripe, size of a red currant.

Jamaica Nightshade. Fl. June, July. Clt. 1818. Shrub 6 feet.

231 S. toxica'rium (Lam. dict. 3. p. 309. Dun. sol. 193. ed. 2d. ined. t. 50. syn. p. 31.) stem shrubby, prickly; leaves lobately angular, tomentose, oblique at the base, emarginate,

furnished with scattered prickles on both surfaces; racemes sessile, cymose; segments of corolla sub-lanceolate. ♄. S. Native of Guiana. Richard. act. soc. par. ex Poir. suppl. 3. p. 764. S. Juripèba postèrior, Pis. bras. book 4. chapt. 41.? Prickles of the stem large, recurved. Leaves usually twin. Peduncles, pedicels, calyxes, and outside of corollas clothed with stellate tomentum, like the under surfaces of the leaves. Root poisonous.

Poisonous Nightshade. Shrub.

232 S. cuneifòlium (Dun. sol. p. 193. t. 22. syn. p. 31.) stem shrubby; leaves twin, long-cuneated, sinuately angular above; angles acute, but sometimes the leaves are nearly entire, with obtuse angles; racemes short. ♄. S. Native of Cayenne. S. cròceum, Dun. sol. 241. S. dùbium, Dun. sol. p. 240. S. Jamaicénse, Mill. dict. no. 71.—Sloan. hist. p. 236. t. 144. f. 3. —Plukn. phyt. t. 226. The whole plant clothed with rusty stellate tomentum. Branches and base of midrib of leaves prickly; prickles strong, reflexed, tomentose at the base. Leaves unequal: largest ones 4-5 inches long, and the smaller ones 2-3 inches long. Pedicels longer than the peduncle, slender. Flowers small. Calycine segments long, subulate, prickly. Corolla white, 5-cleft. Berry globose, reddish yellow.

Wedge-leaved Nightshade. Fl. June, July. Clt. 1818. Shrub 3 to 4 feet.

233 S. heterótrichum (Dun. sol. p. 192. t. 20. syn. p. 31.) stem tomentose; leaves twin, sessile, ovate, rather angular, tomentose from stellate pili; nerves bullate, beset with simple hairs. ♄. S. Native of tropical America. Branches clothed with long yellowish hairs, which are stellate at top. Prickles slender, recurved. Leaves yellowish beneath, and rather rusty above; nerves furnished with a few small prickles beneath. Racemes short, simple, many-flowered, beset with stellate tomentum, as well as the outside of the corollas and calyxes. Calycine segments linear-lanceolate, long. Corolla 5-parted, with almost linear segments. Berry globose.

Variable-haired Nightshade. Fl. June, July. Clt. 1824. Shrub 3 to 4 feet.

234 S. Willdenovia'num; tomentose; stem shrubby, prickly; leaves twin, angular, cuneated; umbels extra-foliaceous, sessile; peduncles and calyxes hispid. ♄. S. Native of Porto Rico, Desf. S. cuneifòlium, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 623, but not of Dun.

Willdenow's Nightshade. Shrub.

§ 6. Micraca'ntha (from *μικρος, micros*, small; and *ακανθα, akantha*, a spine; in reference to the small, short, recurved prickles.) Dun. sol. p. 193. *Stem shrubby, prickly; prickles small, short, recurved. Leaves lanceolate, entire, or sinuately angular; the middle nerve prickly beneath. Racemes simple, cymose, extra-axillary.*

235 S. sca'brum (Vahl. eclog. 1. p. 22.) stem shrubby; branches flexuous, prickly, glabrous; leaves usually by threes, oblong, acute, sinuately angular, clothed with stellate down above, and stellate pili beneath, having the nerve prickly; racemes lateral, few-flowered, and are, as well as the calyxes, prickly. ♄. S. Native of Caraccas, near San Juan, and other parts of tropical America. Dun. sol. p. 193. ed. 2d. t. 121. syn. p. 31. H. B. et Kunth, nov. gen. 3. p. 41. S. adhæ'rens, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 669. Prickles scattered, recurved, yellowish. Calyx 5-cleft. Corolla white, tomentose outside; segments lanceolate-linear. Berry small, globose.

Scabrous Nightshade. Shrub.

236 S. heterophy'llum (Lam. ill. no. 2360. Poir. dict. 4. p. 301. no. 64.) leaves by threes, unequal, scabrous above, and rather tomentose beneath; racemes and calyxes unarmed. ♄. S. Native of Guiana. Dun. sol. p. 205. ed. 2d. t. 62. syn. p. 32. S. acanthifòlium, Hort. Prickles strong, sub-recurved. Leaves large, with blunt lobes, prickly on the midrib. Pedicels and calyxes villous. Calycine segments ovate, obtuse. Corolla large, divided to the base into lanceolate-linear, obtuse segments. Fruit-bearing peduncles reflexed. Berry round, size of a pea.

Variable-leaved Nightshade. Shrub.

237 S. Ature'nse (Dun. syn. p. 32. sol. ed. 2d. ined. t. 122. H. B. et Kunth, nov. gen. amer. 3. p. 41.) shrubby; branches prickly, and clothed with rusty tomentum; leaves twin, elliptic-oblong, acuminated, quite entire, beset with stellate hairs above, and stellate pili beneath; midrib of leaves, as well as the calyxes, prickly; racemes extra-axillary, simple, unarmed. ♄. S. Native on the banks of the Orinoco, near the cataract of Ature. Prickles compressedly conical, subulate, and recurved at top, shining. Leaves unequal in size, greenish above, and fuscescent beneath, 6 inches long. Racemes clothed with rusty tomentum, as well as the calyxes and outside of corolla. Calyx prickly.

Ature Nightshade. Shrub.

238 S. nemore'nse (Dun. sol. p. 194. syn. p. 32.) stem shrubby, scandent; leaves petiolate, twin, the larger one oblong, sinuately angular, and the smaller one ovate, lanceolate, quite entire; racemes filiform, very long. ♄. ◡. S. Native of Peru, in groves at Chincao and Cuchero, where it is called *Rocotito de Monte*. S. laciniàtum, Ruiz. et Pav. fl. per. 2. p. 40. t. 177. f. a. Pers. ench. 1. p. 228, but not of Ait. Branches angular, prickly; prickles small, recurved, yellowish. Leaves nearly sessile, prickly on the back. Peduncles prickly, hanging in the fruit-bearing state. Calyx small. Corolla blue. Berry ovate-globose, size of a small pear, golden yellow.

Grove Nightshade. Shrub climbing.

239 S. volu'bile (Swartz. fl. ind. occ. 1. p. 458. Pers. ench. 1. p. 226, exclusive of the syn. of Lam. and Jacq.) stem shrubby, scandent; leaves angular, with denticulated margins; racemes lateral; calyxes prickly. ♄. ◡. S. Native of Hispaniola, in woods. Dun. sol. p. 195. syn. p. 32. S. scándens, Swartz. prod. p. 47, but not of Lin. Plum. mss. t. 4. f. 32. ex Aubl. guian. 1. p. 217.? Stem prickly; branches terete. Leaves 3-4 inches long, or a span, ovate-lanceolate, rough above, and hispid from rusty hairs beneath; petioles and midrib prickly; prickles small, recurved. Calyx 5-toothed, clothed with rusty down, prickly, reflexed. Corolla large, bluish, 5-parted, tomentose outside, with long segments. Berry umbilicate.

Twining Nightshade. Fl. June, July. Clt. 1823. Shrub climbing.

240 S. lanceæfòlium (Jacq. icon. rar. 2. t. 329. coll. 2. p. 286.) stem shrubby, scandent; leaves twin, lanceolate-oblong, attenuated at both ends, rather roughish, prickly on the midrib and petioles beneath; racemes short, unarmed. ♄. S. Native of tropical America. Dun. sol. p. 195. syn. p. 32. S. sarmentòsum, Lam. ill. no. 2385. Poir. dict. 4. p. 307, exclusive of the syn. of Swartz. Branches sarmentose, green and shining, rather villous, as well as the stem and both sides of the leaves; hairs obsolete, starry. Leaves unequal in size, 4-8 inches long, sometimes entire, and sometimes sinuately angular, shining above, but paler beneath. Prickles solitary, or by pairs, yellowish, small, recurved. Racemes rather villous, as well as the outside of the calyxes and corollas. Pedicels cymose, approximate. Calyx 4-5-parted, with subulate segments. Corolla white, 4-5-parted, with lanceolate, acute segments. Anthers 4-5, yellow.

Var. β, tetrándrum; flowers tetramerous, tetrandrous. ♄. ◡. S. Native of Cayenne. S. flexuòsum, Vahl. eclog. 1. p. 22.

Lance-leaved Nightshade. Fl. July, Aug. Clt. 1816. Shrub climbing.

241 S. ambíguum (Dun. syn. p. 32. sol. ed. 2d. ined. t. 123.) branches scandent, pilose; lower leaves solitary: superior ones twin, ovate-elliptic, angular, a little sinuated, rather scabrous from pili on both surfaces, having the midrib prickly; racemes simple, unarmed. ♄. ◡. S. Native country unknown.

Ambiguous Nightshade. Shrub climbing.

242 S. micracánthum (Lam. ill. no. 2382. Poir. dict. 4. p. 306.) stem shrubby; leaves ovate-lanceolate, acuminated, rather tomentose beneath; prickles small, few, recurved; racemes short. ♄. S. Native of Guadaloupe, Brazil, and Cayenne. Dun. sol. p. 196, exclusive of the syn. of Vahl, symb. p. 32. Branches rather villous, or tomentose at top. Down stellate. Leaves green above, but rough from minute stellate hairs, but tomentose beneath, as well as the petioles, peduncles, and outside of the corollas and calyxes. Branches, petioles, and midrib of leaves beneath prickly; prickles sometimes twin. Racemes lateral; pedicels cymose. Calyx 5-toothed. Corolla deeply 5-cleft. Berry size of a chick pea.

Small-spined Nightshade. Shrub.

243 S. brachyánthum (Dun. syn. p. 32. sol. ed. 2d. ined. t. 124. H. B. et Kunth, nov. gen. amer. 3. p. 42.) arboreous; branches prickly; branchlets tomentose; leaves twin, elliptic, acute at both ends, quite entire, puberulous above, but clothed with hoary fuscescent tomentum beneath, and prickly on the midrib; racemes lateral, simple; pedicels and calyxes prickly. ♄. S. Native of New Andalusia, on the declivity of Mount Cocollar, at the altitude of 480 hexapods. Down and tomentum stellate. Prickles short, recurved. Pedicels long, unilateral, and are, as well as the calyxes, prickly. Racemes, outside of corollas, and calyxes clothed with hoary tomentum. Calyx 5-parted; segments obovate, cuspidate, cohering. Corolla 5-parted, with linear-oblong, acute segments, about the size of those of *Ornithógalum lùteum*. This species differs from *S. micracánthum*, Lam. in the leaves being tomentose beneath, and in the pedicels and calyxes being prickly.

Short-flowered Nightshade. Tree 30 feet.

244 S. Jussiæ'i (Dun. syn. p. 33. sol. ed. 2d. ined. t. 52.) leaves solitary, ovate-lanceolate, smoothish above, but rather tomentose and prickly on the midrib beneath; racemes simple, cymose longer than the petioles. ♄. S. Native of Rio Janeiro, Commerson. Poir. suppl. 3. p. 767. Prickles short, recurved. Down and tomentum stellate. Peduncles, pedicels, and calyxes woolly. Calyx 5-toothed. Corolla deeply 5-cleft; segments ovate-lanceolate. Ovarium tomentose, powdery.

Jussieu's Nightshade. Shrub.

245 S. Javite'nse (H. B. et Kunth, nov. gen. amer. 3. p, 42.) shrubby; branches prickly; branchlets clothed with fine hoary tomentum; leaves solitary, oblong, acute, quite entire, clothed with stellate down on both surfaces, rather prickly on the midrib beneath; racemes lateral, simple; pedicels and calyxes unarmed. ♄. S. Native on the banks of the Orinoco, and the Tuamino, near Carichana and Javita. S. monachophýllum, Dun. syn. p. 33. sol. ed. 2d. ined. t. 125. Hairs and tomentum stellate. Prickles conical, recurved at top, shining, yellowish. Pedicels unilateral, clothed with stellate down, as well as the calyxes. Calyx 5-parted; segments subobovate, cuspidate. Corolla and stamens like those of *S. brachyánthum*. It differs from *S. Jussiæ'i* in the leaves being on short petioles, entire, oblong, downy on both surfaces, often unarmed, with the middle nerve rather prickly; the prickly racemes and flowers smaller.

Javita Nightshade. Shrub.

246 S. umbròsum (Dun. syn. p. 33. sol. ed. 2d. ined. t. 126. H. B. et Kunth, nov. gen. amer. 3. p. 43.) shrubby, scandent; branches prickly, and are, as well as the under surfaces of the leaves, clothed with hoary villous tomentum: upper surfaces villous; leaves solitary, or twin, oblong, acuminated, quite entire; racemes extra-axillary, bifid; peduncles and midribs of leaves beneath prickly; pedicels and calyxes unarmed. ♄. ◡. S. Native of New Andalusia, in bushy places near Cumanacoa. Hairs and down stellate, simple. Prickles scattered, small, subulate, yellowish, recurvedly reflexed. Pedicels unilateral. Calyx villous, 5-parted; segments obovate, cuspidate, cohering. Corolla hispid from stellate pili outside, with linear, acutish segments.

Shaded Nightshade. Fl. June, July. Clt. 1825. Shrub cl.

247 S. Juripe'ba (Rich. act. soc. par. p. 107. Dun. sol. p. 196. t. 15. syn. p. 33.) shrubby; branches prickly, rather pilose; leaves solitary, elliptic-oblong, acute, almost quite entire, clothed with stellate pili on both surfaces, prickly on the midrib beneath: superior leaves twin; racemes lateral and terminal, almost sessile, and are, as well as the calyxes, unarmed. ♄. S. Native of Cayenne; and of the Island Pararumo, in the Orinoco, and near the cataract of Ature, on the banks of the Orinoco. S. obscùrum, Vahl, symb. p. 41. Willd. spec. 1. p. 1046. Juripèba prior, Pis. bras. lib. 4. cap. 41. S. styracifòlium, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 663.—Plum. mss. t. 4. f. 32, ex Dunal. Hairs or down stellate. Leaves canescent beneath. Flowers unilateral. Corolla violaceous, ex Bonpl. white inside, and purple outside, ex Plum. Prickles on the branches recurved, on the midribs of leaves straight. Calyx 5-cleft, with broad, mucronulate segments. Corolla 5-parted, with long, linear segments.

Juripeba Nightshade. Shrub.

248 S. rubiginòsum (Vahl. eclog. 2. p. 17. icon. t. 13.) shrubby, clothed with rusty stellate tomentum all over; prickles recurved; leaves elliptic, acute, quite entire, glabrous above, and tomentose beneath; cymes terminal. ♄. S. Native of Cayenne. Dun. sol. p. 197. syn. p. 33. Branches, petioles, and midribs of leaves beneath prickly. Leaves 3-4 inches long, obscure green above. Peduncles bifid; pedicels reflexed at first. Calyx 5-cleft, with linear-lanceolate segments. Corolla 5-cleft, with sublinear segments.

Rusty Nightshade. Fl. June, July. Clt. 1821. Shrub.

249 S. velutìnum (Dun. syn. p. 33. sol. ed. 2d. ined. t. 53.) stem scandent, ? tomentose; leaves ovate-oblong, unequal at the base, acute, clothed with silky tomentum, furnished with a few prickles beneath; racemes terminal, few-flowered. ♄. ◡. ? S. Native of Cayenne. This species differs from *S. rubiginòsum* in the leaves being silky on both surfaces, in the hairs being simple, but yellowish. Prickles short, recurved. Leaves yellowish green above, but whiter beneath. Racemes villous. Calycine segments oblong, acute, and are, as well as the corolla, villous outside.

Velvety Nightshade. Shrub climbing.

250 S. coria'ceum (Dun. sol. p. 197. t. 14. syn. p. 33.) shrubby, scandent; leaves glabrous, lanceolate-elliptic, acute; racemes lateral, simple, equal in length to the leaves. ♄. ◡. S. Native of Cayenne. Branches terete, powdery, as well as the young leaves, peduncles, and pedicels. Leaves sometimes twin, on short petioles 4 inches long, coriaceous, sometimes prickly on the midrib. Prickles short, recurved. Peduncles sometimes bifid; pedicels secund. Corolla large, blue. Calyx coriaceous, 5-toothed; teeth roundish, mucronate. Stigma 2-lobed.

Coriaceous-leaved Nightshade. Shrub climbing.

Subsect. II. Subine'rmia. *Stem prickly at the base. Leaves sinuately angular, or entire. Racemes many-parted; pedicels cymose. Flowers numerous, many of which are abortive; in the fertile flowers the style is longer than the anthers; in the*

sterile flowers the style is the length of the filaments. Corollas 4-5-6-cleft. Berries 4-celled. a. Anthers unequal.

251 S. Bonarie'nse (Lin. spec. 264, exclusive of the syn. of Plum.) shrubby, almost unarmed; leaves ovate-oblong, sinuately repand, smoothish; racemes corymbose, lateral, or extrafoliaceous. ♄. H. Native of Buenos Ayres. Dun. sol. 198. syn. p. 34.—Dill. elth. p. 364. t. 272. f. 351. Stem green, prickly at the base: adult ones unarmed. Leaves sometimes entire, rarely prickly. Corymbs large. Calyx 4-5-cleft; segments subulate. Corolla large, white, downy outside. Berry globose, yellow? 4-celled, size of a chick pea. Root creeping.

Buenos-Ayrean Nightshade. Fl. June, Sept. Clt. 1727. Shrub 6 to 10 feet.

252 S. fastigia'tum (Willd. enum. p. 235.) shrubby, almost unarmed; leaves ovate-oblong, entire, or sinuately repand, downy; racemes corymbose, terminal. ♄. G. Native country unknown. Dun. sol. p. 198. t. 16. t. 2. p. D. syn. p. 34. Poir. suppl. 3. p. 770. Jacq. eclog. t. 6. Stem usually unarmed, but sometimes prickly. Branches green. Leaves rarely prickly, sometimes entire, scabrous from short stellate pili. Flowers large, some fertile, and some sterile. Calyx 4-5-6-cleft; segments acute. Corolla large, 4-5-6-cleft, pale blue, marked by a yellow star inside. Anthers 4-5-6, yellow. Berry globose, 4-celled, orange yellow at maturity, size of a chick pea.

Fastigiate-flowered Nightshade. Fl. June, July. Clt. 1818. Shrub 4 to 5 feet.

253 S. Pòka (Dun. syn. p. 34. ed. 2d. ined. t. 56.) branches nearly glabrous, prickly; leaves ovate-lanceolate, almost entire, or sinuately angular, scabrous on both surfaces, rather tomentose beneath, unarmed; racemes short, lateral, few-flowered. ♄. S. Native of Java, Leschenault. Branches prickly towards the top; prickles short, straight, slender, rarely recurved. Racemes bifid, unarmed, beset with rusty hairs. Calyx 5-cleft. Corolla woolly outside, 5-cleft; with lanceolate, acute segments. Down and hairs stellate.

Poka Nightshade. Shrub.

254 S. opórinum (Willd. enum. 1. p. 238. Poir. suppl. 3. p. 768.) stem shrubby, prickly at bottom; leaves oblong-lanceolate, repandly angular, or entire; racemes cymose, lateral, and terminal. ♄. G. Native of Mexico. ? S. macrophýllum, Hort. monsp. Dun. sol. p. 199. t. 16. syn. p. 34. S. grandiflòrum, Desf. arb. 1. p. 169, but not of Ruiz. et Pav. S. cymòsum, Ort. dec. 1. p. 12.—Zucc. cent. 1. p. 47. Tops of branches beset with powdery tomentum; hairs short, stellate, cinereous. Prickles somewhat recurved at apex. Leaves large, a foot long, unequal, somewhat cordate at the base, having the midrib and petioles sparingly prickly: upper leaves nearly entire: young ones canescent beneath, with convolute edges. Peduncles 2-3-parted, green, scabrous from short stellate hairs, as well as the pedicels, and calyxes, and outside of corollas. Calyx 5-parted; segments broad at the base, and subulate at the apex. Corolla large, blue, marked with a yellow star inside, 4-5-cleft, plicate, spreading, afterwards reflexed. Stigma somewhat 2-lobed. Berry globose, 4-celled, yellowish when ripe, size of a chick pea. This species differs from *S. fastigiàtum* in all its parts being larger and more pilose; corollas deep blue; racemes leafy.

Autumnal Nightshade. Fl. July, Sept. Clt. 1820. Shrub 5 to 6 feet.

255 S. subine'rme (Jacq. amer. p. 50. t. 40. f. 3, a leaf only.) stem shrubby, nearly unarmed; leaves lanceolate, elliptic, quite entire, glabrous above, but rather tomentose beneath; cymes mealy; calycine segments obtuse. ♄. S. Native of the West Indies, among bushes; Mexico, &c. Dun. sol. p. 200. syn. p. 34. Swartz. prod. 1. p. 453. Lin. mant. 8. p. 253. S. laurifòlium, Mill. dict. no. 20. Leaves 3-4 inches, glabrous above, and more or less tomentose beneath. Racemes cymose. Calyx 5-cleft, with obtuse segments. Corolla blue, with lanceolate segments. Berry globose. This species differs from *S. lanceolàtum* in the racemes being smaller, and in the calycine segments being obtuse.

Nearly-unarmed Nightshade. Fl. July, Aug. Clt. 1752. Shrub 4 to 6 feet.

256 S. ela'tum (Link. enum. 1. p. 186.) stem furnished with reflexed prickles, which are tomentose at the base; leaves lanceolate, rather tomentose, unarmed, when young hoary beneath; peduncles lateral, bifid; calycine segments linear. ♄. S. Native country unknown. Prickles numerous, short. Leaves acute, repand. Tomentum stellate. Pedicels crowded, tomentose, as well as the calyxes. Corolla blue, tomentose outside.

Tall Nightshade. Fl. June, July. Clt. 1820. Shrub 6 to 8 feet.

257 S. ochroneu'rum (Link. l. c.) stem furnished with recurved prickles; branches clothed with rusty tomentum; nerves of leaves prickly; cymes terminal; calycine segments short; corolla 5-parted. ♄. S. Native of Brazil. Leaves tomentose, not hoary. Tomentum stellate. Corolla blue. Anthers distant.

Var. β; stem furnished with more numerous, larger prickles. Leaves smaller, and more finely tomentose, and the nerves more prickly on both sides. ♄. S. Native of Brazil.

Yellow-nerved-leaved Nightshade. Clt.? Shrub.

258 S. astroìtes (Jacq. eclog. t. 65. Link. enum. 1. p. 186.) stem almost unarmed; or the branches are furnished with a few short, recurved prickles; leaves ovate-oblong, sinuated or repand, beset with stellate hairs on both surfaces; corymbs intrafoliaceous, dichotomous; calyxes acuminated, clothed with stellate pili. ♄. G. Native of Chili or Peru. Leaves 9 inches long. Corollas 5-lobed, of a violaceous blue colour. Petioles furnished with 1 or 2 short, recurved prickles. Berry globose, orange-coloured, 2-celled. This species comes very near to *S. Bonariénsis* and *S. fastigiàtum*.

Star-like Nightshade. Fl. June, July. Clt. 1818. Shrub 3 to 4 feet.

259 S. Mexica'num (Moc. et Sesse, fl. mex. icon. ined. Dun. syn. p. 34. sol. ed. 2d. ined. t. 56.) stem shrubby, tomentose, unarmed, or nearly so; leaves ovate-oblong, tomentose, canescent beneath; racemes subcymose; calycine segments subulate; corolla 5-cleft, with acute segments. ♄. S. Native of Mexico. Stem prickly at the base. Racemes lateral and terminal. Corolla violaceous. Berry globose, orange-coloured, size of a pea.

Mexican Nightshade. Fl. June, July. Clt. 1825. Shrub 3 to 4 feet.

260 S. lanceola'tum (Cav. icon. 3. p. 23. t. 245.) stem shrubby, tomentose, prickly at the base; branches clothed with hoary tomentum; leaves lanceolate-oblong, quite entire, clothed with canescent down on both surfaces, unarmed: lower ones sinuate; racemes cymose, lateral, almost terminal; calycine segments subulate; corolla semiquinquefid, angularly plicate. ♄. G. Native of Mexico. Dun. sol. p. 200. syn. p. 34. Pseudocápsicum lancifòlium, Mœnch. meth. suppl. p. 180. Down and hairs stellate. Leaves greenish above. Corolla pale blue. Berry globose, 4-celled, size of a chick pea, orange-yellow.

Lanceolate-leaved Nightshade. Fl. June, July. Clt. 1800. Shrub 5 to 6 feet.

261 S. glutinòsum (Dun. syn. p. 35. sol. ed. 2d. ined. t. 54.) stem shrubby, erect, sparingly prickly; leaves oblong-lanceolate, cordate at the base, acute, tomentose, clammy and soft on both surfaces; racemes cymose, lateral, clammy. ♄. S. Na-

tive country unknown. Prickles straight, acerose; hairs stellate and glandular at apex; the leaves, peduncles, and calyxes clothed with similar hairs; the upper parts of the branches clammy. Leaves undulated, quite entire, or sinuated, yellowish on both surfaces, prickly on the midrib beneath. The hairs on the petioles, peduncles, nerves of leaves, and calyxes, are clammy, and of a rusty-yellow colour. Flowers pentamerous. Calycine segments oblong, acute. Corolla blue, with the star in the centre villous; lobes mucronate. Berry globose, size of a cherry, 4-celled, yellow.

Clammy Nightshade. Fl. June, July. Clt. 1810. Shrub 3 to 5 feet.

262 S. formòsum (Dun. syn. p. 35. sol. ed. 2d. ined. t. 127. H. B. et Kunth, nov. gen. amer. 3. p. 44.) stem shrubby, very prickly, hairy; leaves rather cordate, ovate-lanceolate, acuminated, clothed with woolly tomentum, almost unarmed; racemes lateral, many-flowered, very hairy. ♄. S. Native on the banks of the Orinoco, in woods near Maypures. Branches very hairy. Prickles straight, acerose. Hairs rufescent, stellate and simple, intermixed. Leaves sinuately-repand, undulated, unarmed, of a pale rufescent colour beneath, and greenish-yellow above. Calyx 5-parted, clothed with pale rusty hairs. Corolla large, plicate, 5-angled, violaceous, with a star in the centre, which is woolly outside. Stigma capitate.

Showy Nightshade. Shrub.

263 S. Brównii (Dun. sol. p. 201. syn. p. 35.) stem shrubby; prickles straight, subacerose; leaves entire or repand, long-lanceolate, almost unarmed, rather scabrous above, but clothed with grey tomentum beneath; corymbs lateral, subumbellate, on short peduncles, simple; corolla 3 times as long as the calyx. ♄. G. Native of New South Wales, within the tropic. S. violàceum, R. Br. prod. p. 446. Leaves often twin. Calyx of a greyish-purple colour, with long subulate segments. Corolla violaceous.

Brown's Nightshade. Fl. June, Aug. Clt. 1820. Shrub 2 to 4 feet.

264 S. e'legans (Dun. syn. p. 35. sol. ed. 2d. ined. t. 58.) stem tomentose, prickly; leaves oblong, acuminated, tomentose on both surfaces, prickly, sinuately repand, whitish-yellow beneath; racemes simple, tomentose, prickly. ♄. G. Native of New Holland. This species differs from *S. Brównii* in the stem, leaves, racemes, and calyxes, being prickly. Prickly, small, acute, straight, yellow at the base, and brown at top, tomentose, like the rest of the plant. Leaves often twin, prickly on the middle nerve beneath. Calyx 5-parted; with subulate segments, greyish-brown, afterwards bluish. Corolla violaceous. Style incurved.

Elegant Nightshade. Shrub.

Subsect. III. Tórvum (from *torvus*, grim or stern; in allusion to the shrubs bearing prickles.) *Prickly shrubs. Leaves entire, sinuated, or lobed. Flowers corymbose, or panicled. Anthers equal.*

265 S. gigante'um (Jacq. coll. 4. p. 125. icon. rar. 2. t. 328.) stem shrubby; prickles tomentose at the base; leaves elliptic-lanceolate, acute, unarmed, entire, glabrous above, but clothed with hoary tomentum beneath; racemes dichotomous, cymose, lateral, many-flowered, clothed with white tomentum. ♄. G. Native of the Cape of Good Hope. Dun. sol. p. 202. syn. p. 36. Sims, bot. mag. 1921. S. níveum, Vahl, symb. 2. p. 41. Thunb. prod. p. 36. S. papilionàceum, Dumont de Courset. bot. cult. suppl. p. 153.? S. farinòsum, Wall. in Roxb. fl. ind. 2. p. 255. S. argénteum, Heyne, herb. The whole plant is clothed with mealy tomentum, except the upper surfaces of the leaves. In the axils of the leaves, which are large, rise other small ones. Pedicels pendulous when bearing the flowers. Calyx small, at first 5-toothed, but afterwards 5-cleft. Corolla purplish-violet, small, deeply 5-cleft. Berry roundish, red, shining, size of a pea.

Var. β? stem unarmed? leaves thinner, and on longer petioles; tomentum finer, and more hoary; calyx deeply divided. ♄. S. Native of Dindygul, in the East Indies. Nees, in Lin. trans. 17. p. 47. S. farinòsum, Wall. cat. no. 2610. b.

Var. γ? leaves nearly a foot long, and 4 inches broad, form of those of the var. β, as well as the tomentum. ♄. G. Native of the Neelgherry mountains. Nees, l. c. S. farinòsum, Wall. cat. no. 2510. c.

Giant Nightshade. Fl. June, July. Clt. 1792. Tree 10 to 15 feet.

266 S. tórvum (Swartz, prod. p. 47. fl. ind. occ. 1. p. 456.) stem shrubby; prickles recurved, tomentose at the base; leaves twin, subcordate, ovate, sinuated and lobed, or angular, tomentose, having the midrib prickly; peduncles extra-foliaceous, corymbose, many-flowered, and are, as well as the calyxes, unarmed; segments ovate, acuminated. ♄. S. Native of Jamaica; Hispaniola; Cuba; Bermudas; and in many parts of the East Indies, in hedges. In Cuba it is called *Pendejera*. Dun. sol. p. 203. t. 23. syn. p. 36. exclusive of the syn. of Jacq. S. I'ndicum, Lin. spec. ed. 1st. p. 187. S. stramonifòlium, Ait. hort. kew. 1. p. 252.? Lam. ill. no. 2365. exclusive of the syn. of Jacq. Poir. dict. 4. p. 300. exclusive of the syn. of Jacq. S. ficifòlium, Ort. dec. 9. p. 116. S. acanthifòlium, Desf. hort. par. ex Lam. S. scàbrum, Ruiz. et Pav. fl. per. 2. p. 39. t. 175. f. a. S. pseùdosaponàceum, Blum. bijdr. p. 702.—Plukn. alm. p. 350. t. 225. f. 6.? Stem tomentose, branched, armed with a few prickles. Tomentum or down stellate, pale yellow or rusty. Leaves often twin. Prickles tomentose at the base. Racemes lateral, bifid or trifid, many-flowered; pedicels cymose. Calyx 5-cleft. Corolla white, 5-cleft, marked with a yellow, shining star in the centre; segments lanceolate, acute, with undulated edges. Anthers yellow. Style in the sterile flowers length of filaments; in the fertile flowers longer than the anthers. Berry globose, green, 4-celled, size of a chick-pea. This species is nearly allied to *S. I'ndicum*; but differs from it in the leaves being hardly prickly; in the racemes being multifid; and in the peduncles, pedicels, and calyxes, being unarmed.

Var. β; unarmed; leaves repand. ♄. S. Native of the East Indies. Nees in Lin. trans. 17. p. 54. S. Silànum, Ham. herb. ex Wall. cat. no. 2627. D. S. multiflòrum, Roth, nov. spec. p. 130.

Grim Nightshade. Fl. June, July. Clt. 1816. Shrub 6 feet.

267 S. ferrugíneum (Jacq. hort. schœnbr. 3. p. 46. t. 334.) stem shrubby; prickles glabrous; leaves ovate, lobed or sinuated, prickly on the midrib and petioles beneath, acute, tomentose; racemes corymbose. ♄. S. Native country unknown. Willd. enum. 1. p. 239. Dun. syn. p. 36. sol. ed. 2d. ined. Young leaves and branches clothed with rusty tomentum. Corolla pale blue or white. Nearly allied to *S. tórvum*, but differs in the racemes being shorter and fewer-flowered. Tomentum rusty, stellate. Prickles of the stem glabrous, rarely recurved. Said by Nees, Lin. trans. 17. p. 53. to be the same as *S. tórvum*.

Rusty Nightshade. Fl. July, Aug. Clt. 1816. Shrub 4 to 6 feet.

268 S. Hernande'sii (Moc. et Sesse, fl. mex. icon. ined. Dun. syn. p. 36. sol. ed. 2d. ined. t. 59.) stem shrubby, prickly, tomentose; leaves twin, deeply sinuated, acute, tomentose; racemes lateral; pedicels umbellate; berry 6-celled. ♄. G. Native of Mexico. Prickles few, recurved. Leaves ovate-oblong, subcordate. Petioles and peduncles prickly. Calyx villous,

with deep, acute segments. Corolla white, with ovate-oblong, bluntish segments. Berry globose.

Hernandez's Nightshade. Shrub.

269 S. TRICUSPIDA'TUM (Rich. herb. ex Dun. syn. p. 36. sol. ed. 2d. ined. t. 60.) stem shrubby, sometimes prickly; leaves sinuately angular at top, acute, scabrous above, and tomentose beneath, and rather prickly on the midrib beneath; cymes simple, tomentose. ♄. S. Native of Guiana. Poir. suppl. 3. p. 771. Branches tomentose, rusty at top. Leaves large, ovate-oblong, on long petioles, subcordate. Hairs and tomentum stellate. Calycine segments 5, acute. Corolla large, deeply 5-cleft. It differs from *S. tórvum* in the form of the leaves, and simple racemes.

Tricuspidate-leaved Nightshade. Shrub 4 to 6 feet.

270 S. Macca'i (Rich. herb. ex Dun. syn. p. 37. sol. ed. 2d. t. 61.) stem shrubby, hardly prickly; leaves subcordate at the base, sinuately lobed, canescent beneath: sinuses rounded; lobes sinuately angular; cymes simple. ♄. S. Native of Cayenne. Poir. suppl. 3. p. 771. Maccài, Merian, surin. t. 6. Branches white, powdery. Prickles straight. Leaves on long petioles, broad, furnished with a few prickles on the midrib beneath, beset with distant, stellate pili above. Peduncles, pedicels, calyxes, and under surfaces of leaves tomentose. Inflorescence and flowers similar to those of *S. tricuspidàtum*. Berry red, globose, edible.

Maccai Nightshade. Shrub 4 to 6 feet?

271 S. OVALIFÒLIUM (Dun. syn. p. 37. sol. ed. 2d. ined. t. 128.) stem shrubby, prickly; branches villously tomentose, unarmed; leaves obovate-elliptic, acute, rounded at the base, and almost unarmed, clothed with stellate tomentum beneath; racemes lateral, subdichotomous, short, and are, as well as the calyxes, unarmed. ♄. S. Native of New Granada, in the valley of the Magdalena, near Honda. Leaves repand, and somewhat undulated, furnished with 1 or 2 straight prickles on the midrib beneath, 3-4 inches long. Racemes, outside of calyxes and corollas clothed with white, stellate tomentum. Calyx 5-parted; segments obovate, acute. Segments of corolla oblong, linear, acute.

Oval-leaved Nightshade. Shrub.

272 S. HI'SPIDUM (Pers. ench. 1. p. 228. Dun. sol. p. 204. syn. p. 37.) stem shrubby, prickly, very hairy; leaves lobed, acuminated; racemes lateral, dichotomous, unarmed. ♄. S. Native of Peru, among rubbish at Pillao and Panao, where it is called *Campucasa* and *Huircacasa*. Plant beset with stellate, rusty hairs all over. Some of the superior leaves are ovate, and quite entire, acute, and a few are repand; the rest are cordate, 7-11-lobed: lobes acutish, a span long, very hairy. Racemes axillary and terminal, many-flowered. Calyx 5-cleft. Corolla white, clothed with rusty, stellate tomentum outside, somewhat 5-parted. Berry globose, yellowish.

Hispid Nightshade. Shrub 10 to 12 feet.

273 S. LANA'TUM (Dun. sol. p. 305. syn. p. 37.) stem prickly, arboreous; leaves oblong, solitary or twin; corymbs rameal, subdichotomous. ♄. S. Native of Peru, at Huassanassi. S. ásperum, Pers. ench. 1. p. 229. but not of Vahl. S. asperolanàtum, Ruiz. et Pav. fl. per. 2. p. 39. t. 174. f. b. Shrub clothed with rough, stellate, rusty wool. Leaves oblong-lanceolate, angular, shining. Calyx 5-cleft. Corolla white, woolly outside. Berry yellow, about the size of a filbert.

Woolly Nightshade. Shrub 5 to 6 feet.

274 S. PANICULA'TUM (Lin. spec. 267.) stem and petioles prickly; leaves sinuately angular, glabrous above; flowers panicled, terminal. ♄. S. Native of Brazil, and the West India Islands, where it is called *Croc de Chien* by the French. Aubl. guian. 1. p. 216. Dun. sol. p. 203. syn. p. 37. Stems and petioles clothed with white tomentum. Prickles few, straight, naked. Leaves tomentose, broad, cordate, unarmed, glabrous above. Panicles terminal, compound, tomentose, and are, as well as the calyxes, unarmed.

Panicled-flowered Nightshade. Shrub.

275 S. ACUTI'LOBUM (Dun. syn. p. 37. sol. ed. 2d. ined. t. 63.) branches almost unarmed, clothed with powdery tomentum; leaves on long petioles, cordate, sinuately angular, clothed with powdery tomentum on both surfaces; racemes cymose, almost terminal. ♄. S. Native of Para, in Brazil. Poir. suppl. 3. p. 772. Nearly allied to *S. paniculàtum;* but differs from it in the leaves being clothed with powdery tomentum. Branches almost unarmed; prickles few, small, and acute. Tomentum yellowish, stellate. Leaves greenish-yellow above, and whitish beneath. Racemes multifid, tomentose, as well as the calyxes. Corollas large.

Acute-lobed-leaved Nightshade. Shrub.

276 S. A'LBIDUM (Dun. sol. p. 206. syn. p. 37.) stem arboreous, prickly; leaves sinuated: lower ones lobed, hoary beneath; racemes axillary, many-flowered, subcorymbose. ♄. S. Native of Peru, among broken rocks on the edges of torrents; at Huanuco, Acomayo, Chulquillo, and Camuha, where it is called by the inhabitants *Yurahuacta* and *Yurahusa*. S. incànum, Ruiz. et Pav. fl. per. 2. p. 40. t. 175. f. b. but not of Lin. spec. ed. 1st. Young leaves 7-9-lobed: adult ones sinuated, glabrous above. Racemes tomentose. Calyx small. Corolla white. Berry globose, small, yellow, sometimes black.

Whitish Nightshade. Shrub 20 feet.

277 S. SAPONA'CEUM (Dun. sol. p. 206. syn. p. 37.) stem shrubby, prickly; leaves sinuately angular, scabrous; corymbs lateral, dichotomous; flowers secund. ♄. G. Native of Peru and Chili, in waste places. S. scàbrum, Ruiz. et Pav. fl. per. 2. p. 39. t. 175. f. a. but not of Vahl. In Peru the plant is called *Casiamuru*. Prickles few, remote, straight, fulvescent. Leaves solitary, but sometimes twin, beset with small stellate hairs on both surfaces. Calyx deeply 5-cleft. Corolla bluish-violet, with acute segments. Berry orange-yellow, size of a chick pea. Said by Nees in Lin. trans. 17. p. 54. to be the same as *S. tórvum*, Swartz. The *S. saponàceum*, Hook. bot. mag. t. 2697. is *S. dealbàtum*, Lindl.

Soapy Nightshade. Fl. July. Clt. 1825. Shrub 4 to 6 feet.

278 S. PLATYPHY'LLUM (Dun. syn. p. 38. sol. ed. 2d. ined. t. 130.) suffruticose; branches prickly? leaves broad-oblong, sinuately lobed, rounded at the base, beset with stellate pili on both surfaces, prickly on the midrib beneath; flowers racemose; pedicels and calyxes unarmed, and are, as well as the corollas, clothed with fuscous tomentum. ♄. S. Native in woods on the banks of the Orinoco, between the confluence of the Meta and the Cataract of Maypures. S. undecimangulàre, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 669. Leaves purplish beneath, ex Bonpl., 7-8 inches long, and 5-6 broad. Flowers unilateral. Calyx 5-cleft; lobes acute. Corolla violaceous, white inside; segments ovate-lanceolate, acuminated. Perhaps only a var. of *S. saponàceum*.

Broad-leaved Nightshade. Shrub.

279 S. Vailla'ntii (Dun. syn. p. 38. sol. ed. 2d. ined. t. 64.) stem glabrous, prickly; prickles reversed; leaves ovate, acuminated, sinuately-lobed, pilose above, scabrous beneath; racemes bifid, cymose. ♄. S. Native country unknown. Poir. suppl. 3. p. 772. This species differs from *S. saponàceum* in the characters indicated above; and in the leaves being beset with simple hairs on the upper surface, instead of stellate ones; and in the flowers being fewer.

Vaillant's Nightshade. Shrub.

280 S. PROCU'MBENS (Lour. coch. ed. Willd. 1. p. 163.) stem shrubby, procumbent, prickly; prickles recurved; leaves small, twin, on short petioles, ovate, obtuse, repandly lobed, clothed with stellate tomentum on both surfaces, glaucous,

prickly on the midrib; peduncles lateral and terminal, few-flowered; flowers reflexed, quadrifid, tetrandrous. ♄. S. Native of Cochinchina, in fields and hedges. Dun. sol. p. 207. syn. p. 38. Nees, in Lin. trans. 17. p. 58. Habit of *S. trilobàtum*. Corolla small, pale violet, with lanceolate, obtuse segments. Berry red, size of a pea, smooth, globose.

Procumbent Nightshade. Shrub procumbent.

281 S. Lichtenste'inii (Willd. enum. 1. p. 239. Dun. sol. p. 207. syn. p. 38.) stem prickly, shrubby, scandent; leaves oblong-cordate, sinuately angular, tomentose, white beneath, prickly on the middle nerve on both surfaces. ♄. ◡. G. Native of the Cape of Good Hope. Fruit size and colour of those of *Cápsicum ánnuum*. Leaves in the young plants 4 inches long, green above. Perhaps belonging to a different section.

Lichtenstein's Nightshade. Shrub climbing.

Subsect. IV. Melongena (altered from the Arabic name of the Egg-plant, bydendjan, ex Forsk. p. 63.) Tourn. inst. p. 152. *Peduncles shorter than the leaves, sometimes solitary and 1-flowered, but usually bifid below; the lower pedicel rising from the stem, and bearing a fertile flower, drooping after florescence; the other part of the peduncle bearing many usually sterile flowers; in the fertile flower the calyx is prickly, and increasing after florescence; and the style is longer than the anthers; in the sterile flower the calyx is unarmed, or hardly at all prickly, and the style is as long as the filaments. Corollas quinquefid, undulately plicate. Berry 2-3-celled; placentas 2-3, convexo-concave, fixed to the axis on both sides of dissepiment of the intermediate longitudinal lamina. Leaves sinuated, angular, or lobed.*

282 S. Melonge'na (Lin. syst. 1. p. 188. Wall. cat. no. 2628. Nees, in Lin. trans. 17. p. 48.) herbaceous, woody at the base, perennial, clothed with stellate tomentum; leaves ovate, unequal at the base, angularly sinuated; flowering peduncles reflexed; fertile peduncle solitary: sterile one racemose; calyx campanulate, with linear-lanceolate segments; corolla angular. ⊙. S. Native of the East Indies, and Arabia? Leaves canescent from stellate tomentum, but most so beneath. Calyx 6-9-cleft. Corolla large, violaceous, 6-9-cleft, marked by a yellow star inside, tomentose outside; segments broad, acute. Stigma 4-5-cleft. Berry large, smooth, shining, shape of an egg, blunt and umbilicate at apex, white; cells vanished; placentas fleshy, white, as well as the seeds, which are small and compressed.

Var. α, ovígerum; stem, leaves, and calyxes unarmed, or almost so. ⊙. S. S. ovígerum, Dun. sol. 210. Blum. bijdr. p. 698. S. melongèna, Lin. syst. 1. p. 188. Murr. syst. 1. p. 183. Roxb. fl. ind. 2. p. 248. Lour. coch. 1. p. 161. S. pseudo-undàtum, Blum. bijdr. 699. S. pubéscens, Herb. madr. ex Wall. cat. S. melongèna, var. ovígera, Lam. ill. no. 2348. Pers. ench. 1. p. 221. Melongèna ovàta, Mill. dict. no. 1. Melongèna Blackw. t. 549. Lob. icon. 1. p. 2688. Chunda, Rheed. mal. 2. p. 69. t. 37.—Mor. hist. sect. 13. t. 2. Melongèna A'rabum, Chab. 524. with a figure. Mala insàna, Ger. hist. 345. with a figure, &c. Plante à œuf of the French; Mad-apple of the English. There are several sub-varieties of this, differing principally in the colour of the fruit. 1. Berries violaceous. Melongèna fructu oblongo violaceo, Tourn. inst. p. 151. 2. Berries white. Melongèna fructu oblongo albo, Tourn. l. c. 3. Berries yellow. Melongèna fructu oblongo luteo, Tourn. l. c. 4. Berries of a beautiful red colour. Melongèna fructu oblongo suavè rubènte, Tourn. l. c.

Var. β, esculéntum; stem, leaves, and calyxes, more or less prickly. ⊙. S. S. esculéntum, Dun. sol. p. 208. S. Melongèna, Lin. spec. p. 266. Lour. coch. 1. p. 161. Plenk. off. t. 123. S. insànum, Lin. mant. p. 46. Willd. spec. 1. p. 1047. Mœnch, meth. 474. Nila Barudena, Rheed. mal. 10. p. 147. t. 74. Plukn. alm. p. 550. t. 220. f. 3. Tróngum horténse, Rumph. amb. 5. t. 85. Fockii is the name in Java. Aubergène, Melongene, Mayenne, Verangeane of the French; Egg-plant of the English. There are several varieties of this, differing in the colour, and shape, and size of the fruit. 1. Berries white. Tróngum puti, Rumph. 2. Berry oblong-terete, violaceous. Melongena fructu oblongo violaceo, Sabb. hort. rom. p. 13. t. 65. exclusive of the syn. of Tourn. Melongèna fructu tereti violaceo, Tourn. inst. p. 152.? Melanzàna, Besl. hort. eyst. ord. 1. f. 1. fol. 3. Melongène, Lab. voy. en. espag. t. 5. p. 165. ex Berg. mat. med. 1. p. 142. Aubérgine, Regn. bot. icon. t. 56. Tróngum mèra, Rumph. 3. Berries oblong-terete, recurved at top, purple, yellow, or cinereous. Melongèna fructu incurvo, Tourn. inst. p. 152. Sol. pomíferum, fructu incurvo, Plukn. alm. p. 350. phyt. t. 226. f. 2. Bauh. hist. 3. p. 316. icone. Melantzana Arabum; Melongèna et Bedegian, Rauw. itin. ex C. Bauh. 167. 4. Berries black. S. pomíferum fructu spinoso nigro, Mor. hist. 3. p. 524. sect. 13. t. 2. f. 2. Bauh. hist. 3. p. 619. icon. Melongèna spinòsa, fructu longo nigro, Tourn. inst. p. 152.? Melongèna spinòsa, fructu rotundo nigro, Tourn. l. c.—Plukn. alm. 350. phyt. t. 226. f. 3. Melanzàna nìgra, Rauw. itin. ex C. Bauh. l. c. et Mor. hist. l. c. 5. Berries round. Melongèna fructu rotundo, Tourn. inst. l. c. The egg-plant, *Melongène* in French, *Tollapfel* in German, and *Malanzana* in Italian. The berries are large, oval, and generally white in colour, much resembling a hen's egg, and in large specimens that of a swan. In French and Italian cookery it is used in stews and soups, and for the general purposes of the Love-apple or Tomato. The following varieties are cultivated for culinary purposes. 1. The oval-shaped white. 2. The globular-shaped white, and the purple or violet-coloured of both forms. In cultivating the plants for use, they should be reared on a hot-bed in light rich earth. After they have grown two or three proper leaves, they may either be pricked out into another hot-bed, or planted in small pots, to be shifted in rotation till in size no. 16. in which they will produce their fruit. If the plants instead of being shifted into fruiting pots are planted against a wall, or in a warm border in June, they will fruit in the open air, if the season is not unusually wet and cold.

Melongene Egg-plant, Mad-apple, and Jews'-apple. Fl. June, July. Clt. 1597. Pl. 2 to 3 feet.

283 S. inca'num (Lin. spec. ed. 1. p. 188. Dun. sol. p. 213. but not of Ruiz. et Pav.) all as in *S. melongèna*, except that the fertile peduncles are racemosely corymbose, 3-4-flowered; stem, leaves, and calyxes prickly; fruit smaller, ovate or subglobose, and more inclosed in the calyx. ⊙. S. Native of the East Indies, everywhere; Mauritius, &c. S. incànum, Roxb. fl. ind. 2. p. 249. exclusive of the syn. of Rumph. S. undàtum, Lam. dict. 4. p. 301. Blum. bijdr. p. 700. S. Zeylánicum, Scop. del. 1. t. 1. S. I'ndicum, Wall. cat. no. 2626. S. incànum Zeylánicum, Pers. ench. 1. p. 226. ?—Boerh. lugdb. 2. p. 69. Plant clothed with canescent tomentum. Corolla bluish-violet. Berry roundish, yellow or white, egg-shaped.

Var. β; flowers 6-7-cleft. ⊙. S. Native of the Mauritius. S. argyracántha, Dum. Courset. bot. cult. ed. 2d. vol. 3. p. 162. S. marginàtum argyracántha, Pers. ench. 1. p. 228.

Hoary Egg-plant. Fl. July, Aug. Clt. 1820. Pl. 2 to 3 feet.

284 S. heteraca'nthum (Dun. syn. p. 39. sol. ed. 2d. ined. t. 65. Nees in Lin. trans. 17. p. 51.) herbaceous, woody at the base, perennial, clothed with stellate hairs; prickles of the

stem, which is angular, thick and hooked; leaves oval, sinuated, hoary beneath, furnished with strong straight prickles on both surfaces; segments of the leaves angular; peduncles corymbose, many-flowered, with one fertile flower at the base; calyx a little increased after florescence; corolla quinquefid: with oblong-lanceolate segments. ⊙. S. Native of the East Indies, and Africa.? This species differs from *S. Melongèna*, which it is very like, in the strong, recurved, more crowded prickles of the stem, and in the leaves being more deeply sinuated, having the lobes angular on both sides, and in the corolla being 5-cleft to the middle.

Variable-spined Egg-plant. Pl. 2 to 3 feet.

285 S. melanóxylum (Link, enum. 1. p. 188.) leaves cordate-oblong, rather unequal at the base, sinuated, prickly, tomentose, green above, and canescent beneath. ⊙. H. Native country unknown. Prickles fuscescent. Peduncles axillary, solitary. Calyx tomentose, prickly, with obtuse segments. Corolla violaceous, 6-parted. Anthers separate.

Black-wooded Egg-plant. Fl. June, July. Clt. 1821. Pl. 2 to 3 feet.

286 S. fusca'tum (Lin. spec. 268.) stem shrubby; leaves ovate-oblong, sinuately lobed, obtuse, rather tomentose; peduncles lateral, bifid at the base; berries globose. ♄. S. Native of tropical America. Dun. sol. p. 212. syn. p. 39. S. Campechiénse, β, fuscàtum, Lin. mant. 340. Branches prickly, fuscescent on the side towards the sun, beset with short, scattered, stellate hairs. Leaves prickly on both surfaces, rather roughish above, but tomentose beneath. Prickles recurved. Calyx prickly in the fertile flowers, but unarmed in the sterile flowers, 5-cleft. Corolla pale violet. Berry variegated with white and green, sometimes yellow.

Var. α, violàceum; prickles violaceous. Tourn. inst. p. 149.

Var. β, lùteum; prickles yellow, or greenish white. ⊙. S. fuscàtum, Jacq. coll. 1. p. 51. icon. rar. t. 42. Melongèna fructu rotundo, cum spinis ex albo virentibus, Tourn. inst. p. 152.?

Fuscous Egg-plant. Fl. June, July. Clt. 1817. Shrub 3 to 4 feet.

287 S. Sodo'meum (Lin. spec. 268.) stem shrubby, diffuse; prickles straight, dilated at the base; leaves oblong, sinuately-pinnatifid, shining above, and rather scabrous and prickly on both surfaces, as well as the calyxes; lobes of leaves obtuse, angular, or sinuated; peduncles bifid. ⊙.? ♄.? G. Native of the North of Africa, and South of Europe, from which it has been probably introduced to New Holland, Cape of Good Hope, and Brazil. Lam. ill. no. 2358. t. 115. f. 1. R. Br. prod. p. 446. Sibth. et Smith, fl. græc. t. 235. Thunb. prod. 1. p. 37. S. Hermánni, Dun. sol. p. 212. t. 2. β.—Munt. phyt. cur. f. 212. good.—Mor. hist. 3. sect. 13. t. 1. f. 15.—Herm. lugdb. p. 573. t. 575.—Pluk. alm. 351. phyt. t. 226. f. 5.—Sabb. hort. rom. 2. p. 12. t. 57. Solanástrum, Heist. Fabr. Helmst. p. 348, ex Willd.—Tourn. inst. 249. Stem and branches usually fuscous, or purplish; branches beset with minute stellate hairs at top. Leaves deep green. Prickles yellow, subulate, brown at the base. Calyx prickly in the fertile flowers, and unarmed in the sterile ones. Corolla purple, 5-cleft. Berry size of a walnut, globose, variegated with white and green, at length yellow.

Sodom Egg-plant, or Apple of Sodom. Fl. June, July. Clt. 1688. Shrub 3 to 4 feet.

288 S. I'ndicum (Lin. spec. 268.) shrubby, prickly; prickles of the stem compressed, recurved; leaves solitary, or twin, oblong, or ovate, tomentose, discoloured, sinuately lobed, or pinnatifid, unequal at the base; racemes interfoliaceous, subcymose; calyx prickly, with straight, linear, reflexed segments; berries globose; corolla quinquefid. ♄. S. Native of Barbadoes. Dun. sol. p. 228. syn. p. 40.—Dill. elth. 362. t. 270. f. 349.—Rob. t. 28. Tourn. inst. p. 149. exclusive of the syn. of Mor.—Plukn. alm. 350. phyt. t. 225. f. 9.—Rumph. amb. 5. p. 240. t. 86. f. 1.? Leaves prickly on both surfaces, green above, and paler beneath. Down stellate. Prickles straight; those of the stem shorter, and brown; and those of the leaves pale green. Peduncles lateral, simple, 5-6-flowered. Corolla large, bluish-purple, undulated, semi-5-cleft, somewhat pentagonal. Berry pear-shaped.? This species is said to differ from *S. Caroliniénse* in the leaves being more deeply sinuated, in the segments being sinuately-toothed, in the racemes being shorter, and in the calycine segments being reflexed, and in the corollas being larger.

Var. α; leaves cuneiform, or truncate at the base, sinuately lobed. ♄. S. Native of Silhet and Sirinagur, Penang, &c. S. I'ndicum, Lin. Roxb. fl. ind. 2. p. 252. ex Nees in Lin. trans. 17. p. 55. S. violàceum, Jacq. fragm. p. 82. t. 133. f. 1. Dun. sol. p. 128. S. canéscens, Blum. bijdr. p. 701. S. Sodòmeum, Russel, herb. Cheru-chunda, Rheed. mal. 2. t. 36.

Var. β; leaves truncate at the base, or cuneate, erosely pinnatifid. ♄. S. Native of Penang and Bengal. Nees, l. c. S. pinnatífidum, Roth, nov. spec. 129. S. Hèynei, Rœm. et Schultes, syst. 4. p. 669. S. I'ndicum, Wall. cat. no. 2626. D. E.

Var. γ; leaves smaller, cordate at the base, sinuately lobed. ♄. S. Native of the East Indies. Nees, l. c. S. agréste, Roth. nov. spec. 130. Rœm. et Schultes, syst. 4. p. 55. S. I'ndicum, Wall. cat. no. 2626. G. suppl. no. 240.

Var. δ; leaves smaller, truncate, or subcordate at the base, repandly angular; stem sparingly prickly; racemes usually 1-4-flowered. ♄. S. Native of the East Indies. Nees, l. c. S. pubéscens, Heyne, herb. Wall. cat. no. 2629. hort.

Indian Egg-plant. Fl. July. Clt. 1732. Shrub 3 to 4 feet.

289 S. coa'gulans (Forsk. fl. ægypt. arab. p. 47. Vahl. symb. 2. p. 41.) stem shrubby; leaves ovate-oblong, sinuately repand, rather tomentose, whitish beneath, prickly on the middle nerve beneath; prickles smoothish. ♄. G. Native of Arabia, Felix, where it is called *Beikaman*. Jacq. hort. schœnbr. 4. p. 35. t. 469. Delile, descr. p. 63. t. 23. f. 1. Dun. sol. p. 214. t. 2. Stem sparingly prickly, clothed with white tomentum at top. Leaves clothed with short stellate tomentum, greenish above: lobes obtuse. Prickles straight, or a little recurved, subulate at first, rather tomentose, but at length smoothish. Peduncles bifid, tomentose. Flowers as in *S. Sodòmeum*. Berry roundish, ovate, yellow at maturity.

Curdling Egg-plant. Fl. July. Clt. 1802. Shrub 3 to 4 feet.

290 S. Sa'nctum (Lin. spec. 269.) stem shrubby, tomentose; leaves ovate, repand, oblique at the base, clothed with hoary tomentum on both surfaces; prickles rather tomentose; berries nearly globose. ♄. S. Native of Palestine. Vahl, symb. 2. p. 49. Dun. sol. p. 215. syn. p. 40. S. incànum, Forsk. fl. ægypt. arab. p. 46, but not of Lin. S. coccíneum, Hort. par. Melongèna spinòsa, fructu rotundo croceo, Tourn. inst. p. 152. Pomum de Hiericho melongènis congener, Bauh. hist. 3. p. 619. with a bad figure. Pòma Hierachúntica, Imp. p. 878, with a bad figure. Every part of the plant is clothed with white, short, stellate tomentum, the prickles also. Leaves sinuately repand, obtuse, or acute, obliquely cordate at the base. Prickles compressed, broad at the base, subulate at apex, at length glabrous. Petioles prickly beneath. Racemes and flowers as in *S. coágulans*.

Holy Egg-plant. Fl. June, July. Clt. 1818. Shrub 3 feet.

291 S. du'bium (Fres. pl. ægypt. p. 166.) prickly, and

clothed with stellate tomentum; stem shrubby; leaves ovate-oblong, unequally cordate at the base, sinuately repand, prickly; prickles acicular, very straight; peduncles 3-5-flowered; calyx almost unarmed, clothed with stellate tomentum. ♄. G. Native of Egypt. Very nearly allied to *S. sánctum*, and *S. incànum*.

Doubtful Nightshade. Shrub.

292 S. Conge'nse (Link. enum. 1. p. 137.) stem tomentose, furnished with straight prickles; leaves ovate, sinuated, prickly, tomentose; peduncles lateral, very short, many-flowered; calyx tomentose, with oval, obtuse segments; corolla deeply 5-parted. ♄. S. Native of Africa, on the banks of the Congo, or Zaire river. Prickles broad at the base, those on the nerves of the leaves long, and straight. Corolla blue, downy outside. Anthers separated, equal.

Congo Egg-plant. Fl. June, July. Clt. 1821. Shrub 2 to 3 feet.

293 S. Ve'lleum (Swartz. in litt. ex Rœm. et Schultes, syst. 4. p. 643.) stem shrubby, prickly; leaves ovate, acute, quite entire, unarmed on both surfaces, clothed with woolly tomentum, reticulated beneath; racemes dichotomous, flexuous. ♄. S. Native of tropical America. Prickles straight, scattered. Branchlets tomentose. Leaves opposite, one smaller than the other, rusty, 2-3 inches long. Racemes terminal from the divisions of the branches, very long, tomentose, many-flowered. Flowers crowded, nearly sessile. Calyx tomentose. Corolla blue, tomentose outside, with obtuse segments. Stigma obtuse.

Woolly Egg-plant. Shrub.

294 S. margina'tum (Lin. suppl. p. 147. Murr. comm. gœtt. 1783. p. 11. t. 4. Jacq. coll. 1. p. 50. icon. rar. 1. t. 45.) stem shrubby; leaves subcordate, sinuately lobed, clothed with hoary powdery tomentum beneath, margined with white above; berry 3-celled, globose. ♄. G. Native of Palestine. Dun. sol. p. 215. t. 3. A. syn. p. 40. Sims. bot. mag. 1928. S. níveum, Allioni, auct. misc. and S. Abyssínicum, Jacq. hort. vind. ex Vittm. summ. p. 492. Stem prickly, tomentose at top, as well as the branches; tomentum powdery. Leaves sinuately repand, obtuse, prickly on both sides, when young white on both surfaces, but green above in the adult state. Prickles straight, subulate, yellow, fuscous at the base. Petioles, peduncles, pedicels, outsides of calyxes, and corollas clothed with white tomentum. Calyx 5-6-cleft. Corolla 5-6-cleft, large, white, marked by a purple star in the centre. Berry large, 3-celled, globose, yellow, drooping, ex Poir.

White-edged-leaved Egg-plant. Fl. June, Sept. Clt. 1775. Shrub 3 to 4 feet.

295 S. Campechie'nse (Lin. spec. 267.) stem herbaceous, very prickly, hairy; leaves cordate-oblong, lobed: lobes toothed; calyxes of the fertile flowers very prickly; berries cherry shaped. ⊙. H. Native of the Bay of Campeachy, Willd. spec. 1. p. 1059, exclusive of the syn. Lin. mant. Dun. sol. p. 216. S. acanthifòlium, Mill. dict. no 14.—Dill. elth. p. 316. t. 268. f. 347. Stem brown on the side next the sun, hairy like the leaves; hairs all stellate. Leaves prickly beneath, somewhat 5-lobed, green above, and greenish white beneath. Prickles straight, whitish, yellowish, or brown. Peduncles, pedicels, and fertile calyxes hairy, and very prickly. Corolla hairy outside, pale violet, 5-cleft. Berry form and size of a cherry, whitish when ripe.

Campeachy Egg-plant. Fl. July. Clt. 1732. Pl. 1 to 2 feet.

296 S. tróngum (Poir. dict. 4. p. 308. Dun. sol. p. 217. syn. 40.) stem suffruticose, prickly; leaves angularly sinuated, prickly on both surfaces; flowers solitary, extra-foliaceous; berries globose. ⊙.? S. Native of the Moluccas. Trongum agréste spinòsum, Rumph. amb. 5. p. 240. t. 86. f. 1. Root hard, long. Prickles recurved. Leaves obscure green. Calyx prickly. Corolla purple. Berry globose, size of a cherry. Perhaps only a var. of *S. Melongèna*, ex Nees.

Trongum Egg-plant. Fl. June, July. Clt. 1818. Shrub ½ to 1 foot.

297 S. pre'ssum (Dun. sol. p. 217. syn. p. 41.) stem almost unarmed; leaves ovate, attenuated at both ends, prickly; berries glabrous, nearly globose, flat on the top. ⊙.? S. Native of the Moluccas. Tróngum prá rùbrum, Rumph. amb. 5. cap. 48. p. 241. t. 86. f. 2. Stem usually dwarf; branches sparingly prickly. Leaves twin, acute, obscure, green, with brown nerves. Prickles short. Calyx prickly. Corolla white, or pale red. Berries size of a pigeon's egg, green, marked with white spots. Perhaps a var. of *S. Melongèna*, ex Nees.

Pressed-fruited Egg-plant. Pl.

298 S. a'lbum (Lour. coch. 1. p. 129.) stem suffruticose, almost unarmed; branches prostrate; leaves oblong, angular, sparingly prickly; peduncles many-flowered; berries globose. ♄. G. Native of Cochinchina, where it is called *Ca-Co* by the natives; and of Amboyna. Dun. sol. p. 217. syn. p. 41.—Rumph. amb. 5. p. 241. cap. 48. Root extended, with the smell of a turnip. Leaves 9-10 inches long, on long petioles, powdery, like the branches, petioles, and fruit; the powder yellow. Prickles small, short. Peduncles many-flowered, 6-7. Calyx bearded. Corolla white. Anthers yellow. Berry globose, green, marked with white spots. Perhaps a var. of *S. Melongèna*, ex Nees.

White-flowered Egg-plant. Pl. 3 to 4 feet.

Subsect. V. Acanthóphora (from *ακανθος*, *acanthos*, a spine; and *φορεω*, *phoreo*, to bear; the species contained in this section bear spines.) Dun. sol. p. 218. *Stem prickly. Leaves sinuately angular, toothed or pinnatifid, almost glabrous, or villous from simple, silky hairs, or tomentose from stellate hairs. Racemes short, few-flowered. Corollas 5-parted.*

§ 1. *Berries glabrous. Leaves smooth, or villous from usually simple silky hairs.*

299 S. acerifòlium (Dun. syn. p. 41. sol. ed. 2d. ined. t. 131. H. B. et Kunth, nov. gen. amer. 3. p. 46.) suffruticose; branches and both sides of leaves prickly, and hispid from pili; leaves hastately 3-lobed, cordate, on long petioles; peduncles few-flowered; calyx unarmed. ♄. S. Native of New Andalusia, at the monastery of Caripe. Prickles subulate, straight, elongated, yellow. Leaves about 4 inches long; lobes acuminated: lateral ones diverging, obsoletely angled outside at the base: middle one large. Peduncles prickly. Corolla violaceous. Calyx 5-lobed.

Maple-leaved Nightshade. Shrub 8 feet.

300 S. myriaca'nthum (Dun. sol. p. 218. t. 19. syn. p. 41.) stem very prickly, hairy; prickles soft, acicular; leaves cordate, sinuately angular, acute, very villous and prickly on both surfaces. ♄. S. Native country unknown. Hairs cinereous. Prickles straight. Peduncles slender, 2-3-flowered, nearly opposite the leaves, almost unarmed. Calycine segments oblong-subulate, villous outside, with ciliated margins. Corolla pilose outside, with linear-lanceolate, acute segments. This species differs from *S. aculeatíssimum*, in the leaves being very villous and sinuately angular, not lobed, and in the prickles being smaller and more slender.

Many-spined Nightshade. Fl. July, Aug. Clt. 1822. Shrub.

301 S. aculeati'ssimum (Jacq. coll. 1. p. 100. icon. rar. t. 41.) stem shrubby, very prickly; leaves subcordate, lobed, villous and prickly on both surfaces; lobes acute, toothed. ♄.

S. Native of tropical America, and Ceylon. Dun. sol. 219. syn. p. 41.—Lin. fl. zeyl. p. 38. exclusive of the syn. of Dill. and Plukn.—Ray. 3. p. 353. Prickles subulate, unequal, mixed with villi. Peduncles almost unarmed, very short, few-flowered. Flowers usually abortive. Corolla white, with acute segments. Berry globose, size of a small cherry, at first spotted with green and white, but at length pale yellow.

Very prickly Nightshade. Fl. April, July. Clt. 1816. Shrub 2 to 4 feet.

302 S. platanifòlium (Hook. in bot. mag. t. 2618.) stem hairy, sparingly prickly; prickles straight; leaves 5-lobed: lobes deeply toothed, acute; peduncles lateral, aggregate, generally 1-flowered, drooping; berry variegated. ♄. S. Native of South America. Corolla deeply 5-cleft, revolute, pale violet, with hairy margins. Stem hairy. Leaves downy. Berry large, almost globular, beautifully variegated with green and white. The plant is said to have considerable affinity with *S. Campechiénse* and *S. aculeatíssimum*, but differs from both in being less prickly.

Plane-leaved Nightshade. Fl. July. Clt. 1823. Shrub 2 to 4 feet.

303 S. incarcera`tum (Ruiz. et Pav. fl. per. 2. p. 40. t. 176. f. a.) stem prickly, villous, suffruticose; leaves usually twin, cordate, sinuately-angular, acuminated, prickly; flowers secund; berry clasped by the segments of the calyx. ♄. S. Native of Peru, in groves at Chincao. Dun. sol. p. 219. syn. p. 41. Prickles unequal, broad at the base, and subulate at the apex, and others filiform, minute. Leaves unequal in size, clothed with white hairs. Peduncles villous, nearly unarmed; pedicels cymosely umbellate. Calyx villous, with linear, reflexed segments. Corolla pale violet. Berry white, oblong, size of a cherry.

Incarcerated-fruited Nightshade. Shrub 3 to 4 feet.

304 S. mammòsum (Lin. spec. p. 267. Aubl. guian. 1. p. 216.) herbaceous; stem villous, sparingly prickly; leaves subcordate, lobed, villous, prickly on both surfaces; berry large, teated at the base. ⊙. S. Native of Virginia, Guiana, and the West India Islands, Cape of Good Hope, ex Thunb. prod. 1. p. 36. fl. cap. 2. p. 58. Dun. sol. p. 220. syn. p. 41. Pursh. fl. amer. sept. 1. p. 156. S. villosíssimum, Zuccag. cent. 1. no. 48. Pòmum Sodòmæ Merian, sur. 27. t. 27, ex Sloane. S. Americanum molle, foliorum nervis et aculeis flavescentibus, fructu mammoso, Tourn. inst. p. 149.—Sloan, hist. p. 38. t. 12. f. 1.—Plum. mss. t. 4. f. 37.—Plukn. alm. p. 350. phyt. t. 226. f. 1. The plant is called by the French *Pomme à chauve-souris*, *Pomme teton*, and *Poire de Bachelier*. Prickles compressed, yellow, broad at the base, subulate at the apex, straight, or incurved. Leaves large, the breadth almost equal to the length; lobes acute, sinuately-toothed. Peduncles unarmed, 3-4-flowered, short. Calyx very villous. Corolla violaceous, or blue, with almost linear segments. Anthers corniculate. Berry large, yellow, teated, or mammose round the base, conical.

Teated-fruited Nightshade. Fl. June, Aug. Clt. 1699. Pl. 2 to 4 feet.

305 S. acicula`re (Swartz. in litt. ex Rœm. et Schultes, syst. 4. p. 647.) stem prickly, shrubby; prickles subulately acerose; leaves roundish-cordate, repandly acute-angled, prickly on both surfaces, clothed with stellate hairs above, and tomentum beneath; peduncles axillary, terminal, very long, many-flowered. ♄. S. Native of Brazil. Prickles straight. Peduncles solitary, length of leaves, pilose, bifid at apex. Flowers large, blue. Calyx beset with bristly hairs.

Acicular-spined Nightshade. Shrub.

306 S. cilia`tum (Lam. ill. no. 2360.) stem herbaceous; leaves subcordate, sinuately lobed, ciliated: lobes obtuse; peduncles short, few-flowered; corollas 5-parted; berries globose, almost dry. ⊙. H. Native country unknown. Dun. sol. p. 221. t. 18. syn. p. 41. S. ciliàre, Willd. enum. 1. p. 237. S. capsicoìdes, Hort. par. ex Lam. This species differs from *S. Campechiénse* in the leaves not being toothed, in the hairs being simple, in the stem being prickly, not hispid. Corymbs 2-3, rarely 5-flowered. Flowers white, nutant. Berry smaller than a walnut, globose, brick coloured. It is distinguished from *S. Sodòmeum* in the racemes being small, and always 2-3-flowered.

Ciliated-leaved Nightshade. Fl. June, July. Clt. 1820. Pl. 1½ to 2 feet.

307 S. lí'vidum (Willd. herb. ex Link, enum. 1. p. 188.) leaves subcordate, sinuately-pinnatifid, rather tomentose above, but green: tomentose, and canescent beneath; prickles dilated at the base. ♄. S. Native country unknown. Branches and petioles tomentose. Leaves equal, or unequal at the base, furnished with prickles on the nerves. Peduncles 4-5-flowered, tomentose. Calyx tomentose, and furnished with long prickles. Corolla white.

Livid Nightshade. Fl. June, July. Clt. 1819. Shrub.

308 S. barbise`tum (Nees, in Lin. trans. 17. p. 51.) fasciculately hairy; stem herbaceous, prickly; prickles straight; leaves twin, elliptic, sinuated, rather hairy on both surfaces, and prickly, having the segments angular; racemes lateral, simple, many-flowered, secund, prickly; berry glabrous, covered by a bristly calyx. ⊙.? H. Native of Silhet; on the banks of the river Atran, in Martaban, and Tavoy. S. Melongèna, Wall. cat. no. 2628. e. part. Habit of *S. aculeatíssimum*, but is easily distinguished from that species in the racemose inflorescence, and in the berry being covered by the calyx.

Bristly-bearded Nightshade. Pl.?

§ 2. *Leaves villous, or tomentose from usually stellate hairs. Berries hairy.*

309 S. stramonifòlium (Jacq. misc. 2. p. 298. icon. rar. 1. t. 44.) stem shrubby, prickly; leaves cordate, sinuated, or acutely lobed, villous, and prickly on both surfaces; peduncles and calyxes unarmed. ♄. S. Native of the East Indies. Dun. sol. p. 222. syn. p. 42. Willd. spec. 1. p. 1044. exclusive of the syn. of Ait. but not of Lam. nor Poir. S. mammòsum, Lour. coch. 1. p. 162. exclusive of the syn. of Burm. Leaves a foot long, on long petioles, soft, beset with large, straight, and recurved prickles. Pedicels cymose. Calycine segments small, roundish. Corolla white, or purplish, with lanceolate segments. Stigma subcapitate.

Stramonium-leaved Nightshade. Fl. June, Sept. Clt. 1778. Shrub 6 feet.

310 S. flave'scens (Dun. syn. p. 42. sol. ed. 2d. ined. t. 67. f. 2.) stem shrubby, prickly, canescent; leaves cordate, sinuated, obtuse, prickly, and tomentose on both surfaces, yellowish beneath; peduncles, calyxes, and bracteas very hairy. ♄. S. Native of Trinidad. S. fèrox, β, flavéscens, Nees in Lin. trans. 17. p. 52. Stem very prickly. Prickles on the leaves long and strong, and the pili stellate; but the pili on the pedicels, calyxes, and berries are simple. Berry yellowish-brown. Segments of the calyx ovate, acute. Nearly allied to *S. lasiocárpum*, but differs in the leaves being sinuated, and in the recesses and lobes being very blunt.

Yellowish-fruited Nightshade. Fl. June, July. Clt. 1826. Shrub 4 to 6 feet.

311 S. fe`rox (Lin. spec. 267. Nees in Lin. trans. 17. p. 52.) stem perennial, prickly, herbaceous, woody at the base, clothed with woolly tomentum; leaves cordate, sinuately-angular, clothed with woolly tomentum, and prickly; peduncles intrafoliaceous, and are, as well as the pedicels, short; berry hairy, covered by the hairy calyx. ♃. S. Native of the East

Indies. Dun. sol. 223. ed. 2d. ined. t. 68. syn. p. 42. S. involucràtum, Blum. bijdr. p. 701. S. lasiocárpum, Dun. sol. p. 222. syn. p. 42. Blum. bijdr. p. 701. Wall. in Roxb. fl. ind. 2. p. 255. S. hirsùtum, Roxb. fl. ind. 2. p. 253. S. mammòsum, Lour. coch. 1. p. 131.—Burm. zeyl. p. 218.—Mor. hist. 3. p. 525. no. 12. sect. 13. t. 2. f. 12. Anachundri, Rheed. mal. 2. p. 65. t. 35. There are varieties of this plant having the calyxes and peduncles more or less prickly; prickles small, subulate, sometimes lying under the hairs. Stature of *S. Melongèna*. Leaves large, villous above, but tomentose beneath, as well as the racemes and calyxes, which are also prickly. Peduncles axillary, simple, short. Corolla white. Berry yellow when ripe.

Fierce Nightshade. Fl. Aug. Sept. Clt. 1795. Pl. 2 to 3 feet.

312 S. Orinoce'nse (Dun. sol. p. 42. sol. ed. 2d. ined. t. 132. H. B. et Kunth, nov. gen. p. 46.) stem herbaceous, very prickly; leaves cordate, sinuately angular, tomentose and prickly on both surfaces; calyx unarmed; berries hispid, almost covered by the calyx. ♃.? S. Native on the banks of the rivers Orinoco and Atabapo, very frequent. Stem and leaves clothed with pale yellow, stellate tomentum. Prickles long, subulate, rather compressed, straight, brown, and rather woolly at the base, and rusty, or yellow at top. Racemes lateral. This species differs from *S. fèrox*, in the stem being very prickly, in the leaves being tomentose on both surfaces, and in the racemes being unarmed.

Orinoco Nightshade. Pl. 2 to 3 feet.

313 S. Wi'ghtii (Nees in Lin. trans. 17. p. 51.) clothed with fascicled or stellate hairs; stem suffruticose, terete, armed with acicular prickles; leaves solitary, subcordately-ovate, or elliptic, sinuated, acute, rather prickly; fascicles few-flowered; peduncles elongated in the fruit-bearing state; berry glabrous, globose, covered by the unarmed, hairy calyx. ♄. S. Native of the East Indies.? This species differs from *S. barbisètum*, and *S. fèrox*, in the fruit-bearing pedicels and calycine segments being more elongated.

Wight's Nightshade. Shrub 2 to 3 feet.

† *Acanthóphoris affìnia?*

314 S. campanula'tum (R. Br. prod. p. 446. Dun. sol. p. 223.) stem herbaceous; prickles crowded, straight, subulate; leaves ovate, angularly-lobed, hairy, very prickly on both surfaces, as well as the calyxes; racemes simple, armed; corollas campanulate. ⊙. H. Native of New South Wales, about Port Jackson.

Campanulate-flowered Nightshade. Fl. June, Sept. Clt. 1819. Pl. 1 to 2 feet.

315 S. arma'tum (R. Br. prod. p. 446. Dun. sol. p. 224. ed. 2d. ined. t. 69.) stem herbaceous, diffuse; prickles much crowded, setaceously subulate; leaves oblong, sinuately pinnatifid, glabrous on both surfaces: lobes angular, or sinuated, prickly, as well as the calyxes; racemes 2-3-flowered; peduncles solitary. ⊙.? H. Native of New South Wales, about Port Jackson. Prickles orange-coloured. Leaves often twin. Down stellate. Berry globose.

Armed Nightshade. Fl. Aug. Sept. Clt. 1819. Pl. 2 feet.

316 S. punge'tium (R. Br. l. c.) stem herbaceous; prickles straight, acerose; leaves ovate-oblong, pinnatifid, or repandly sinuated, membranous, pilose on both surfaces, and the same colour, and are, as well as the calyxes, prickly; peduncles lateral, solitary, or twin, 1-flowered. ⊙. H. Native of New South Wales, about Port Jackson. Dun. sol. ed. 2d. ined. t 70. Corolla bluish violet. Down stellate.

Pungent Nightshade. Fl. Aug. Sept. Clt. 1823. Pl. 1 to 2 feet.

317 S. cine'reum (R. Br. l. c. Dun. sol. l. c.) stem herbaceous; prickles straight, subulately-setaceous; leaves oblong, pinnatifidly-sinuated, glabrous above, smooth, but clothed with cinereous tomentum beneath, and prickly on both surfaces, as well as on the calyx: peduncles 2-3-flowered. ⊙. H. Native of New South Wales, about Port Jackson.

Cinereous Nightshade. Fl. Aug. Sept. Clt. 1823. Pl. 1 to 2 feet.

318 S. latifòlium (Poir. dict. 4. p. 303. Dun. sol. p. 231. ed. 2d. ined. t. 66. syn. p. 43.) stem suffruticose, prickly; leaves petiolate, cuneated, ovate, very large, sinuately pinnatifid, pilose and prickly on both surfaces: lobes acute, and the recesses obtuse; racemes lateral, few-flowered. ♄. S. Native of tropical America. Nearly allied to *S. rígidum*, but less rigid, the stem taller, the leaves larger, and the flowers less terminal. Stem green, smooth; branches villous at top. Leaves green, soft. Prickles stiff, rather villous. Flowers both fertile and sterile. Calyx villous, sometimes prickly, usually unarmed in the sterile flowers. Corolla white; segments ovate, obtuse, hardly mucronate.

Broad-leaved Nightshade. Shrub.

319 S. crini'tum (Lam. ill. no. 2356. Poir. dict. 4. p. 297.) stem shrubby, prickly; leaves ovate, sinuately angular, tomentose, prickly on the midrib; petioles, peduncles, and calyxes beset with capillary prickles; berries villous. ♄. S. Native of Cayenne. Dun. sol. p. 224. ed. 2d. ined. t. 71. syn. p. 43. Stem very villous, and very prickly, some of the prickles are strong, and others are more numerous and capillary, usually ending in a 5-6-rayed star. Leaves large, cream-coloured, whitish beneath, and furnished with strong prickles, but almost unarmed above. Flowers disposed almost in a spicate panicle. Calyx inclosing the fruit. Corolla large, white, villous beneath, divided even to the middle into ovate, obtuse segments. Berry ovate.

Long-haired Nightshade. Shrub.

320 S. macra'nthum (Dun. syn. p. 43. sol. ed. 2d. ined. t. 72.) stem prickly, woolly; leaves large, subcordate, acuminated, angularly-lobed, woolly on both surfaces, prickly beneath; racemes cymose, woolly. ♄. S. Native of Brazil. Down or wool stellate, greyish brown. Prickles yellowish brown, straight. Leaves sometimes twin, greyish green above, rufescent beneath, with red nerves. Racemes simple, or bifid, unarmed, or furnished with a few prickles. Corolla large, with a large star in the centre, which is silky outside.

Large-flowered Nightshade. Shrub.

321 S. sessiliflòrum (Dun. syn. p. 43. sol. ed. 2d. ined. t. 73.) branches tomentose, almost unarmed; leaves subcordate, large, sinuately angular, clothed with silky tomentum on both surfaces; flowers sessile. ♄. S. Native of Para, in Brazil. Poir. suppl. 3. p. 775. Tomentum rusty. Leaves ciliated, when young rusty. Flowers 3-4 together. Calyx tomentose outside. Corolla tomentose outside. Berries eaten in Para, where they are called *Cubios*.

Sessile-flowered Nightshade. Shrub.

Subsect. VI. Lathyroca'rpum (from λαθυρος, *lathyros*, chick-pea; and καρπος, *karpos*, a fruit; in reference to the size and shape of the berries.) *Stem prickly. Leaves sinuated, or lobed. Racemes simple, or almost so. Corollas quinquefid. Berries small, globose.*

322 S. Mille'ri (Jacq. coll. 4. p. 209. icon. rar. 2. t. 330.) stem suffruticose, prickly; leaves nearly glabrous, lobed, bluntish, prickly; peduncles generally twin. ♄. G. Native of the Cape of Good Hope, ex Jacquin; on the higher mountains of Caramania, ex Ortega. Dun. sol. 225. syn. p. 43. Lam. ill. no. 2376. Poir. dict. 4. p. 304. exclusive of the

synonymes. S. trilobàtum, Lin. spec. ed. 1st. p. 188. S. trilobàtum, floribus parvis albis, Lin. spec. 270. S. subbiflòrum, Orteg. dec. 9. p. 118. S. Schiru Schuna, Mill. dict. no. 32. This species differs from *S. trilobàtum* in the leaves being pinnatifidly 5-lobed; in the flowers being much smaller, and white. Stem shining, glabrous. Cauline prickles a little recurved. Peduncles 1-flowered, solitary, twin, or tern. Lobes of leaves repand, obtuse. Berry roundish, glabrous, reddish-yellow, drooping, size of a pea, ex Jacq.; but the plant of Miller is annual, and the berries are red, and size of a pea.

Miller's Nightshade. Fl. July, Aug. Clt. 1762. Shrub 2 to 3 feet.

323 S. TRILOBA'TUM (Lin. spec. 270.) stem frutescent, scandent, prickly; prickles hooked; leaves panduriformly 3-lobed, or 3-lobed, obtuse, glabrous, and are, as well as the petioles and peduncles, prickly; racemes subumbellate, terminal and lateral; corollas deeply 5-cleft. ♄. ب. S. Native of the East Indies; as of Coromandel, Java, &c.; and of Jamaica, ex Plukn. Dun. sol. p. 225. Burm. ind. p. 57. t. 22. f. 2. Roxb. fl. ind. 2. p. 253. Nees, in Lin. trans. 17. p. 59. S. acetosæfòlium, Lam. ill. no. 2341. Poir. dict. 4. p. 306. Dun. sol. p. 226. S. fúscum, Heyn. herb. ex Wall. cat. no. 2622. B.—Plukn. alm. p. 351. phyt. t. 316. f. 5. Corollas large, white. Berries small, globose, red, drooping.

Three-lobed-leaved Nightshade. Fl. Aug. Clt. 1759. Shrub climbing.

324 S. SARMENTÒSUM (Nees, in Lin. trans. 17. p. 58.) herbaceous; stem procumbent, sarmentose, prickly; leaves geminately sub-opposite, oblong, repandly sublobed, rather prickly, clothed with stellate hairs; peduncles extra-foliaceous, usually 1-flowered, prickly, as well as the calyxes; calyx turbinate, 5-cleft, with subulate segments. ⊙.? S. Native of Penang. S. Melongèna, Wall. cat. no. 2628.? F. Leaves a little cut, and nearly opposite. It differs from *Melongèna* in the inflorescence and leaves.

Sarmentose Nightshade. Pl. sarmentose.

325 S. RIGE'SCENS (Jacq. schœnbr. 1. p. 19. t. 42.) stem prickly, suffruticose; leaves sinuately-lobed, rough from fascicles of stellate pili, prickly; prickles straight; racemes few-flowered. ♄. G. Native of the Cape of Good Hope. Dun. sol. p. 226. exclusive of the syn. of Lam. and Poir. suppl. p. 44. S. hùmile, Lam. ill. no. 2374. Branches rather villous. Leaves green; lobes obtuse. Prickles straight, long, subulate, shining, yellow. Racemes lateral, simple. Pedicels drooping. Peduncles, pedicels, and calyxes, rather tomentose, sometimes unarmed, and sometimes prickly. Corollas violaceous. Berry globose, size of a pea, glabrous.

Stiffish Nightshade. Fl. June, July. Clt. 1823. Shrub 2 feet.

326 S. ANGUI'VI (Lam. ill. no. 2375. Poir. dict. 4. p. 304.) stem shrubby, prickly; leaves ovate, sinuately angular, tomentose beneath; racemes short; calyx unarmed. ♄. S. Native of Madagascar. Dun. sol. p. 227. syn. p. 44. sol. ed. 2d. ined. t. 74. Berries small, glabrous, red, esculent.

Anguivi Nightshade, or Madagascar Potatoe. Fl. May, Sept. Clt. 1818. Shrub 2 to 3 feet.

327 S. CAROLINE'NSE (Lin. spec. 268.) stem prickly, herbaceous; leaves ovate-oblong, tomentose, sinuately lobed, acuminated; racemes simple, loose. ↯. H. Native of Carolina; and on the banks of the Missouri, along the Platte to the mountains. Jacq. coll. 2. p. 287. icon. rar. t. 331. Michx. fl. bor. amer. 1. p. 150. Dun. sol. p. 227. syn. p. 44. but not of Mill. which is *S. Dillènii*.—Dill. elth. p. 362. t. 269. f. 348. Root creeping. Stem pale green, beset with stellate pili. Segments of leaves acutish. Leaves prickly on the midrib above, and on the principal veins beneath. Prickles straight, subulate, yellow. Racemes simple, lateral and terminal, elongated. Corolla white or pale blue. Berry globose, larger than a chick-pea, yellow at maturity. Calycine segments lanceolate, acuminated.

Carolina Nightshade. Fl. July, Sept. Clt. 1732. Pl. 1 to 2 feet.

328 S. VIOLA'CEUM (Jacq. fragm. p. 82. t. 132. f. 1.) stem shrubby, prickly; leaves lobately sinuated, tomentose, unequal at the base: superior ones twin; racemes nearly simple; calyxes prickly. ♄. S. Native of Ceylon, Malabar, China, New South Wales. Ortega, dec. 5. p. 56. Dun. sol. p. 228. syn. p. 44. Poir. suppl. 3. p. 743. S. cuneàtum, Mœnch. meth. p. 476. S. I'ndicum, Lam. ill. no. 2366. Poir. dict. 4. p. 300. exclusive of the syn. of Plukn. Willd. spec. 1. p. 1042. exclusive of the syn. of Roxb., Dill., and Lin. fl. zeyl. Lour. coch. 1. p. 163.—Burm. thes. zeyl. 220. t. 102. S. fruticòsum I'ndicum, fructu rubro, Tourn. inst. p. 149. Scheru-Schunda, Rheed. mal. 2. t. 36. This species differs from *S. I'ndicum* in the leaves; in the sinuses being obtuse, larger, and less numerous; lobes entire, not dentately angular; cauline prickles compressed, recurved; calycine segments not reflexed; corollas smaller; berries globose. Leaves green above, and canescent beneath. Down stellate. Prickles brown at the base, and yellow at top; those of the leaves straight, unequal. Racemes few-flowered, tomentose, prickly, sometimes forked at the base; the other division 1-flowered. Corolla pale violet; segments lanceolate, acute, spreading. Berry copper-coloured, size of a chick-pea.

Violaceous-flowered Nightshade. Fl. June, July. Clt. 1817. Shrub 3 to 4 feet.

329 S. PYRACA'NTHUM (Lam. ill. no. 2364. Poir. dict. 4. p. 299.) stem shrubby, prickly; leaves oblong, narrow, acute, sinuately pinnatifid, tomentose, prickly; prickles straight, red. ♄. S. Native of Madagascar. Cav. descr. p. 114. Willd. enum. 1. p. 238. Dun. sol. p. 229. syn. p. 44. S. pyracántha, Smith, exot. bot. 2. p. 9. t. 64. S. runcinàtum, Wendl. obs. p. 43. ex Willd. l. c. S. pyracánthon, Jacq. schœnbr. 4. p. 36. t. 470. S. spinosíssimum, Lodd. cat.? Young branches tomentose. Down all stellate. Leaves having the middle nerve red above; lobes almost entire, acutish; recesses obtuse. Prickles straight, subulate, red. Petioles, peduncles, pedicels, and calyxes, dotted with white tomentum, prickly. Racemes simple, many-flowered. Calyx rusty, with ovate-subulate segments. Corolla bluish-violet, marked by a paler star inside in the centre, and by a pale green star outside. Berry globose, yellowish-green, at length fuscous, twice the size of a pea. A specimen received from Agardh by Schultes, under the name of *S. undàtum*, does not differ from *S. pyracánthum*, unless in the prickles being yellow, not red.

Var. β, inérmis (Sims, bot. mag. 2547.) peduncles and calyxes unarmed. ♄. S. Native of Madagascar.

Fire-spined Nightshade. Fl. Aug. Oct. Clt. 1789. Shrub 3 to 4 feet.

330 S. VIRGINIA'NUM (Lin. spec. 267.) stem annual, erect, prickly; leaves pinnatifidly sinuated, prickly on both surfaces, glabrous, with ciliated margins: lobes sinuated, obtuse; racemes prickly, simple. ⊙. H. Native of North America, from Virginia to Carolina. Dun. sol. p. 230. syn. p. 45. but not of Jacq. Pursh, fl. amer. sept. p. 156.—Dill. elth. p. 350. t. 267. f. 346.—Plukn. alm. p. 351. phyt. t. 62. f. 3. Tourn. inst. p. 149. Stem rather angular. Leaves green. Prickles strong, subulate, straight, whitish. Racemes 6-7-flowered. Calyx prickly. Corolla large, violaceous. Berry small, roundish-oblong, variegated with white and green before maturity.

Virginian Nightshade. Fl. May, Aug. Clt. 1662. Pl. 1 to 2 feet.

331 S. JACQUI'NI (Willd. spec. 1. p. 1041.) stem decumbent,

diffuse, prickly; leaves sinuately pinnatifid, prickly on both surfaces, glabrous, with naked margins; racemes simple, and are, as well as the calyxes, prickly. ⊙. H. Native of the East Indies. Dun. sol. 231. syn. p. 45. S. Virginiànum, Jacq. icon. rar. t. 332. coll. 2. p. 235. exclusive of the syn. of Dill. S. diffùsum, Wall. cat. no. 2613. S. Jacquìni, β, Nees, in Lin. trans. 17. p. 57. Kandung Kattiri of the Tamuls. This species differs from *S. Virginiànum* in the stem being decumbent, not erect; and in the margins of the leaves being naked, not ciliated. Prickles subulate, straight, long, white; lobes of leaves acutish, sinuated; recesses obtuse. Corolla bluish-purple.

Jacquin's Nightshade. Fl. Sept. Nov. Clt. 1804. Pl. procumbent.

332 S. xanthoca'rpum (Schrad. et Wendl. sert. hannov. 1. p. 8. t. 2.) stem herbaceous, prickly; lower branches procumbent, divaricate; leaves pinnatifidly ciliated, prickly on both surfaces, and clothed with stellate down: segments sinuated, acute, with naked margins; racemes few-flowered, drooping. ⊙. H. Native of the Cape of Good Hope, East Indies, and Mauritius. Dun. sol. p. 231. exclusive of the syn. of Lam. syn. p. 45. S. diffùsum, Roxb. fl. ind. 2. p. 250. S. Jacquìni, var. α, Nees, l. c. Very like *S. Jacquìni;* but differs in the cauline prickles being fewer; in the young branches and leaves being clothed with stellate down. Prickles long, yellow. Peduncles 3-4-flowered, lateral and terminal. Corolla large, blue, flat, marked with a purple star in the centre, which is downy outside. Berry globose, size of a cherry, yellow, shining, 1-celled.

Yellow-fruited Nightshade. Fl. June, July. Clt. 1824. Pl. ½ foot.

333 S. Richa'rdi (Dun. syn. p. 45. sol. ed. 2d. ined. t. 67. f. 1.) stem prickly, and scabrous from tomentum, as well as the leaves, on both surfaces, cinereous beneath; flowers panicled. ♄. S. Native country unknown. Leaves ovate-oblong, beset with stellate pili on both surfaces; the prickles on the upper surface straight, and those on the under surface recurved. Racemes simple, beset with stellate hairs, and prickly as well as the calyxes and pedicels. Corolla large, with a 5-rayed star in the centre, villous outside.

Richard's Nightshade. Shrub.

334 S. hy'strix (R. Br. prod. p. 446. Dun. sol. 232. syn. p. 45.) stem herbaceous, diffuse; prickles much crowded, subulate, straight; leaves oblong, pinnatifidly sinuated, glabrous, and are, as well as the calyxes, very prickly; corolla armed. ⊙. S. Native of New Holland, on the south coast.

Porcupine Nightshade. Pl. ?

Subsect. VII. Cryptoca'rpum (κρυπτω, *krypto*, to hide; and καρπος, *karpos*, a fruit; fruit hidden by the calyx.) Dun. sol. 232. syn. p. 45. Nyctèrium species of authors. *Leaves pinnatifid, bipinnatifid, and pinnate. Corollas 5-cleft. Berry covered by the increased prickly calyx.*

§ 1. *Anthers equal.*

335 S. Balbi'sii (Dun. sol. 232. t. 3. D. syn. 45. Ker. bot. reg. 140.) stem shrubby, villous, prickly; leaves pinnatifid, pilose, prickly: segments acute, sinuately toothed; racemes cymose, lateral and terminal, and are, as well as the calyxes, prickly; anthers nearly equal. ♄. G. Native of Peru, on the Andes, near Ayavaca; and on the banks of the river Cutaco, at the altitude of 900 to 1400 hexapods. S. decúrrens, Balb. icon. et descript. fasc. 1. p. 17. t. 1. S. viscòsum, Lag. gen. et spec. nov. p. 10. no. 145. D. C. hort. monsp. S. sisymbrifòlium, Lam. ill. no. 2386. Poir. dict. 4. p. 307. S. inflàtum, Horn. hort. hafn. 1. p. 221. S. brasicæfòlium, Jacq. eclog. p. 14. t. 7. S. formòsum, cat. hort. Dorp. S. Mauritànum velins du gard. de paris, p. 21. t. 66. Roth, nov. spec. S. víscidum, Schweigg. enum. p. 67. Mart. enum. hort. erl. p. 64. S. Thouíni, Gmel. cat. carlsr. p. 254. The whole plant is clothed with simple pili, which are tipped by glands. Leaves soft, clammy, prickly. Petioles prickly. Calyx sometimes unarmed, and sometimes prickly. Prickles straight, subulate, slender, yellow, or reddish-yellow. Corollas large, white, semiquinquefid. Berry ovate, size of a cherry, copper-coloured. This is a beautiful plant when in blossom.

Var. β, *purpùreum* (Hook. bot. mag. t. 2828.) flowers purple. ♄. S. Native of Brazil. S. Balbísii, Ker. bot. reg. t. 140. Berry large, yellow, covered by the calyx. There is also another variety with pale blue flowers.

Balbis's Nightshade. Fl. April, Sept. Clt. 1816. Shrub 3 to 4 feet.

336 S. te'ctum (Pers. ench. 1. p. 228. Dun. sol. p. 233. syn. p. 46.) stem shrubby, terete, prickly; leaves bipinnatifidly sinuated, villous, prickly on both surfaces; berry covered by the villous calyx. ♄. G. Native of Mexico. S. sinuàtum, Willd. spec. 1. p. 1043. Pers. ench. 1. p. 227. S. frúctu técto, Cav. icon. 4. p. 5. t. 309. S. villòsum, Dietr. gart. lex. 9. p. 341. Plant villous. Leaves bipinnatifid; lobes obtuse, curled. Prickles thick, whitish: the slenderer ones brown. Corolla yellow, tomentose outside. Stamens alternating with the crenæ in the throat. Berry globose, glabrous. Racemes cymose, extrafoliaceous. Peduncles and calyxes very prickly.

Covered-berried Nightshade. Fl. April, Sept. Clt. 1824. Shrub 2 to 3 feet.

§ 2. *Anthers unequal.*

337 S. cornu'tum (Lam. ill. 2. p. 25. no. 2387. Poir. dict. 4. p. 308.) stem prickly, glabrous, subherbaceous; leaves pinnate, prickly: segments pinnatifid, obtuse; prickles strong; anthers declinate, horn-formed: the lower one large, and much drawn out. ♄. G. Native of Mexico; also of Brazil. Juss. ann. mus. 3. p. 120. t. 9. Dún. sol. p. 234. syn. p. 46. S. heterándrum, Juss. Nyctèrium cardaminifòlium, Vent. jard. malm. no. 85. Nyctèrium cornùtum, Link, enum. 1. p. 189. Leaves large, glabrous. Peduncles and calyxes villous and prickly at the base. Prickles subulate, yellow, fuscescent at the base; those of the calyx setaceous. Racemes simple, lateral. Corollas large, yellow, irregular, semiquinquefid, with reflexed segments.

Horned-anthered Nightshade. Fl. June, Aug. Clt. 1823. Shrub 2 to 4 feet.

338 S. hetera'ndrum (Pursh, fl. amer. sept. 2. p. 731. t. 7.) annual; stem and leaves prickly and hairy; leaves ovate, obtuse, pinnatifid, hairy on both surfaces: segments obsoletely crenated and undulated; anthers declinate, distant: lower one horn-formed, and drawn out; berry inclosed in the echinated calyx. ⊙. H. Native on the banks of the Missouri, Arkansas, &c. Pursh, l. c. 1. p. 156. Androcèra lobàta, Nutt. gen. amer. 1. p. 129. Nyctèrium lobàtum, Sweet. N. lùteum, Donn. Corollas yellow. Peduncles lateral, many-flowered.

Variable-anthered Nightshade. Fl. June, July. Clt. 1813. Pl. 1 to 2 feet.

339 S. rostra'tum (Dun. sol. p. 234. t. 24. syn. p. 46.) stem prickly, pilose; pili stellate at apex; leaves pinnatifid: segments obtuse; corollas irregular; anthers declinate, horn-formed: lower one large, and much drawn out. ⊙. H. Native of Mexico. Leaves beset with cinereous, stellate, and simple hairs, and very prickly on both surfaces. Prickles unequal, straight, subulate, yellowish. Racemes lateral, simple.

Calyx villous, prickly. Corollas large, yellow, pilose outside, semiquinquefid. Berry globose, size of a pea.

Beaked-anthered Nightshade. Fl. June, Aug. Clt. 1823. Pl. 2 to 3 feet.

340 S. Fontanesia'num (Dun. syn. p. 46. sol. ed. 2d. ined. t. 76.) stem rather woody, annual, prickly, pilose; leaves deeply pinnatifid: segments sinuated; corollas almost regular; anthers small: lower one a little curved at apex, brown. ⊙. H. Native of Brazil? Poir. suppl. 3. p. 777. Ker. bot. reg. t. 177. Nyctèrium Fontanesiànum, G. Don, in Loud. hort. brit. p. 74.—An intermediate plant between *S. rostràtum* and *S. heterodóxum*; but differs from both in the prickles being recurved, and more robust; in the leaves being more deeply pinnatifid; in the segments being more deeply sinuated and curled; in the flowers being smaller, and more regular, although also yellow.

Desfontaine's Nightshade. Fl. July, Sept. Clt. 1813. Pl. 2 to 3 feet.

341 S. heterodóxum (D. C. hort. monsp. mss. with a drawing, ex Dun. sol. p. 235. t. 25. syn. p. 46.) herbaceous; branches and leaves pilose and prickly; leaves bipinnatifid; segments sinuately 3-lobed, or runcinate; peduncles lateral, few-flowered, and are, as well as the calyxes, prickly; anthers declinate: lower one large, and much drawn out. ⊙. H. Native of Mexico, near Zelaya and Molino de Sarąbia, at the altitude of 940 hexapods. Nyctèrium heterodóxum, Link, enum. 1. p. 189. Segments of leaves acute. Hairs simple, clammy, glanduliferous at top. Prickles subulate, yellow. Corollas small, blue, downy outside. Berry globose, size of a sloe.

Variable Nightshade. Fl. June, Aug. Clt. 1820. Pl. 2 to 3 feet.

Subsect. VIII. Nycte'rium (from νυκτερις, *nycteris*, a bat; form of leaves?) Dun. sol. p. 202. *Leaves cordate, entire; or oblong, sinuated. Corolla rather irregular, quinquefid; segments acute, reflexed. Anthers unequal. Berry globose, propped by the calyx, but not covered by it.*

342 S. pube'scens (Willd. phyt. p. 5. no. 17. t. 3. spec. 1. p. 1026.) shrubby, unarmed, clothed with hairy down all over; leaves ovate, acute, quite entire, or subrepand; racemes corymbose at the sides of the leaves; lower anthers drawn out. ♄. S. Native of the East Indies. Dun. sol. p. 167. syn. p. 19. Nees, in Lin. trans. 17. p. 60. Corollas large, purplish. Very nearly allied to *S. vespertílio* of Ait; but the stem in that species is prickly, and the leaves cordate, and the flowers are often quadrifid.

Downy Nightshade. Fl. June, July. Clt. 1820. Shrub 5 to 6 feet.

343 S. calyci'num (Nees, in Lin. trans. 17. p. 60.) shrubby? unarmed, clothed with hairy stellate pubescence; leaves ovate, quite entire, or a little repand; racemes terminal; calyx and corolla funnel-shaped; one of the anthers drawn out. ♄.? S. Native of the East Indies. S. pubéscens, var. Herb. madr. Wall. cat. suppl. no. 237. This is a singular species.

Large-calyxed Nightshade. Shrub.

344 S. vespertí'lio (Ait. hort. kew. 1. p. 252.) stem shrubby; leaves cordate, entire; corollas rather irregular, usually quadrifid; lower anther elongated. ♄. G. Native of the Canary Islands, where it is called *Realgera* and *Permenton*. Dun. sol. p. 202. syn. p. 35. Wendl. hort. harr. p. 5. t. 21. Nyctèrium cordifòlium, Vent. malm. p. 85. t. 85.—Pluk. phyt. t. 316. f. 3. alm. 351. mant. 173. Stem prickly. Leaves scabrous above, and tomentose beneath; petioles and midrib prickly. Hairs and tomentum stellate. Racemes extra-axillary, prickly, tomentose. Flowers tetramerous or pentamerous. Corolla blue, tomentose outside. Anthers 4-5, one of which is long and arched. Berry glabrous, size and form of a cherry.

Bat-winged-leaved Nightshade. Fl. April, July. Clt. 1779. Shrub 2 to 3 feet.

345 S. tridyna'mum (Moc. et Sesse, fl. mex. icon. ined. Dun. syn. p. 35. sol. ed. 2d. ined. t. 75.) stem herbaceous? prickly, rather tomentose, leaves sinuated, bluntish, tomentose; racemes simple; calyxes prickly on the ribs; corollas irregular; 3 of the anthers are recurved, and longer than the other two. ⊙.? G. Native of Mexico. Stem of a rusty-yellow colour. Racemes terminal and axillary. Calycine segments 5, acute; and the corolla large and violaceous, as well as the tops of the anthers. Berry globose.

Three-powered Nightshade. Pl. 2 feet.

346 S. Amazònium (Ker, in bot. reg. t. 71. Dun. syn. p. 36. sol. ed. 2d. ined.) stem shrubby, tomentose, unarmed; leaves oblong-ovate, repand, or sinuately-lobed; racemes cymose, scorpioid; flowers polygamous, monoecious; calyxes of the fertile flowers prickly at the base: the segments unarmed; corollas irregular; 3 of the anthers longer than the other 2. ♄. 1. Native of Mexico. Nyctèrium Amazònium, Link, enum. 1. p. 189. G. Don, in Loud. hort. brit. p. 74. N. Lambérti, Sweet. The whole plant is clothed with hoary down. Flowers large, beautiful blue, corymbose.

Amazonian Nightshade. Fl. June, Aug. Clt. 1800. Shrub 2 to 3 feet.

† *Species not sufficiently known.*

§ 1. *Unarmed species.*

* *Leaves entire or repand.*

347 S. Cajunume'nse (H. B. et Kunth, nov. gen. amer. 3. p. 47.) stem shrubby; branches hairy; leaves solitary, roundish-ovate, short-acuminated, cordate, quite entire, hairy; racemes supra-axillary, trifid; flowers unilateral. ♄. S. Native of New Granada, in the woods of Cajunuma and Untusinga, near Loxa, at the altitude of 1040 hexapods. Corolla subrotate, violaceous, glabrous; segments ovate-oblong, acute, with inflexed margins. Berry 2 inches long, ovate, acute, 1-celled, many-seeded, ex Bonpl. Perhaps this species belongs to section *S. crotonoìdes*, or is, and perhaps with more correctness, a species of *Cápsicum*.

Cajanuma Nightshade. Shrub 10 to 12 feet.

348 S. adenótrichum (Dun. sol. 236. syn. p. 46.) stem unarmed, shrubby; leaves cordate, acuminated, clothed with glanduliferous hairs on both surfaces, quite entire; flowers racemose. ♄. S. Native of Brazil. Vandelli. spec. fl. bras. in Rœm. script. de pl. hisp. p. 86.

Gland-haired Nightshade. Shrub.

349 S. di'dymum (Dun. sol. p. 236. syn. p. 47.) stem frutescent, flexuous; leaves ovate; calyxes, stem, and leaves, beset with branched hairs; the upper surfaces of the leaves tubercled; flowers cymose. ♄. S. Native of Brazil. Vand. spec. fl. bras. in Rœm. script. pl. hisp. p. 86.

Didymous Nightshade. Shrub.

350 S. cladótrichum (Dun. l. c.) stem unarmed, frutescent, flexuous; leaves ovate; calyxes, stem, and leaves, beset with branched hairs; upper surface of the leaves tubercled; flowers cymose. ♄. S. Native of Brazil. Vand. spec. fl. bras. in Rœm. script. de pl. hisp. p. 85.

Branch-haired Nightshade. Shrub.

351 S. intege'rrimum (Dun. sol. p. 236. syn. 47.) stem unarmed, shrubby; leaves broad-lanceolate, quite entire; lower

surfaces of the leaves tomentose; racemes terminal. ♄. S. Native of Brazil. Vand. spec. fl. bras. in Rœm. script. pl. hisp. p. 85.

Quite-entire-leaved Nightshade. Shrub.

352 S. Forska'lii (Dun. sol. p. 237. syn. p. 47.) leaves villous, oval, oblique at the base, with repand margins.—Native of Arabia. S. villòsum, Forsk. fl. arab. p. 47. but not of Lam. Bockœme is the Arabic name of the tree.

Forskæl's Nightshade. Shrub?

353 S. repa'ndum (Forst. prod. p. 105. Willd. spec. 1. p. 1032. Dun. l. c.) stem unarmed, sub-herbaceous, flexuous, smooth; leaves ovate, repand, tomentose; pedunclés axillary, cymose. ⊙.? H. Native of the Society Islands.

Repand-leaved Nightshade. Pl.

354 S. Plukene'tii (Dun. l. c.)—Native of? Solànum I'ndicum, lauriniis angustioribus foliis maximum. Plukn. phyt. t. 227. f. 2.

Plukenet's Nightshade. Shrub?

355 S. erioca'lyx (Dun. l. c.) stem unarmed, shrubby; leaves ovate, quite entire, tomentose beneath; umbels erect, terminal; calyxes obtuse, woolly. ♄. S. Native of America, about Carthagena. S. racemòsum, Mill. dict. no. 28. ex Houst. mss. but not of Lin. Umbels large. Corollas large, white. Berry globose, yellow, size of a small cherry. Leaves 4 inches long, and 1½ broad.

Woolly-calyxed Nightshade. Shrub.

356 S. umbella'tum (Mill. dict. no. 17. ex Houst. mss. Dun. l. c.) stem frutescent, unarmed; leaves lanceolate, quite entire, pilose beneath; umbels erect, terminal. ♄. S. Native of Mexico, about Campeachy. Leaves 5 inches long, and 1½ broad. Flowers small. Corolla white. Anthers purple. Berry yellow, size of a pea.

Umbellate-flowered Nightshade. Shrub 10 to 12 feet.

357 S. America'num (Mill. dict. no. 5.) stem unarmed, herbaceous; leaves ovate, acuminated, glabrous; umbels erect. ⊙. H. Native of Virginia. S. Americànum vulgàri simile, flore parvo purpurascente, acinis nigricantibus minoribus, Rand. ex Mill. Stem angular; branches slender, spreading. Leaves dark green, a little toothed. Flowers few, small. Calycine segments narrow, acuminated, white, purplish outside. Berries small, black.

American Nightshade. Pl. 2 to 3 feet.

358 S. axiliflòrum (Dun. sol. p. 238. syn. p. 47.) stem unarmed, frutescent, flexuous; leaves ovate, tomentose beneath; flowers solitary, alar. ♄. ◡. S. S. scándens, Mill. dict. no. 19. ex Houst. mss. Leaves 2 inches long, and 1½ broad. Corolla large, pentagonal, blue; angles mucronate. Berry size of a pea, red. Perhaps belonging to section *Polymeris*.

Axillary-flowered Nightshade. Shrub 10 to 12 feet.

359 S. Willdenòwii (Rœm. et Schultes, syst. 4. p. 661.) unarmed, herbaceous, quite glabrous; leaves ovate-elliptic, obtuse, quite entire; peduncles solitary or twin. ⊙. H. Native country unknown. S. obtusifòlium, Willd. enum. suppl. p. 11.

Willdenow's Nightshade. Pl. 1 to 2 feet.

360 S. Memphi'ticum (Mart. enum. hort. erlang. p. 63.) stem herbaceous, unarmed, erect, denticulately angular; leaves ovate; peduncles erect, many-flowered: fructiferous ones drooping. ⊙. H. Native country unknown. Leaves petiolate, rather downy, purplish, having the veins violaceous on the under side. Peduncles corymbose, 5-7-flowered. Calycine segments obtuse. Corollas size of those of *S. nigrum*, violaceous; the segments cut even to the calyx, with a yellowish claw; anthers brown. Berry black. Aspect of the plant lurid, from the stem being purplish, and the veins of the leaves dark purple.

Memphitic Nightshade. Pl. 1 to 1½ foot.

361 S. dictyóticum (Rœm. et Schultes, syst. 4. p. 661.) stem shrubby, tomentose; leaves ovate, truncately cordate at the base, unequal, angular towards the base, toothed, densely tomentose beneath; cymes axillary. ♄. S. Native country unknown. S. reticulàtum, Willd. herb. mss.

Netted Nightshade. Shrub.

362 S. citrifòlium (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 662.) stem shrubby; leaves oblong, acuminated, shining, clothed with white tomentum beneath; spikes terminal, dichotomously corymbose. ♄. S. Native of South America, on the banks of the river Magdalena.

Citron-leaved Nightshade. Shrub.

363 S. stipula'ceum (Willd. l. c.) stem shrubby; leaves lanceolate, quite entire, tomentose; cymes pedunculate, alar; stipulas semilunate. ♄. S. Native of Brazil, Hoffmannsegge.

Stipulaceous Nightshade. Shrub.

364 S. Cumane'nse (Rœm. et Schultes, syst. 4. p. 662.) stem shrubby; leaves roundish-ovate, acute, glabrous, a little toothed; umbels terminal. ♄. S. Native of Cumana, Humb. et Bonpl. S. umbellàtum, Willd. herb. l. c.

Cumana Nightshade. Shrub.

365 S. dumetòrum (Willd. herb. l. c.) stem shrubby, branched; leaves ovate, downy above, but pilosely tomentose beneath; peduncles axillary, 1-flowered. ♄. S. Native country unknown.

Bush Nightshade. Shrub.

366 S. campanifórme (Rœm. et Schultes, syst. 4. p. 662.) shrubby; leaves lanceolate, acuminated, glabrous; racemes axillary, on long peduncles. ♄. S. Native of Brazil. S. campanulàtum, Willd. herb. l. c. Racemes axillary and extra-foliaceous, longer than the leaves, erect. Corolla deeply 5-parted, campanulate.

Bell-formed-flowered Nightshade. Shrub.

367 S. pedunicula'tum (Willd. herb. l. c.) shrubby; leaves lanceolate, petiolate, bluntish, pilosely strigose; umbels pilose, pedunculate. ♄. S. Native country unknown.

Pedunculate-flowered Nightshade. Shrub.

368 S. prunifòlium (Willd. l. c.) shrubby; leaves elliptic, acuminated, serrated, on long petioles; panicle terminal. ♄. S. Native of Caraccas, Bredemeyer. Leaves 1½ inch long, acuminated at both ends, erosely-toothed. Panicle divaricate.

Plum-leaved Nightshade. Shrub.

369 S. flexuòsum (Willd. herb. l. c.) stem shrubby, flexuous, retrofracted; leaves ovate, tomentose beneath; peduncles solitary, axillary, filiform, elongated. ♄. S. Native of St. Domingo, Desfontaines.

Flexuous Nightshade. Shrub.

370 S. micra'nthum (Willd. herb. l. c.) stem shrubby; leaves oblong, attenuated at both ends, scabrous and green beneath; corymbs shorter than the petioles. ♄. S. Native of South America. Humb. et Bonpl.

Small-flowered Nightshade. Shrub.

371 S. mode'stum (Rœm. et Schultes, syst. 4. p. 665.) stem frutescent, unarmed, glabrous; leaves lanceolate, attenuated at the base, veiny, with subundulated margins, glabrous; flowers terminal, corymbose. ♄. S. Native of Mexico. S. Mexicànum, Willd. herb. l. c.

Modest Nightshade. Shrub.

* * *Leaves toothed, sinuated, lobed, and pinnate.*

372 S. Africa'num (Tourn. inst. p. 149. Dun. sol. p. 238. syn. p. 48.)—Native of Africa. S. bacciferum vulgari simile Africanum; foliis frequentius et profundius crenatis, Tourn. l. c.

African Nightshade. Pl. ?

373 S. Lusita'nicum (Dun. sol. p. 238. syn. p. 48.) ♃. H. S. Lusitánicum perenne; foliis amplis profunde crenatis; fructu rubro, Tourn. inst. p. 149.

Portugal Nightshade. Pl.

374 S. viscòsum (Mœnch. meth. suppl. p. 79. Dun. sol. p. 238. syn. p. 48.) stem shrubby, clammy; leaves large, cordate, sinuated, clammy; sinuses elevated. ♄. S. Native country unknown. Stem terete, branched at top. Leaves petiolate; lobes roundish, pubescent. Peduncles lateral, shorter than the petioles, bearing each 3-4 pedicels, which are reflexed in the fruit-bearing state. Corolla white. Berry roundish, yellow, striated.

Clammy Nightshade. Shrub 4 feet.

375 S. avicula're (Forst. prod. no. 107. pl. esc. no. 12.) stem unarmed, shrubby; leaves sinuately pinnatifid; corymbs terminal. ♄. G. Native of New Zealand.

Knot-Grass Nightshade. Shrub.

376 S. re'pens (Dun. sol. p. 239. syn. p. 48.) stems herbaceous, pilose, tetragonal, membranous, creeping; leaves pinnate or decurrent, quite entire, pilose; racemes simple. ♃. H. Native of Brazil. Vand. spec. fl. bras. in Rœm. script. pl. hisp. p. 86.

Creeping Nightshade. Pl. creeping.

377 S. Valenzue'læ (Palacio, mem. mus. 2. p. 340. Dun. syn. p. 48.) root bearing tubers; leaves unequally pinnate; racemes few-flowered; pedicels articulated; berries glabrous, oblong, compressed. ♃. H. Native of New Granada, at the river Malave, Eloy Valenzuela. Stolons bearing white, nearly round, flattened, sapid tubers. Stems procumbent, much branched. Corolla with revolute segments. A variety of *S. tuberòsum*.

Valenzuela's Potatoe. Pl. procumbent.

378 S. Ca'ri (Mol. chil. p. 109.) stem herbaceous; leaves pinnate, entire; nectarium campanulate, exceeding the petal. ♃. ? H. Native of Chili. This is certainly no *Solànum*, and perhaps even does not belong to the order.

Cari Nightshade. Pl. ?

379 S. subloba'tum (Willd. herb. l. c.) stem suffruticose, branched; leaves lanceolate, sublobed, naked, obtuse; peduncles opposite the leaves, sub-trilobed. ♄. G. Native of Buenos Ayres.

Sublobate-leaved Nightshade. Shrub.

380 S. Caraccasa'num (Rœm. et Schultes, syst. 4. p. 664.) stem shrubby; leaves pinnate, ternate and simple, quite entire; flowers racemose. ♄. S. Native of Caraccas, Bredemeyer. S. heterophýllum, Willd. herb. l. c. Shrub 10 feet high. Branches dichotomous, divaricate. Peduncles from the axils of the branches, elongated into twin, pendulous racemes. Corolla and anthers violaceous.

Caraccas Nightshade. Shrub.

381 S. fusca'tum (Rœm. et Schultes, l. c.) shrubby; leaves interruptedly pinnate, tomentose beneath; stipulas falcate; flowers corymbose, panicled. ♄. S. Native of South America. Humb. et Bonpl. S. pinnàtum, Willd. herb. l. c.

Fuscous Nightshade. Shrub.

382 S. thymifòlium (Willd. herb. l. c.) stem frutescent; leaves pubescent, auricled at the base, almost sessile; peduncles axillary, 1-flowered. ♄. G. Native of Buenos Ayres.

Thyme-leaved Nightshade. Shrub.

§ 2. *Prickly plants.*

* *Leaves entire.*

383 S. Bote'lho (Vand. fasc. p. 10. Rœm. script. pl. hisp. p. 85.) stem shrubby, tomentose, rather prickly; leaves ovate-oblong, quite entire, tomentose beneath; racemes lateral, drooping. ♄. S. Native of Brazil. S. Botelhiànum, Dun. sol. p. 239. Prickles few, very short. Calyxes, peduncles, and petioles tomentose. Leaves unequal at the base, glabrous above. Berry glabrous.

Botelho's Nightshade. Shrub.

384 S. Brasilia'num (Dun. sol. p. 665. syn. p. 48.) ♄. S. Native of Brazil. Solànum Brasiliànum, folio integro mucronato, glabro, Papas Americani, floribus in summitate caulis, Plukn. amalth. append. t. 454. f. 4. Leaves ovate, acuminated, unarmed. Flowers corymbose. Corolla pentagonal; anthers divaricate.

Brasilian Nightshade. Fl. Clt. Shrub ?

385 S. corda'tum (Forsk. fl. arab. p. 47. no. 56.) stem shrubby, rather prickly; leaves roundish-cordate, entire, unarmed. ♄. S. Native of Arabia, where it is called *Hadak*. Leaves half an inch long, glabrous. Corolla violaceous, deflexed. Berry pulpy, red, size of a pea.

Cordate-leaved Nightshade. Shrub.

386 S. nicotianæfòlium (Lag. gen. et spec. nov. p. 10. no. 144.) stem prickly, shrubby; leaves obliquely cordate-oblong, and oblong, acute, unarmed, subundulated, very clammy. ♄. S. Native country unknown.

Tobacco-leaved Nightshade. Shrub.

387 S. trifolia'tum (Burm. ind. t. 22. f. 3. Gmel. syst. p. 386. Vittm. summ. 1. p. 493.) stem shrubby; leaves ternate, ovate, quite entire. ♄. S. Native of Coromandel. Stem quite glabrous. Prickles few, incurved. Leaves alternate, petiolate, glabrous.

Trifoliate Nightshade. Shrub.

388 S. Dominge'nse (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 665.) stem shrubby, rather prickly, flexuous; leaves elliptic, petiolate, quite entire, tomentose beneath; flowers axillary, aggregate. ♄. S. Native of St. Domingo.

St. Domingo Nightshade. Shrub.

* * *Leaves sinuated, lobed, and pinnatifid.*

389 S. Chine'nse (Dun. sol. p. 240. syn. p. 49.) ♄. G. Native of China. Solànum incànum Chinénse minus spinosum, floribus parvis fere umbellatis, fructu majore aureo, Plukn. phyt. t. 62. f. 1. Tourn. inst. p. 149. In the figure the leaves are represented as twin; the one smaller than the other, sinuated, having the midrib prickly; the peduncles are numerous, aggregate, almost opposite the leaves, and hardly longer than the petioles; and the flowers are small. Said to be nearly allied to *S. violàceum*.

China Nightshade. Shrub.

390 S. glabra'tum (Dun. l. c.) stem prickly, shrubby; leaves prickly, oblong, dentately-sinuated, glabrous; calyx glabrous; corolla violaceous, reflexed; berry globose. ♄. G. Native of Arabia, at Surdud. S. Bahaménse, Forsk. egypt. p. 46. no. 53.

Glabrous Nightshade. Shrub.

391 S. Ara'bicum (Dun. l. c.) stems procumbent, annual, very prickly; prickles straight; peduncles opposite; the leaves racemose. ☉. H. Native of Arabia, where it is called *Bocheme*, or *Bokom*. S. armàtum, Forsk. fl. arab. p. 47. no. 54, but not of R. Br. Perhaps only a variety of *S. glabràtum*, with which it agrees in the leaves, and form and figure of the corolla. Prickles numerous, white, straight, spreading. Stems, petioles, nerves of leaves, calyxes, and peduncles very prickly. Fruit fleshy, obscure green, veined with white.

Arabian Nightshade. Pl. procumbent.

392 S. strigòsum (Vand. fasc. p. 10. Rœm. script. pl. hisp. p. 55.) stem shrubby, strigose; leaves ovate, sinuated, rather

prickly on the midrib, tomentose; calyxes strigose; berry tomentose. ♄. S. Native of Brazil. Dun. sol. p. 241. syn. p. 49. Stem, petioles, and calyxes beset with long, yellowish strigæ. Leaves cordate at the base; prickles yellowish. Panicles lateral, branched. Corolla tomentose outside. Berries small.

Strigose Nightshade. Shrub.

393 S. Vandellia'num (Dun. sol. p. 241. syn. p. 49.) stem flexuous, dichotomous, shrubby, prickly, tomentose; prickles incurved; leaves sinuately-angular, rather tomentose, spiny on the midrib; spikes solitary. ♄. S. Native of Brazil. S. dichótomum, Vand. fasc. p. 9. Rœm. script. p. 54, but not of Lour. Stem greenish yellow. Tomentum stellate. Prickles few, yellow at top. Leaves sub-petiolate. Spikes revolute, as in *Heliotròpium*. Calyx tomentose. Corolla white.

Vandelli's Nightshade. Shrub.

394 S. Mœ'nchii (Dun. sol. p. 242. syn. p. 49.) stem herbaceous, pilose, prickly, scabrous; pili white, stellate; leaves ovate, sinuated, acute, rather pilose, the midrib prickly on both sides; peduncles erect, terminal, 4-5-flowered, longer than the petioles. ♃. S. Native country unknown. S. stellàtum, Mœnch. meth. p. 475, but not Jacq. Stems simple. Prickles yellow, distant. Peduncles and calyxes pilose, and furnished with a very few prickles. Corolla white, large. Anthers distant. Style white; stigma green. Berry smooth, yellow.

Mœnch's Nightshade. Pl. 2 feet.

395 S. Belfortia'num (Dun. sol. p. 242. syn. p. 49.) stem shrubby, tomentose, prickly; leaves deeply and sinuately angular, tomentose, rather prickly; flowers corymbose. ♄. S. Native of Brazil. S. Belfort, Vand. fasc. p. 10. Rœm. script. p. 56. Prickles few, very short, straight. Leaves petiolate, unequal at the base. Prickles slender. Corymbs lateral. Calyx pilose.

Belfort's Nightshade. Shrub.

396 S. Banksia'num (Vand. fasc. p. 10. Rœm. script. p. 55. Dun. sol. p. 242.) stem prickly, pilose, herbaceous; lower leaves cordate, ovate: superior ones pinnatifidly-sinuated, acute, pilose; prickles straightish on both surfaces. ♃. S. Native of Brazil, where it is called *Rebentabois*. Prickles thick, reversed, yellow at top. Berry yellow, nearly dry, size of a cherry.

Banks's Nightshade. Pl.?

397 S. atrovírens (Dun. sol. p. 243. syn. p. 50.) ♄. S. Native of India. Solànum I'ndicum spinosum atrovírens et undique glabrum, foliis branchæ ursinæ divisuris. Pluckn. phyt. t. 62. f. 2. S. pomíferum spinosum I'ndicum, fructu echinato, foliis cardui seu acanthi spinosi, Breyn. prod. p. 1.?

Dark-green Nightshade. Shrub.

398 S. Cape'nse (Thunb. prod. 37. Lin. suppl. 147.) stem prickly, shrubby, erect; leaves sinuately-pinnatifid, prickly, naked: alternate segments entire, obtuse. ♄. G. Native of the Cape of Good Hope. Dun. sol. p. 243. syn. p. 50. Plant armed with copious yellow, recurved prickles. Leaves ovate, obtuse, glabrous. Peduncles solitary, 1-2-flowered, drooping. Calyx prickly. Corolla blue. Berry glabrous.

Cape Nightshade. Shrub 1 foot.

399 S. Houstòni (Dun. sol. p. 243. syn. p. 50.) stem shrubby, prickly; leaves oblong, sinuately pinnate, prickly; umbels sessile. ♄. S. Native of Vera Cruz. S. quercifòlium, Mill. dict. no. 16. ex Houst. mss. Prickles recurved. Flowers small, white. Berries red, size of juniper berries.

Houston's Nightshade. Shrub 5 to 6 feet.

400 S. angu'rium (Dun. l. c.) stem shrubby, prickly; leaves pinnatifidly-jagged, tomentose, prickly on both surfaces; peduncles axillary, few-flowered. ♄. S. Native of Vera Cruz. S. angustifòlium, Mill. dict. no. 15. ex Houst. mss. Stem procumbent, tomentose. Prickles long, yellow. Leaves almost 4 inches long, and 2 broad. Peduncles 2-3 inches long. Calyx very prickly. Corollas large, yellow. Berry globose, size of a pea, variegated with green and white.

Anguria-leaved Nightshade. Shrub prostrate.

401 S. Valada'res (Vand. in Rœm. script. p. 55.) stem suffruticose, prickly, rather pilose; leaves pinnate, cut, prickly on both surfaces; racemes lateral, compound. ♄. S. Native of Brazil. Dun. sol. p. 243. syn. p. 50. Stem green. Prickles long, straight, red, very sharp. Leaves rather pilose. Petioles, peduncles, and calyxes prickly and pilose.

Valadares Nightshade. Shrub.

402 S. Rottbœllia'num (Rœm. et Schultes, syst. 4. p. 668.) ♄. S. Native of Surinam. S. fœ'tidum, Rottb. act. hafn. 1778. p. 287. J. Puihn. mat. med. ven. regn. veg. 1785. Dun. sol. p. 244. syn. p. 50. The berry on being wounded, or bruised, exhales an intolerable smell, which excites nausea and cephalalgia.

Rottbœll's Nightshade. Shrub.

403 S. rígidum (Lam. ill. no. 2373. Poir. dict. 4. p. 303. Pers. ench. 1. p. 228.) a dwarf prickly shrub; leaves ovate, sinuately angular, prickly, almost naked, beset with white prickles on both surfaces. ♄. S. Native country unknown. Stem very stiff, hardly a foot long, erect, a little branched, rather villous; prickles short, straight. Leaves acute, undulated; lobes acute, sub-mucronate, rather ciliated, pale or yellowish green. Prickles numerous, naked, subulate, stiff, purplish at the base. Racemes terminal. Peduncles short, a little branched, tomentose. Calyx villous; with lanceolate, very acute segments, sometimes prickly, and sometimes unarmed.

Stiff Nightshade. Shrub 1 foot.

404 S. aqua'ticum (Hort. par. Dum. Courset, bot. cult. ed. 2d. suppl. p. 152.) stem shrubby, prickly, thick, villous; leaves cordate, deeply and sinuately lobed, prickly on both surfaces, as well as the petioles, villous, soft. ♄. S. Native country unknown. Stem straight, simple, or branched, dark purple. Prickles strong, a little recurved. Leaves large, 8-9 inches long, pale green.

Aquatic Nightshade. Shrub.

405 S. quinquangula're (Willd. herb. ex Rœm. et Schultes, syst. 4. p. 669.) stem shrubby; leaves 5-angled, hairy, and are, as well as the petioles, beset with subulate prickles; peduncles generally 2-flowered. ♄. S. Native of Caraccas, Bredemeyer.

Five-angled-leaved Nightshade. Shrub.

406 S. juba'tum (Willd. l. c.) stem shrubby, and is, as well as the peduncles, prickly; leaves roundish-ovate, angularly-toothed, downy and prickly on both surfaces; calyxes covered; prickles bristly. ♄. S. Native on the banks of the Orinoco, Humb. et Bonpl.

Bearded Nightshade. Shrub.

N.B. In Salt's abyss. append. p. 475, there are 2 species mentioned, but without any diagnosis of either, viz. *S. cinèreum*, R. Br. and *S. uncinàtum*, R. Br.

What are the following species. 1. *S. æthiopioìdes*, Cav. 2. *S. agréste*, Brouss. 3. *S. aracátscha*, Bess. Krzem. 4. *S. stipulàceum*, Brouss. 5. *S. cestrifòlium*, Fisch.

Cult. All the species of *Solànum* thrive best in a rich, light soil, and are readily increased by seed; or cuttings planted in sand under a hand-glass root readily. A great number of the species are very handsome, and therefore worth cultivating for ornament. They are treated like other stove greenhouse and hardy plants. The seeds of annual species, natives of tropical countries, require to be raised on a hot-bed, and the plants to be set out in the open ground about the end of May in a sheltered, dry situation.

II. LYCOPE'RSICUM (from λυκος, *lykos*, a wolf; and περσικον, *persicon*, a peach; Wolf-peach.) Tourn. inst. p. 150. t. 63. Adams, fam. 2. p. 218. Mill. dict. Mœnch. meth. p. 515. Dun. sol. p. 109. H. B. et Kunth, nov. gen. amer. 3. p. 17.—Lycopérsicum and Psolànum, Neck. elem. bot. 2. p. 60. —Solànum species. Lin. gen. no. 251. Juss. gen. p. 126. &c.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-6-parted. Corolla rotate, with a very short tube, and a 5-6-cleft limb. Stamens 5. Anthers conical, joined by a membrane, which is elongated at apex, dehiscing lengthwise inside. Stigma sub-bifid. Berry 2-3-celled. Seeds villous.—Herbaceous, unarmed, procumbent herbs. Leaves impari-pinnate. Peduncles solitary, extra-axillary, many-flowered, sometimes leafy; pedicels articulated under the flowers, reflexed when bearing the fruit. Corollas yellow. Fruit of various shapes and sizes, usually red and glossy. In most of the species the hairs are glandular at the base.

1 L. PIMPINELLIFÒLIUM (Mill. dict. no. 4. Dun. sol. p. 111.) stem herbaceous, glabrous; leaves pinnate; leaflets entire, glabrous; racemes simple. ⊙. H. Native of Peru, and Brazil. Solànum pimpinellifòlium, Lin. amœn. 4. p. 268. spec. p. 265. Vellozo. spec. fl. bras. in Rœm. script. p. 85. L. inodòrum, Juss. Leaflets cordate, not cut or toothed in any way. There are no hairs on this species.

Burnet-leaved Love Apple, or Tomato. Fl. May, July. Clt.? Pl. proc.

2 L. PERUVIA'NUM (Mill. dict. no. 5. Dun. sol. p. 111.) stem sub-herbaceous, tomentose; leaves unequally pinnate, tomentose, canescent, stipulate; leaflets cut; peduncles and pedicels bracteate. ♃. S. Native of Peru, in arid and waste places, very common in the provinces of Lima and Chancay, ex Ruiz. et Pav.; cultivated in Cochinchina, ex Lour. Solànum Peruviànum, Lin. spec. ed. 1st. 186. ed. 2d. p. 267. Jacq. icon. rar. 2. t. 327. Ruiz. et Pav. fl. per. 2. p. 37. Lour. coch. 1. p. 162.—Feuill. per. 3. p. 37. t. 25. In Peru the plant is called *Tomatte Cimarron*, i. e. *Wild Golden Apple*, and in China it is called *Ca' tau Vang*. Root permanent. Stems woody at the base; branches villous. Leaflets bluntish. Racemes villous, sometimes simple, sometimes bipartite, lateral, and terminal. Calyx 5-parted. Corolla the largest of the genus. Berry size of a pea, rather villous. Plant with a pleasant smell.

Peruvian Love Apple, or Tomato. Fl. May, June. Clt. 1823. Pl. proc.

3 L. PYRIFÓRME (Dun. sol. p. 112. t. 26.) stem herbaceous, pilose; leaves unequally-pinnate, pilose; leaflets cut, glaucescent beneath; racemes often leafy; calycine segments about equal in length to the corolla; berries obconical. ⊙. H. Native country unknown. Solànum pomíferum, Cav. descr. p. 112. Pers. syn. 1. p. 226. Racemes large: superior ones rarely leafy: lower ones usually terminated by a leafy branch. Berry pear-shaped, 2-celled, as in the 4 following species. Hairs simple, unequal. This and all the following species exhale a heavy smell.

Pear-formed-fruited Love Apple, or Tomato. Fl. July, Sept. Clt. 1823. Pl.

4 L. HUMBÓLDTII (Dun. sol. p. 112.) pilose; pili diverse; stem herbaceous; leaves unequally pinnate, pilose; leaflets cut, glaucescent beneath; peduncles and pedicels bractless; calycine segments about half as long as the corolla. ⊙. H. Native of South America, on the banks of the Rio Negro. L. lycopérsicum, Wall. cat. no. 2611. Roxb. fl. ind. 2. p. 245. Solànum Humbóldtii, Willd. hort. berol. 1. p. 27. t. 27. enum. p. 235. This is very like *L. cerasifórme*, but differs in the racemes of flowers being smaller, the calycine segments being never the length of the corolla; and the berries being one-half smaller, size of a cherry, and red. Berry 2-3-celled, smoothish, and, when cultivated, not less angular than those of *L. esculéntum*, ex Nees.

Humboldt's Love Apple, or Tomato. Fl. July, Sept. Clt. 1822. Pl. 2 to 3 feet.

5 L. REGULA'RE (Dun. syn. p. 3. sol. ed. 2d. ined. t. 81.) plant rather villous; stem almost herbaceous; leaves regularly pinnate, canescent; segments or leaflets almost entire; peduncles and pedicels often bractless. ⊙. H. Native country unknown.

Regular-leaved Love Apple, or Tomato. Fl. May, July. Clt.? Pl. 2 to 3 feet.

6 L. DENTA'TUM (Dun. syn. p. 4. sol. ed. 2d. ined. t. 82.) plant rather villous; stem herbaceous; leaves stipulate, unequally pinnate; leaflets oblong-acuminated, toothed; peduncles and pedicels often bracteate; segments of the calyx shorter than the corolla. ⊙. H. Native country unknown.

Toothed-leaved Love Apple, or Tomato. Pl. 2 to 3 feet.

7 L. HIRSU'TUM (Dun. syn. p. 4. sol. ed. 2d. ined. t. 83. H. B. et Kunth, nov. gen. amer. 3. p. 18.) hairy; stem sub-herbaceous; leaves stipulate, unequally pinnate; leaflets dentately crenated; pedicels sometimes bracteate; calycine segments about equal in length to the corolla. ⊙. H. Native of New Granada, near Loxa. Peduncles unibracteate in the middle. Corollas yellow like the other species. Fruit unknown.

Hairy Love Apple, or Tomato. Pl. 2 to 3 feet.

8 L. CERASIFÓRME (Dun. sol. 113. syn. p. 4.) pilose; hairs diverse; leaves unequally pinnate; leaflets cut, glaucescent beneath; calycine segments rather shorter than the corolla; berries spherical. ⊙. H. Native of Peru, by the sea-side, and in gardens. Solànum lycopérsicum, var. β, Lin. spec. ed. 1st. p. 185. Solànum pseùdo-lycopérsicum, Murr. syst. 183. Jacq. vind. 1. t. 11. Ruiz. et Pav. fl. per. 2. p. 37. Solànum spùrium, Gmel. syst. 384. Lycopérsicum Galèni, Mill. dict. no. 2.—Rumph. amb. 5. p. 416. cap. 49. Very like *L. esculéntum*, and *L. pyrifórme*, but differs in the berries being cherry-formed, 2-celled, size of a plum, but not furrowed lengthwise, rather villous. *Tamatta Bontal* is the Malay name of this species, and *Tomate redondo* the Peruvian name.

Var. α; berries red. ⊙. H. Lycop. fructu cerasi rubro, Tourn. inst. p. 150. Cerasa amoris racemosa, rubra, Bauh. prod. p. 90.

Var. β; berries yellow. ⊙. H. Lycop. fructu cerasi luteo, Tourn. inst. p. 150. Solànum racemosum, cerasorum forma, fructu luteo, Tourn. l. c.

Cherry-formed-fruited Love Apple, or Tomato. Fl. July, Sept. Clt. 1800. Pl. 2 to 3 feet.

9 L. ESCULE'NTUM (Mill. dict. no. 2. Dun. sol. p. 113. t. 3. f. 3. syn. p. 4.) herbaceous, pilose; pili diverse; leaves unequally pinnate; leaflets cut, attenuated at the apex, glaucescent beneath; flowers many, joined; berries torulose. ⊙. H. Native of South America. Solànum Lycopérsicum, Lin. spec. p. 150. Lam. ill. t. 115. f. 2. Lour. coch. 1. p. 162.—Plenck, off. t. 122.—L. pomum amoris, Mœnch. meth. p. 515. L. Galeni, Tourn. inst. p. 150. t. 63.—Sabb. hort. rom. p. 12. t. 62. Pomum amoris, Blackw. t. 133. Rumph. amb. 5. p. 416. t. 154. f. 1.—Mor. hist. sect. 13. t. 1. Màla áurea, Chabr. icon. 525. La Pomme d' amour, Regn. bot. p. 54. Many flowers are joined in one, which makes them appear of many parts, having from 2 to 5 joined pistils, and as many bundles of stamens. Calyx longer than the corolla.

The Love Apple, or Tomato, is called *La Pomme d' amour*, and *La Tomatte* in France, *Liebes Apfel* in Germany, and *Pomo d' oro* in Italy; it is a tender annual. The stem, if supported, will rise to 6 or 8 feet, and exhales, like the leaves, when handled, a

disagreeable smell. The flowers appear in bunches in July and August. The fruit is smooth, depressed at both ends, and furrowed on the sides; it varies in size, but seldom exceeds that of an ordinary golden-pippin apple.

Use.—When ripe, the fruit, which has an acid flavour, is put in soups and sauces, and the juice is preserved for winter use, like ketchup; it is also used in confectionary, as a preserve, and when green as a pickle. Though a good deal used in England in soups, and as a principal ingredient in a well-known sauce for mutton, yet our estimation and uses of the fruit are nothing to those of the French and Italians, and especially the latter. Near Rome and Naples whole fields are covered with it, and scarcely a dinner is served up in which it does not in some way or other form a part.

Varieties.—Those in general cultivation are called, the large, and small, cherry and pear-shaped red, and the large and small, or cherry-shaped yellow. The first sort is in most estimation for domestic purposes, and should be cultivated accordingly, while a few plants of the other kinds may be raised for variety of the fruit.

Propagation and Culture.—The plants must be raised and forwarded in a hot-bed, under glass from about the vernal equinox till May. Sow in any general hot-bed about the end of March, or beginning or middle of April, and as to quantity of seed one ounce will produce 60 plants. As soon as the plants are about 2 inches high, if they are immediately pricked out into another hot-bed, or into that where raised, or singly into small pots placed in the hot-bed, they will grow more stocky, and can be more successfully transplanted. About the middle or end of May transplant them each with a ball of earth into a south border, to have the full sun, that the fruit may ripen to perfection. Some may be planted close to a south wall, if vacant spaces can be had; but as they draw the ground exceedingly, do not set them near choice fruit trees. Give water. During the first week, or fortnight, if the nights be cold, defend them with hand-glasses, or by inverting a large garden pot over each plant, or transplant upon holes filled with hot dung, earthed to 6 inches depth, and cover with hand-glasses. When they begin to run train them to stakes, or, where planted near a wall or pales, nail up the branches. J. Wilmot plants at the foot of a bed sloping steeply to the south, and trains the stems and branches on it by pegging them down; they frequently strike root at the joints; he tops them as soon as their branches meet, clears off all the lateral shoots, and thins the leaves, by which the fruit is exposed, and well ripened. In the fine season of 1818 each plant so treated produced on an average twenty pounds weight of fruit. The fruit begins to ripen in August; gathered in October, and hung up in bunches in any dry apartment it will continue good for use in November.

To save Seed.—"Gather some of the best ripe fruit in autumn, clear out the seed, wash and cleanse it from the pulp, and dry it thoroughly, then put it up in papers or bags for use next spring." Abercrombie.

Var. β; berries pale red. ⊙. H. L. fructu e rubro pallescente, Tourn. inst. p. 150.

Var. γ; berries yellow. ⊙. H. L. fructu luteo, Tourn. l. c.

Var. δ; berries white. ⊙. H. L. fructu albo, Tourn. l. c.

Esculent, or Common Love Apple, or Tomato. Fl. July, Sept. Clt. 1596. Pl. 2 to 3 feet.

† *Species not sufficiently known.*

10 L. procu'mbens (Mill. dict. no. 6.) stem herbaceous, procumbent; leaves pinnatifid, glabrous; segments cut; flowers solitary, axillary. ⊙. H. Native country unknown. Dun. sol. p. 115. syn. p. 5. Flowers lateral. Calyx large, deeply multifid. Flowers cream-coloured. Berries small, sub-compressed.

Procumbent Love Apple, or Tomato. Fl. July, Sept. Clt. 1770. Pl. proc.

11 L. commuta'tum (Rœm. et Schultes, syst. 4. p. 569.) leaves interruptedly pinnate; leaflets oblique, ovate, obtuse, downy on both surfaces, sub-repandly crenated; racemes bifid, longer than the leaves, the branches diverging. ♃. S. Native of South America, Solànum commutàtum, Spreng. pug. 1. p. 18. Corolla yellow, form of those of the other species. Calyx 5-cleft.

Changed Love Apple, or Tomato. Fl. July, Sept. Clt. 1818. Pl. 2 to 3 feet.

Cult. For culture and propagation see *L. esculéntum*, no. 9

III. PELTANTHE'RA (from πελτη, *pelte*, a buckler; and ανθηρα, *anthera*, an anther; in reference to the form of the anthers.) Roth. nov. spec. p. 126. Rœm. et Schultes, syst. 4. p. liv. and 670.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla rotate, plicate, 5-cleft. Stamens inserted in the throat of the corolla, short, broad. Anthers sagittate at the base, conniving into an oblong, attenuated, obsoletely pentagonal cone. Stigma clavate. Berry unknown. This genus differs from *Solànum* in the anthers being 1-celled, hamately sagittate at the base, and furnished with a sessile, peltate body on the back, and not dehiscing by 2 pores at top as in that genus.

1. P. solana'cea (Roth, l. c. Rœm. et Schultes, syst. 4. p. 670.) ♄. S. Native of the East Indies, Vallàris, Heyne mss. Leaves opposite, elliptic, quite entire. Racemes axillary, subcorymbose. Corolla size and colour of that of *Solànum pseùdocápsicum.* Ovarium 1-celled?

Solanaceous Peltanthera. Shrub.

Cult. For culture and propagation see *Solànum*, p. 442.

IV. CA'PSICUM (from καπτω, *kapto*, to bite; on account of the biting heat of the seeds and pericarp; some derive it from *capsa*, a chest.) Tourn. inst. 66. Lin. gen. no. 252. Schreb. gen. no. 338. Juss. gen. p. 126. ed. Usteri. p. 141. Gærtn. fruct. 2. p. 1241. t. 132. Lam. ill. t. 116. f. 1, 2. H. B. et Kunth, nov. gen. 3. p. 48. Fingerhuth diss. cap. Nees in Lin. trans. 17. p. 62.

Lin. syst. *Pentándria, Monogýnia.* Calyx permanent, 5-toothed. Corolla rotate; limb plicate, 5-cleft. Anthers connivent, 2-celled, dehiscing lengthwise. Stigma obtuse. Berry dry, inflated, and hollow, of a papery consistence, 2-4-celled, many-seeded, naked. Placentas adnate to the dissepiment.—Shrubs, or sub-shrubs, rarely herbs. Leaves scattered, solitary, or twin, and quite entire. Peduncles extra-axillary, and alar, 1-flowered. Flowers greenish white, or violaceous.

§ 1. *Peduncles solitary. Fruit erect, or pendulous.*

* *Annual. Berries pendulous.*

1 C. a'nnuum (Lin. spec. p. 270.) fruit oblong, pendulous, and erect; petioles glabrous; stem herbaceous; calyx obsoletely 5-toothed. ⊙. H. Native of South America. Woodv. med. bot. 391. t. 144. Stev. and Church. med. bot. 1. t. 44. Plenck. off. t. 107.—Knor, del. 2 t. l. 6.—Rheed. mal. 2. t. 35. Corollas white. Fruit red, yellow, variegated with red and yellow, and dark green, variable in shape.

Capsicum is called *Piment* in French, *Spanischr Pfeffer* in German, *Peberone* in Italian, *Chilli* in Mexico, and *Tschili* in Hindostan. There are 3 species in cultivation. 1. *C. ánnuum*, the Guinea pepper, though a native of India, endures our

climate in summer. The fruit varies much in shape and colour, either long-podded, red, or yellow, or short-podded, red and yellow, or heart-shaped, red and yellow. 2. *C. cerasifórme*, the cherry-pepper, is also an annual standing our climate in summer; is known by its small, cherry-shaped fruit, which is sometimes heart-shaped or angular, in colour red or yellow. 3. *C. gróssum*, the bell-pepper, a stove biennial; the berries of this kind are large, red or yellow. It will endure the open air in summer, but will require a place in the stove in winter and spring months. The well known preparation called Cayenne-pepper is the pods of the smaller kinds of capsicum dried in the sun, pounded, and mixed with salt; it is then kept stopped in bottles. When used in moderation it is not unwholesome, especially to those of cold leucophlegmatic habits. In such temperaments, as well as in paralytic cases, it is used medicinally in small quantities, as one of the highest stimulants. A mixture of sliced cucumbers, shalots, or onions, cut very small, a little lime juice and Madeira wine, with a few pods of bird-pepper, well mashed and mixed with the liquor, seldom fails to provoke the most languid appetite in the West Indies. It is there called Man-dram. Gathered fresh from the plant, the pods of all the species are liberally used in all tropical countries to assist digestion and correct flatulencies.

Var. α, *longicárpum*; fruit long, pendant. Tourn. inst. 152.

Var. β, *olivæfórme* (Mill. dict. no. 6.) fruit ovate. Ait. hort. kew. ed. 2d. vol. 1. p. 405.

Var. γ, *abbreviàtum* (Fing. diss. t. 2. f. 1.) Miller has raised from the seed of one individual plant the following varieties of Tournefort. 1. Capsicum fructu surrecto oblongo, Tourn. inst. 152. 2. Capsicum fructu bifido, Tourn. l. c. 3. Capsicum siliquis surrectis et oblongis brevibus, Tourn. l. c. 4. Capsicum tereti spithamæo, Tourn.

Annual Capsicum, or Chilli, or Guinea Pepper. Fl. June, July. Clt. 1548. Pl. 1 to 2 feet.

2 C. lóngum (D. C. hort. monsp. 1813. p. 86.) fruit oblong, acuminated, a little incurved; petioles glabrous; stem herbaceous. ⊙. H. Native country unknown. C. ánnuum, Hort. —Mor. hist. sect. 13. t. 2. f. 2. no. 6.—Clus. cur. post. p. 101. f. 9—10.—Dod. pempt. 716. f. 3.—Bauh. hist. 2. p. 943. f. 1. —Fuchs. icon. 733. Capsicum fructu tereti spithamæo, Tourn. inst. p. 152.? C. ánnuum, var. α, Ait. hort. kew. 2. p. 405.

Long-fruited Capsicum, or Chilli Pepper. Fl. June, July. Clt. 1548. Pl. 1 to 2 feet.

3 C. cordifórme (Mill. dict. no. 2.) fruit heart-shaped; stem herbaceous. ⊙. H. Native of India. Capsicum siliqua propendente oblonga et cordiformi, Tourn. inst. p. 152. Fruit yellow and red, variable in shape. The following varieties of this species are mentioned: 1. Fruit pendent, round or heart-shaped, Tourn. 2. Fruit broader and rounder, Tourn. 3. Fruit large, round, Tourn. 4. Fruit erect, round, Tourn. 5. Fruit erect, heart-shaped. In all these varieties the fruit varies from yellow to red.

Var. β, *màjus*, Fing. diss. t. 9. f. c. C. ánnuum, Wall. cat. suppl. no. 222.

Heart-shaped-fruited Capsicum, or Chilli pepper. Fl. June, July. Clt.? Pl. 2 feet.

4 C. angulòsum (Mill. dict. no. 4.) fruit heart-shaped, angular; stem herbaceous. ⊙. H. Native of India? Capsicum siliquis surrectis cordiformibus angulàtis, Tourn. inst. p. 153. Fruit large, pendulous, of 2 forms, obtuse, angular, rather compressed, usually retuse and bifid at apex. Besser, cat. krzem. 1811. p. 27. Leaves wrinkled. Fruit red or scarlet, sometimes formed like a mitre at top, and sometimes campanulate. More tender than the other annual kinds.

Angular-fruited Capsicum, or Chilli Pepper. Fl. June, July. Clt.? Pl. 1 to 2 feet.

5 C. Mille'ri (Rœm. et Schultes, syst. 4. p. 563.) stem herbaceous; fruit round, glabrous. ⊙.? H. Native of New Spain, Miller. C. cerasifórme, Mill. dict. no. 5. Capsicum siliquis surrectis cerasiformis, Tourn. inst. 153. Leaves fascicled, pale green, on long petioles. Fruit red, size and shape of a pea. Perhaps only a variety of *C. ánnuum*.

Miller's Capsicum, or Chilli Pepper. Fl. June, July. Clt.? Pl. 1 foot.

6 C. cónicum (Meyer, esseq. p. 112.) herbaceous; branchlets downy, terete; fructiferous calyx almost quite entire; peduncles twin; fruit oblong-conical, erect; leaves solitary, rarely twin, ovate, acuminated, on short petioles, roughish on both surfaces, downy on the veins beneath, as well as the petioles. ⊙. H. Native about the Essequibo, in plantations. C. frutéscens, Rodschied, obs. p. 38. but not of Lin. Peduncles alar and axillary. Flowers drooping. Fruit croceous, shining.

Conical-fruited Capsicum, or Chilli Pepper. Pl.?

7 C. tetragònum (Mill. dict. no. 3.) herbaceous; fruit large, angular, obtuse. ⊙. H. Native of both Indies. Fing. diss. t. 10. f. d. Wall. cat. no. 224. Capsicum fructu longo ventre tumido, per summum, tetragono, Tourn. inst. p. 153. C. cydonifórme, Hort. Berries always red, crowded, 1-2 inches long, subtetragonal at top, usually pendulous, rarely erect.

Tetragonal-fruited Capsicum, or Chilli Pepper. Fl. June, July. Clt.? Pl. 1 to 2 feet.

* * *Shrubby. Berries pendulous.*

8 C. sphæ'ricum (Willd. enum. 1. p. 241.) fruit globose; petioles glabrous; stem shrubby. ♄. S. Native of India? Fing. diss. t. 9. f. a. C. cerasifórme, Wall. cat. no. 221. Shrub middle-sized; branches dichotomous. Leaves ovate, acuminated, glabrous. Fruit size of a cherry. Said to differ from *C. cerasifórme* in the fruit being pendulous.

Spherical-fruited Capsicum, or Chilli Pepper. Fl. April, July. Clt. 1807. Shrub 2 feet.

9 C. ova'tum (D. C. cat. hort. monsp. 1813. p. 86.) fruit ovate, acuminated; petioles and leaves glabrous; stem shrubby. ♄. S. Native country unknown. Peduncles shorter than the petioles. Calyx bluntly 5-toothed. Berry colour and size of a cherry, but ovate, pendulous. It differs from *C. sphæ'ricum* only in the shape of the fruit.

Ovate-fruited Capsicum, or Chilli Pepper. Fl. June, Sept. Clt. 1824. Shrub 2 to 3 feet.

10 C. pe'ndulum (Willd. enum. 1. p. 242.) fruit oblong; petioles downy; stem shrubby. ♄. S. Native country unknown. C. gróssum, β, Schultes, obs. no. 299. Fruit an inch long, red.

Pendulous-fruited Capsicum, or Chilli Pepper. Fl. April, July. Clt. 1804. Shrub 2 to 3 feet.

11 C. lu'teum (Lam. ill. 2. no. 2392.) fruit ovate, 3-celled; branches and petioles hairy; stem shrubby, flexuous. ♄. S. Native of the East Indies. Stem subtetragonal. Leaves glabrous, twin, or 4-5 in a fascicle. Flowers solitary or fascicled, supra-axillary. Corolla small, white, with short acute segments. Fruit yellow, oblong, middle-sized, on hardly recurved peduncles, downy.

Yellow-fruited Capsicum. Fl. June, Aug. Clt. 1820. Shrub 2 to 3 feet.

12 C. gróssum (Lin. syst. 226.) fructiferous calyx bowl-shaped, spreading, sinuately toothed; fructiferous peduncles solitary, erect, or reflexed; berry oblong or ovate, torose; leaves ovate, acuminated; branches downy. ♄. S. Native of India. Nees, in Lin. trans. 17. p. 62. Roxb. fl. ind. 2. p. 260. Wall. cat. no. 2643.A.—Besl. hort. eyst. 2. t. 2. f. 1. Fruit large, pale red.

Var. β; branches smoothish; fruit pendulous; leaves broader, very unequal at the base, subrepand, or cut a little. ♄. S. Native of India. C. gróssum, Wall. cat. no. 2643. B.

Var. γ, *cordàtum* (Fing. diss. t. 6. f. a.) fruit cordate.

Var. δ ? *pomíferum* (Martius, hort. erl. p. 65.) stem downy; fruit large, globose.

Var. ε, *globòsum* (Besser. cat. Krzem. 1811. p. 27.) fruit globosely depressed, erect.

Var. ζ, *lùteum* (Bess. l. c.) fruit ovate-conical, yellow, erect or drooping. Schultes, obs. p. 45. no. 299.

Var. η, *bífidum;* fruit bifid. Capsicum fructu bifido, Tourn. inst. mant. p. 152.

Large-fruited Capsicum, or Bell Pepper. Fl. July. Clt. 1759. Shrub 1 to 3 feet.

13 C. Havane'nse (H. B. et Kunth, nov. gen. 3. p. 49.) frutescent, dichotomous, divaricate; stem glabrous, striated, terete; branches angular; leaves ovate-oblong, glabrous; peduncles solitary, fructiferous ones reflexed; berries oblong. ♄. S. Native of Cuba, on the sea beach, among sand about the Havana. Leaves solitary, rounded at the base, running into the petioles, which are smoothish. Berry red, half an inch long, girded by the calyx.

Havana Capsicum, or Chilli Pepper. Shrub.

* * * *Shrubby. Fruit erect.*

14 C. conoi'des (Mill. dict. no. 8.) stem suffrutescent; fruit ovate-conical, erect. ♄. S. Native of both Indies. C. cónicum, Lam. ill. no. 2390. C. eréctum, var. ánnuum, Mart. enum. hort. erl. p. 65. C. cerasifórme, δ, macrocárpum, Besser. cat. hort. Krzem. 1811. p. 27.—Lob. icon. 317.? Shrub glabrous. Leaves lanceolate, acute. Flowers extra-axillary. Calyx campanulate, with 5 short teeth. Corolla cream-coloured.

Conoid-fruited Capsicum, or Chilli Pepper. Fl. June, July. Clt. 1750. Shrub 1 to 2 feet.

15 C. pyramida'le (Mill. dict. no. 1. Fing. diss. t. 3. f. 1.) stem shrubby; leaves linear-lanceolate; fruit pyramidal, erect, yellow. ♄. S. Native of Egypt. Perhaps *C. torulòsum* of Jacq. hort. vind.

Pyramidal-fruited Capsicum, or Chilli Pepper. Fl. April, July. Clt. 1750. Shrub 2 to 3 feet.

16 C. cerasifórme (Willd. spec. 1. p. 1651. exclusive of the syn. of Mill. enum. 1. p. 242.) fruit globose; petioles glabrous; stem shrubby. ♄. S. Native country unknown. Very like *C. frutéscens;* but is distinguished from that species in the fruit being globose, and the size of a cherry, red or yellow.

Cherry-formed-fruited Capsicum, or Cherry Pepper. Fl. June, Sept. Clt. 1739. Shrub 1 to 2 feet.

17 C. cerasiflòrum (Link, enum. 1. p. 190.) young petioles ciliated; berries erect, globose, solitary. ♄. S. Native country unknown. Very nearly allied to *C. cerasifórme*, but differs in the petioles being ciliated.

Cherry-flowered Capsicum, or Chilli Pepper. Fl. June, Sept. Clt. 1823. Shrub.

18 C. frute'scens (Lin. hort. cliff. p. 59. spec. 271.) fructiferous calyx cylindrical, subtruncate; fructiferous peduncles solitary; berry conically attenuated, incurved; leaves oval, acuminated at both ends; petioles and branches, which are angular, downy. ♄. S. Native of India. Willd. spec. 1. p. 1051. Roxb. fl. ind. 2. p. 201. Blum. bijdr. 704. H. B. et Kunth, nov. gen. 3. p. 48. Nees, in Lin. trans. 17. p. 63. Cápsicum minus rubrum et flavum, Rumph. amb. 5. p. 248. t. 88. f. 1—3. Capo Molago, Rheed. mal. 2. p. 109. t. 56. Corolla white. Fruit size of an olive, red or copper-coloured, or reddish-yellow. The red-fruited kind is called Tschili-cuning, and the yellow-fruited sort Tschili-mera. This species also furnishes the Cayenne-pepper of the shops. The ripe pods are dried in the sun, and then in an oven, after bread is baked, in an earthen or stone pot, with flour between the strata of pods. When quite dry they are cleaned from the flour, and beaten or ground to fine powder. To every ounce of this a pound of wheat flour is added, and it is made into small cakes with leaven; these are baked again, that they may be as dry and hard as biscuit, and then are beaten into powder and sifted. It is then fit for use as a pepper, or for being packed in a compressed state, and so as to exclude air, for exportation.

Var. β, *torulòsum* (Jacq. hort. vind.) fruit twice as large as the species.

Frutescent Capsicum, or Chilli Pepper. Fl. June, Sept. Clt. 1756. Shrub 2 to 3 feet.

19 C. bi'color (Jacq. fragm. t. 99. f. 1.) fruit oblong, mucronate; petioles glabrous; stem shrubby. ♄. S. Native of the West Indies. Sims. bot. mag. 1835. C. nìgrum, Willd. enum. 1. p. 242. C. violàceum, Brouss. elench. monsp. 1804. Desf. tabl. de l'ecole, p. 83. D. C. cat. hort. monsp. 1813. p. 87. Flowers large, subviolaceous. Fruit black or dark purple. Calyx campanulate, obsoletely 5-toothed.

Two-coloured Capsicum, or Chilli Pepper. Fl. June, Sept. Clt. 1804. Shrub 3 to 4 feet.

20 C. purpu'reum (Vahl, herb. ex Horn. hort. hafn. 1. p. 224.) peduncles generally solitary; fruit oblong, erect, mucronate; petioles glabrous; stem shrubby; branches divaricate. ♄. S. Native country unknown. Stem dark purple; branches striped with dark purple; and the leaves spotted with the same colour.

Purple Capsicum, or Chilli Pepper. Fl. June, Sept. Clt.? Shrub 2 to 3 feet.

21 C. chamæce'rasus (Nees, in. Lin. trans. 17. p. 65.) frutescent; branches subtetragonal, contracted, glabrous; fructiferous calyx loose, large, cup-shaped, quite entire; peduncles solitary, erect; berry globose; leaves lanceolate, glabrous. ♄. S. Native of India. C. cerasifórme, Poir. suppl. 5. p. 325. but not of Willd. C. purpùreum, Wall. cat. suppl. no. 206. This species differs from *C. cerasifórme* in the large, cup-shaped, entire calyx.

False-cherry-fruited Capsicum, or Chilli Pepper. Shrub.

§ 2. *Peduncles generally twin. Fruit erect or pendulous.*

* *Shrubby. Berries erect.*

22 C. fastigia'tum (Blum. bijdr. 705.) frutescent; branches tetragonal, fastigiate, diverging, pubescently scabrous; fructiferous calyx subcylindrically truncate; fructiferous peduncles generally twin, erect; berry oblong-cylindrical, straight; leaves oval or lanceolate, acuminated at both ends, minutely and serrulately ciliated. ♄. S. Native of India. C. frutéscens, Lin. spec. 1. p. 271. but not of hort. cliff. Burm. fl. ind. p. 58. Fing. diss. exclusive of many of the synonymes. C. minimum, Roxb. fl. ind. 2. p. 201. but not of Mill.

Fastigiate-branched Capsicum, or Chilli Pepper. Fl. June, Sept. Shrub 1 to 2 feet.

23 C. globi'ferum (Meyer. esseq. p. 113.) frutescent; branches terete, tubercular; fructiferous calyx nearly entire; peduncles twin; fruit globose, erect; leaves twin or solitary, ovate, acuminated at both ends, subciliated. ♄. S. Native in plantations about the Essequibo. C. baccàtum, Rodschied, obs. p. 38. Branches glabrous. Leaves rather scabrous on both surfaces, downy while young. Flowers minute, drooping. Berry size of a small cherry, pale yellow.

Globe-bearing Capsicum, or Chilli Pepper. Fl. June, July. Clt. 1824. Shrub 2 feet.

24 C. microca'rpum (Brouss. elench. 1804. p. 12. D. C. cat. hort. monsp. 1813. p. 86.) frutescent; petioles and leaves downy; calyx with 5 subulate spreading teeth; peduncles twin; fruit ovate, erect. ♄. S. Native country unknown. Horn. hort. hafn. 2. p. 958. C. ciliàre, Willd. enum. 1. p. 243.? Flowers small, white, furnished with 10 green spots on the lower part of the limb. Pedicels striated, downy, ex D. C.

Petioles ciliated on the margins; peduncles longer than in *C. baccàtum*, ex Willd. Fruit a little smaller than in *C. baccàtum*.

Small-fruited Capsicum, or Chilli Pepper. Fl. April, July. Clt. 1820. Shrub 2 feet.

25 C. mi'nimum (Mill. dict. no. 10.) stem shrubby; fruit small, ovate, erect. ♄. S. Native country unknown. C. baccàtum, var. *β*, Poir. suppl. 5. p. 326.

Smallest-fruited Capsicum, or Chilli Pepper. Fl. April, July. Clt.? Shrub 1 to 2 feet.

26 C. bacca'tum (Lin. syst. p. 226. Mill. dict. no. 9.) frutescent; branches angular, striated; leaves oblong, glabrous, as well as the petioles; calyx urceolate, obsoletely 5-toothed; peduncles twin; fruit erect, almost globose. ♄. S. Native of tropical America, and now cultivated in India and Guinea. Willd. spec. 1. p. 1050. H. B. et Kunth, nov. gen. 3. p. 49. Afz. rem. guin. coll. 2. p. 12. C. frutéscens, *β*, Lin. spec. 271. —Sloane, hist. 1. p. 240. t. 146. f. 2.—Rumph. amb. 5. p. 147. t. 88. f. 2. Flowers greenish. Fruit small, ovate. The calyx is said to have 5 subulate teeth according to Lin.; but according to H. B. et Kunth it is obsoletely 5-toothed; there are, therefore, probably two distinct species, confounded under the name of *C. baccàtum*.

Berried Capsicum, or Bird Pepper. Fl. June, Sept. Clt. 1731. Shrub 2 to 4 feet.

27 C. micra'nthum (Link, enum. 1. p. 190.) calyxes very blunt; leaves ovate, acuminated; petioles ciliated. ♄. S. Native of Brazil. Leaves as in *C. microcárpum*, and with the calyx always entire, and the fruit cylindrical, 6 lines long. Peduncles twin.

Small-flowered Capsicum, or Chilli Pepper. Fl. May, June. Clt. 1824. Shrub 2 to 3 feet.

* * *Shrubby. Berries pendulous.*

28 C. Sine'nse (Jacq. hort. vind. 3. t. 67.) frutescent; branches flexuous, divaricate, angular; leaves large, ovate, acuminated, on slender, filiform, downy pedicels; calyx entire; fruit ovate, pendulous, twin. ♄. G. Native of China. Willd. spec. 1. p. 1051. Lam. ill. 2394. Flowers 4-5 in a fascicle in the spontaneous plant, supra-axillary, but twin or solitary in the cultivated plant. Corolla dirty white. Berry yellow, glabrous, mucronate by the style.

China Capsicum, or Chilli Pepper. Fl. June, Sept. Clt. 1807. Shrub 2 to 3 feet.

† *Species hardly known.*

29 C. viola'ceum (H. B. et Kunth, nov. gen. 3. p. 49.) suffruticose; branchlets angular, rather scabrous, downy while young; but the branches are terete; leaves ovate-oblong, acuminated, puberulous; flowers solitary or twin, drooping; calyx urceolate, hairy, with 7 acute teeth; berries oblong. ♄. S. Native near the city of Quito, in cultivated places, at the altitude of 1500 hexapods, where it is called *Aji* by the natives. C. Quiténse, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 809. Shrub much branched. Leaves solitary? twin, ex Bonpl., running into the petioles at the base; petioles puberulous. Flowers extra-axillary. Corolla violaceous, hairy outside; throat white; limb 7-cleft; segments ovate, acuminated, equal. Stamens 7, inserted in the upper part of the tube. Stigma somewhat 2-lobed. Berry dry, oblong, red, 3-6 inches long.

Violaceous-flowered Capsicum, or Chilli Pepper. Shrub.

30 C. Hamiltònii; stem shrubby, biennial, about 3 feet high, erectish, violaceous; leaves dark violet; immature berries red, of a dark violet colour when mature, short, bluntly conical. ♂. S. Native of the Island of Nevis, in gardens. C. violàceum, Desf. cat. hort. par. Hamilt. prod. p. 25, but not of H. B. et Kunth.

Hamilton's Capsicum, or Chilli Pepper. Fl. Year. Shrub 3 feet.

31 C. cærule'scens (Bess. cat. hort. Krzem. p. 27.) Said to be nearly allied to *C. bicolor*; but differs in the stem and leaves being green; in the fruit being one half shorter, and difformed, bluntly angular, retuse, and at length orange-coloured.

Bluish Capsicum, or Chilli Pepper. Shrub?

32 C. aggrega'tum (Willd. rel. ex Rœm. et Schultes, syst. 4. p. 809.) peduncles aggregate, pubescent; leaves downy above, but clothed with hoary tomentum beneath. ♄. S. Native country unknown.

Aggregate Capsicum, or Chilli Pepper. Shrub.

33 C. Wildenòwii; peduncles twin; fruit globose, small; branches and petioles downy; stem shrubby. ♄. S. Native of South America. Humb. et Bonpl. C. microcárpum, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 808.

Willdenow's Capsicum, or Chili Pepper. Shrub.

Use.—The green pods, or inflated berries, of all the species and their varieties, are used for pickling. They are sometimes also used in their ripe state, when they form a spice of the hottest quality, known by the name of Cayenne-pepper. The fruit of *C. gróssum* are deemed better for pickling than the others, the skin being thick, pulpy, and tender.

Culture.—All the species, with their varieties, are raised from seed: a small parcel, or the produce of two pods, will be a sufficient quantity of each, or of any one variety, for ordinary supply. Sow all the annual sorts at the end of March, or beginning or middle of April, in a moderate hot-bed, under a frame. Cover the seed a quarter of an inch deep. When the plants are 2 or 3 inches in growth, prick some into a new, moderate hot-bed, to forward them for final transplanting; or, in default of this, prick them into a bed of natural earth, at the beginning of May, if fine, settled, warm weather: defend them with a frame or awning of mats at night, or in cold weather. Give water lightly at planting, and occasionally afterwards in moderate supplies, to assist their fresh rooting and subsequent growth. At the beginning of June, when the weather is settled warm, transplant them into the open garden, in beds of light rich earth, from 12 to 18 inches apart, giving water. They will thus advance freely, flower in July or August, and produce plenty of pods from August till the end of September. Under the deficiency of a hot-bed or stove, or for succession, annual capsicums may be raised in a bed of light rich earth, under a hand-glass; but the sowing must be deferred to fine warm weather in May. Give the plants air in the day, but cover them close at night, till danger from frost is over. At the close of June transplant as above. The perennial and shrubby species may be wintered in the stove.

To save seed.—Leave one or two of the largest and handsomest shaped pods to ripen in autumn; after gathering them, the best way is to hang them up in a dry place, and not take out the seeds till wanted for sowing in spring.

V. PHY'SALIS (from *φυσα*, *physa*, a bladder; in reference to the inflated calyx.) Lin. gen. no. 250. Schreb. gen. no. 336. Gærtn. fruct. 2. p. 238. t. 131. Juss. gen. p. 126. ed. Usteri, p. 140. H. B. et Kunth, nov. gen. amer. 3. p. 12. Nees, in Linnæa, 6. p. 449. and Lin. trans. 17. p. 66.—Alkekéngi, Tourn. inst. p. 151. t. 64.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-toothed. Corolla campanulately rotate, plicate, 5-lobed. Anthers connivent, dehiscing lengthwise. Stigma capitate. Berry 2-celled, many-seeded, covered by the unarmed, membranous, angular, inflated calyx; placentas adnate.—Annual or perennial herbs, rarely shrubs. Stems angular. Leaves scattered, sometimes twin,

entire or lobed. Flowers lateral or extra-alar, solitary or aggregate. Corollas greenish, white, yellow, or blue.

Sect. I. Physalodendron (from φυσαλις, *physalis*, winter cherry; and δενδρον, *dendron*, a tree; in allusion to the species being woody.) Shrubby. Flowers aggregate.

1 P. somnífera (Link, enum. hort. berol. 1. p. 180. Nees, in Linnæa, 6. p. 453.) shrubby; leaves quite entire; flowers crowded, nearly sessile, sub-verticillate. ♄. G. Native of the East Indies; and the South of Europe; in the Grecian Islands, Spain, &c. Corolla yellowish-green. Berry small, red.

Var. α, flexuòsa (Nees, in Linnæa, 6. p. 454. in Lin. trans. 17. p. 66.) stem more flexuous; leaves pubescent, or pubescently tomentose; flowers smaller; segments of the calyx about equal in length to the tube. ♄. G. Native of the East Indies, and the South of Europe. P. flexuòsa, Lin. spec. p. 261. Jacq. eclog. 1. t. 23. Roxb. fl. ind. 2. p. 240. Wall. cat. no. 2635. P. Suqúnda, Hamilt. herb. P. Alpìni, Jacq. eclog. 1. p. 39. Pavétti, Alp. exot. p. 71. t. 70.? Leaves smoothish or downy, canescent. Stem woolly or downy.

Var. β, somnífera (Nees, in Lin. trans. 17. p. 67.) stem less, flexuous; flowers one half larger; segments of the calyx sometimes shorter than the tube, and sometimes equal in length to it. ♄. G. Native of the Grecian Islands, Canaries, Mauritius, and the Cape of Good Hope. P. somnífera, Lin. hort. cliff. p. 62. spec. 261. Mill. dict. no. 6. Sibth. et Smith, fl. græc. t. 233. Cav. icon. 2. p. 2. t. 103. Jacq. eclog. 1. t. 22. Physaloìdes somnífera, Mœnch, meth. p. 473.—Mor. hist. 3. p. 526. sect. 13. t. 3. f. 20.—Tourn. inst. p. 151. Στρυχνος ὑπνοτικος, Diosc. mat. lib. 4. cap. 73. P. arboréscens, Thunb. prod. p. 37. fl. cap. 1. p. 191. P. tomentòsa, Sieb. fl. maur. 2. no. 226. Plant downy. Calyx greenish-yellow, or red. Corolla yellowish.

Somniferous Winter Cherry. Fl. July, Aug. Clt. 1759, β. 1796. Shrub 2 to 3 feet.

2 P. arbore'scens (Willd. herb. Lin. spec. p. 261.? Willd. spec. 1. p. 1020.?) stem arborescent; leaves repandly toothed; flowers aggregate, pendulous; corolla 5-parted. ♄. S. Native of Mexico, about Campeachy. Mill. dict. no. 8. t. 206. f. 2. Leaves canescent, tomentose. Corolla tomentose outside, fuscous. This is the species described by Nees, in Linnæa; but the plant is described by Linnæus as follows: "Stem fruticose; leaves ovate, pilose; flowers solitary or twin; corollas revolute." The leaves are also said to be dark green above, and woolly beneath: upper ones twin. Corolla is said to be yellow, marked with brown spots inside, and the berry round, red, and the calyx becoming dark purple in the fructiferous state. The plant of Nees, and that of Linnæus, are, however, probably the same, notwithstanding the apparent difference in the characters given to it by them.

Arborescent Winter Cherry. Fl. July, Aug. Clt. 1700. Shrub 4 to 12 feet.

Sect. II. Eurostorhìza (from εὔρωστος, *eurostus*, robust; and ῥιζα, *rhiza*, a root; in reference to the strong roots of the species.) Frutescent or herbaceous, with strong roots, and permanent bases of the stems. Flowers solitary. Alabastra while closed large for the size of the corolla, ventricose.

3 P. viscòsa (Lin. hort. cliff. p. 496. spec. p. 261.) herbaceous, scabrous from bi-trifurcate, short hairs; root perennial, creeping, scabrous; stem dichotomous; leaves ovate, or subcordate, entire, or toothed; flowers almost spotless; segments of calyx unequal, broad, ovate. ♃. H. Native of Brazil; and of Virginia, and from Pennsylvania to Carolina in North America. Pursh, fl. amer. sept. 1. p. 167. P. Pennsylvánica, Lin. spec. 1670. Pursh, l. c. p. 167.—Dill. hort. elth. p. 11. t. 10. f. 10. The whole plant is beset with short, 2-3-4-forked bristles, seated on minute tubercles: upper leaves twin, unequal. Corolla yellow, marked with a paler star in the centre. Berry ovate, or turbinate, umbilicate, smooth, viscid, orange-coloured, rather acid, and not disagreeable to the taste.

Var. β, Jacquìni; leaves ovate, repandly toothed, often acutish, smaller. ♃. H. Native from Pennsylvania to Carolina. P. viscòsa, Jacq. vind. 2. t. 136. P. Jacquìni, Link, enum. 1. p. 180. P. Pennsylvánica, Lin. spec. 1670. Mill. dict. no. 3. P. tomentòsa, Walt. fl. carol. p. 99. In *P. Pennsylvánica* the stems are said to be procumbent, the flowers twin, and the berries small, red, size of a pea.

Clammy-berried Winter Cherry. Fl. July, Aug. Clt. 1699, B. 1726. Pl. 1 to 3 feet.

4 P. lanceola'ta (Michx. fl. bor. amer. 1. p. 149. Pursh. fl. 1. p. 157.) plant dwarf, downy; leaves almost sessile, oval-lanceolate, almost entire, green on both surfaces, and rather downy; calyx villous; stem dichotomous. ♃.? H. Native of Lower Carolina. P. Virginiàna, Mill. dict. no. 4. t. 206. f. 1.? Leaves tapering gradually into the petioles at the base. Corolla sulphur-coloured, with a dark purple bottom. Berry yellow, ex Mill.

Lanceolate-leaved Winter Cherry. Pl. 1 to 2 feet.

5 P. Walte'ri (Nutt. in journ. acad. nat. sc. phil. 7. p. 112.) perennial, clothed with powdery tomentum, much branched, dichotomous; leaves twin, broad, ovate, obtuse, on long petioles, entire; peduncles solitary, nutant; fructiferous calyx smoothish. ♃. H. Native of South Carolina. P. lanceolàta, Elliott, but not of Michx. Leaves green above.

Walter's Winter Cherry. Pl. 1 foot?

6 P. angustifòlia (Nutt. l. c. p. 113.) perennial, quite glabrous, prostrate, dwarf; leaves very long, linear, fleshy, solitary; peduncles nutant, filiform. ♃. H. Native of West Florida. Leaves 3 inches long.

Narrow-leaved Winter Cherry. Pl. prostrate.

7 P. Curassa'vica (Lin. hort. cliff. p. 62. spec. 261.) shrubby, clothed with viscid down; down simple, articulated; stem erect; leaves ovate, repand; flowers solitary, spotless; calyx hairy, with subulate segments. ♃. S. Native of Curaçoa. Mill. dict. no. 5. P. origanifòlia, Lam. ill. gen. no. 2398.—Mor. hist. 3. p. 527.—Plukn. phyt. t. 111. f. 5. Calyx cylindrically campanulate, not angular, densely hairy. Corolla sinuately 5-angled, yellow. Berry greenish-yellow. This species differs from *P. viscòsa*, in the down being simple, not forked, in the calyx being densely hairy and smaller, and in its segments being short and subulate, and in the bottom of the corolla being pale.

Curaçoa Winter Cherry. Fl. June, Sept. Clt. 1699. Pl. 1½ foot.

8 P. Alkeke'ngi (Lin. spec. p. 262.) herbaceous, downy from simple hairs; root perennial, creeping; stem almost simple; leaves ovate-deltoid, acuminated, repand; flowers spotless; fructiferous calyx ovate, coloured: segments subulate. ♃. H. Native of Europe, on exposed parts of hills; and of Japan? Willd. spec. 1. p. 1022. Sibth et Smith, fl. græc. t. 234. Schkuhr, handb. t. 45. P. Halicácabum, Scop. fl. carn. ed. 2d. no. 286. Alkekéngi officinàrum, Tourn. inst. p. 151. Στρυχνος ἀλικακαβος, Diosc. lib. 4. chap. 72.—Plench, off. t. 124.—Blackw. t. 161. Corolla dirty white. Calyx reddish yellow, inclosing a scarlet berry. The berries of the *Alkekéngi*, or *Winter Cherry*, were well known to the ancients, and are described by Dioscorides. They have an acidulous, and not unpleasant flavour, followed by a slight bitterness, which they are said to derive from the investing calyx. Though esteemed detergent, and aperient, the fruit is chiefly recommended as a diuretic. From 6 to 12

berries, or an ounce of the expressed juice, is given as a dose. In some parts of Germany the country people eat the fruit by handfuls, and in Spain and Switzerland they frequently supply the place of other eatable fruits. Instances are related of their good effects in dropsical and calculous disorders, but at present they are wholly disregarded. In some parts they are esteemed as good as gooseberries for tarts.

Alkekengi, or Common Winter Cherry. Fl. July, Sept. Clt. 1548. Pl. 1 to 1½ foot.

9 P. CHENOPODIFÒLIA (Lam. ill. no. 2401. Poir. suppl. 2. p. 348.) herbaceous, perennial, tuberous at the base, clothed with hoary, simple tomentum; stem erect, dichotomous; leaves deltoid-ovate, angularly-toothed; corolla spotted; anthers violaceous; fructiferous calyx ovate, angular, pale. ♃. S. Native of Peru. P. tuberòsa, Willd. enum. 1. p. 232. P. incàna, Cat. hort. par. Root thick, branched. Leaves small for the size of the plant: superior ones twin, unequal. Flowers drooping. Calyx pubescently tomentose, bifid to the middle, with the segments unequal. Corolla downy outside, yellow, marked with 5 square, dark, violaceous spots at the bottom. Berry yellow, clammy. This species often occurs in gardens under the name of *P. viscòsa*.

Goosefoot-leaved Winter Cherry. Fl. July, Aug. Clt. 1798. Pl. 2 to 3 feet.

10 P. HETEROPHY'LLA (Nees, in Linnæa, 6. p. 463.) herbaceous, villous, with a perennial root; branches diffuse, angular, flexuous; leaves twin, very unequal in size, ovate, or cordate, acute, toothed; corollas spotted; anthers yellow; fructiferous calyx ovate, angular, pale. ♃. H. Native of North America, on argillaceous hills in Pennsylvania, Poeppig. P. Pennsylvánica, Willd. herb. P. tomentòsa, Walt. fl. car. p. 99.? P. nùtans, Walt. fl. car. p. 99.? Root creeping. Stems procumbent. Flowers nutant. Calyx hairy, 5-cleft, unequal. Corolla downy outside, with a repand margin, yellow, marked by 5 obscure, brownish-violet spots. Leaves almost orbicular, cordate, and ovate, and repand in various ways.

Variable-leaved Winter Cherry. Pl. procumbent.

11 P. PERUVIA'NA (Nees in Linnæa, 6. p. 464. and Lin. trans. 17. p. 67.) herbaceous, perennial, densely and pubescently villous from simple hairs; stem erect, branched a little; leaves cordate, acuminated, entire, or dentately sinuated, rather tomentose; corolla spotted; anthers violaceous; fructiferous calyx ovate, nearly equal, pale. ♃. G. Native of Peru, about Lima; East Indies; New Holland, at Port Jackson; Madeira. Plant grey from down. Leaves twin. Calyx downy. Corolla size of that of *P. Alkekéngi*, yellow, marked with 5 brown spots at the throat. Berry globose, viscid, yellow, sweet-scented; they are an excellent substitute for gooseberries in making tarts, for which they are used in many places.

Var. α, esculénta; leaves more or less toothed. ♃. G. P. esculénta, Willd. in act. nat. car. berol. 4. p. 197. P. tomentòsa, Medic. act. pal. 4. p. 184. t. 4. P. Peruviàna, Roxb. fl. ind. 2. p. 241. Wall. cat. no. 2644.

Var. α, edùlis; leaves almost quite entire. ♃. G. P. Peruviàna, Lin. spec. 1. p. 1670. Willd. spec. 1. p. 1022. enum. 1. p. 232. P. pubéscens, Lin. herb. R. Br. prod. p. 447. Ruiz. et. Pav. fl. per. 2. p. 41. Rœm. et Schultes, syst. 4. p. 675. P. tuberòsa, Zucc. obs. cent. no. 43. in Rœm. coll. p. 130. D. C. hort. monsp. 1813. p. 50. P. latifòlia, Lam. ill. no. 2407. Rœm. et Schultes, syst. 4. p. 676. P. Barbadénsis, Lam. dict. 2. p. 102. no. 12. P. edùlis, Sims, bot. mag. t. 1068. Balb. cat. hort. taur. 1813.—Mor. hist. 3. p. 526. sect. 13. t. 3. f. 17.—Feuill, per. 3. p. 5. t. 1.

Peruvian Winter Cherry. Fl. April, Oct. Clt. 1772. Pl. 2 to 3 feet.

SECT. II. EPETEIORHIZA (from επετειος, *epeteios*, annual; and ῥιζα, *rhiza*, a root; in reference to the annual roots.) Herbaceous, annual; root slender. Flowers solitary. Alabastrum ovate, while closed small in respect to the corolla.

§ I. *Fructiferous calyx bladdery, closed.*

12 P. PUBE'SCENS (Lin. hort. cliff. no. 62. spec. p. 262.) herbaceous, annual, much branched, clothed with pubescent tomentum; leaves unequal at the base, cordate, acuminated, toothed, but quite entire at the base; corollas spotted; anthers violaceous; fructiferous calyx ovate, acuminated, acutely angular, retuse at the base. ☉. H. Native of North America, as of Virginia, Carolina, and Pennsylvania; East Indies, but hardly indigenous; Island of Ascension, but probably introduced. Pursh. fl. sept. amer. 1. p. 157. P. ramòsa, Mill. dict. no. 9. P. Peruviàna, Roxb. fl. ind. 2. p. 241. Wall. cat. no. 2034. C. D. F. P. Rothiàna, Herb. hort. berol. Alkekéngi procúmbens, Mœnch. meth. 473.—Mor. hist. 3. p. 527. sect. 13. t. 3. f. 24. P. stamìnea, Muhl. in herb. Willd. P. edùlis, Cyr. Balb. cat. hort. taur. 1813. Mill. fig. t. 206. f. 1. The whole plant is densely clothed with minute soft down. Leaves generally distinctly cordate at the base. Corolla yellow, marked with 5 roundish, brownish-violet spots at the throat. Berries yellowish when ripe, size of cherries; they are called gooseberries in many parts, and are used in tarts as a substitute for them.

Var. β, pruinòsa; leaves also toothed at the base. ☉. H. Native of America. P. pubéscens, β, Lam. dict. 2. p. 101. no. 9. P. pruinòsa, Lin. spec. p. 263. Rœm. et Schultes, syst. 4. p. 678. P. Barbadénsis, Jacq. misc. 2. p. 359. icon. rar. 1. t. 39. Rœm. et Schultes, syst. 4. p. 676. Willd. enum. 1. p. 232. P. obscùra, β, pubéscens, Pursh, fl. amer. sept. 1. p. 157. Rœm. et Schultes, syst. 4. p. 677. no. 21. β.—Dill. elth. p. 12. t. 9. f. 9.

Downy Winter Cherry. Fl. July, Aug. Clt. 1640. Pl. 1 to 2 feet.

13 P. FŒ'TENS (Poir. suppl. 2. p. 348.) herbaceous, annual, clothed with clammy pubescence; branches dichotomously diffuse; leaves ovate-elliptic, unequal at the base, acute, coarsely toothed; corollas spotted; anthers violaceous; fructiferous calyx ovate, ventricose, equal. ☉. H. Native of tropical America. P. fœtidíssima, Lag. gen. et spec. nov. diagn. p. 10. no. 146. Rœm. et Schultes, syst. 4. p. 680. Link, enum. 1. p. 181. P. nodòsa, Lam. ill. p. 29.? The whole plant is clothed with capitate, soft, short hairs, of an ungrateful smell, green, and shining. Stems and branches thickened at the joints. Corolla rather downy outside, with ciliated edges, sulphur-coloured, marked with 5 large livid-violaceous spots at the bottom; angles acute. Berry nearly globose, yellowish.

Stinking Winter Cherry. Fl. July, Aug. Clt. 1816. Pl. 1½ to 2 feet.

14 P. ÆQUA'TA (Jacq. fil. eclog. 2. Nees in Linnæa, 6. p. 470.) herbaceous, annual; stem dichotomous, and clothed with hairy pubescence at the side, as well as the erect, strict branches; leaves ovate, or oblong, sinuately serrated, glabrous; corollas spotted; anthers violaceous; fructiferous calyx ovate-subglobose, smooth; pedicels short, hairy. ☉. S. Native country unknown. P. ixocárpa, Brot. ex D. C. hort. monsp. 1813. Horn. hort. hafn. suppl. p. 26. Upper leaves said to be twin. Leaves sometimes scabrous on the midrib and veins beneath; petioles hairy above. Calyx downy; segments triangular. Corolla small, downy outside, yellow, with a blackish violet bottom. Berry large, yellow, filling the bottom of the calyx.

Equal-calyxed Winter Cherry. Fl. June, July. Clt. 1826. Pl. 1½ to 2 feet.

15 P. LINKIA'NA (Nees, in Linnæa, 6. p. 471.) herbaceous, annual, glabrous; stem branched, rather diffuse; leaves ovate,

acuminated, sinuately serrated, glabrous: serratures mucronate; corolla spotless; anthers violaceous; fructiferous calyxes ovate, acuminated, equal; peduncles elongated, glabrous. ⊙. H. Native of Brazil. P. dùbia, Link, enum. 1. p. 181. P. ixocárpa, Brot. hort. bonn. P. angulàta, Hort. Vrat.—Mor. hist. 3. p. 526. sect. 13. t. 3. f. 22. Stems procumbent at length, but erect at first. Upper leaves twin. Calyx rather scabrous, with triangular, acuminated segments. Corolla sinuately 5-angled, yellow, with a more obscure, 5-lobed star in the bottom; angles acute. Berry globose, yellow. The variety having the calyx veined with purple is the *P. dùbia*, Link; and the one with pale, self-coloured calyx, is *P. arenària*, Hort. Vrat.

Link's Winter Cherry. Fl. July, Aug. Clt. 1821. Pl. 1 to 2 feet.

16 P. LANCEIFÒLIA (Nees, in Linnæa, 6. p. 473.) herbaceous, annual, smoothish; stem dichotomous; leaves lanceolate, attenuated at both ends, a little toothed; corolla spotless; anthers bluish; fructiferous calyx pendulous, ovate, equal?; peduncles very long, downy. ⊙. H. Native of Peru, Mexico, and North America?. P. angulàta, Ruiz. et Pav. fl. per. 2. p. 42. Stem thickened at the nodi, sulcately angular. Leaves sometimes twin, pale green: lower ones glabrous: upper ones minutely pubescent about the petioles and principal veins, as well as the calyx in the same way; midrib marked by a furrow on both sides. Corolla downy outside, cream-coloured. Berry globose, yellow.

Lance-leaved Winter Cherry. Pl. 1 to 2 feet.

17 P. ANGULA'TA (Lin. hort. cliff. p. 62. spec. p. 262.) herbaceous, annual, much-branched, glabrous; leaves ovate or oblong, acute, coarsely, unequally, and dentately serrated, but in var. β almost entire; corolla spotless; anthers pale blue; fructiferous calyx 5 angled, truncate at the base; the segments triangularly subulate under florescence, about equal in length to its tube. ⊙. H. Native of the East Indies. Willd. spec. 1. p. 1022. Rœm. et Schultes, syst. 4. p. 676, exclusive of var. β, and its synonymes. Nees in Linnæa, 6. p. 474, and in Lin. trans. 17. p. 70. P. obscùra, var. α, glàbra, Pursh, fl. 1. p. 157. P. Peruviàna, Wall. cat. no. 2634. A. E. G. H. P. mínima, Wall. cat. no. 2633. P. flexuòsa, and P. angulàta, Russel, herb. P. angulàta, Heyne, herb. P. flexuòsa, and P. Sugúnda, Hamilt. herb.—Dill. elth. p. 13. t. 12. f. 12.—Mor. hist. 3. p. 527. sect. 13. t. 3. f. 27. ?—Rheed. mal. 10. p. 139. t. 70. Corolla small, short, somewhat campanulate, yellow. Berry size of a cherry, globular, yellow?

Var. β, pátula; leaves oblong-lanceolate, acuminated at the base and apex; stem diffuse. ⊙. H. Native of Vera Cruz and Brazil. P. pátula, Mill. dict. no. 12.

Var. γ, Bonariénsis; leaves oblong, almost quite entire. ⊙. H. Native of Buenos Ayres. P. angulàta, β, foliis integérrimis, Lin. spec. 262. Rœm. et Schultes, syst. 4. p. 676.—Dill. elth. p. 12. t. 11. f. 11.

Angular-calyxed Winter Cherry. Fl. June, Sept. Clt. 1732. Pl. 1 to 2 feet.

18 P. I'NDICA (Lam. dict. 2. p. 102. no. 14.) herbaceous, annual; stem erect, divaricately dichotomous, and is, as well as the branches, flexuous, and the petioles clothed with fine viscid pubescence, roughish; leaves ovate, or oblong, a little toothed; corolla spotless; anthers yellow; fructiferous calyx ovate, rather angular; the segments triangular under florescence, and not half as long as its tube. ⊙. H. Native of the East Indies, and New Holland. Nees in Linnæa, 6. p. 476. P. parviflòra, R. Br. prod. p. 447. Rœm. et Schultes, syst. 4. p. 680. P. mínima, Roxb. fl. ind. 2. p. 242. Mill. dict. no. 11. Nicándra I'ndica, Rœm. et Schultes, syst. 4. p. 682. P. Alkekéngi, Lour. coch. 1. p. 164. P. pseùdo-angulàta, Blum. bijdr. p. 706. P. angulàta, Willd. P. Peruviàna, Wall. cat. no. 2634.—Rumph. amb. 4. p. 61. t. 25. f. 1. Stem dwarf, usually violaceous, scabrous from short, glandular pubescence, as well as the branches, which are also viscid. Leaves twin, unequal. Flowers size and form of those of *P. angulàta*, but more tubular. Calyx scabrous from viscid down.

Var. β, microcárpa (Nees, in Linnæa, 6. p. 476.) flowers and fruit not above half the size of those of the species; fructiferous calyx almost globose. ⊙. H. Native of Nipaul. P. divaricàta, D. Don, prod. fl. nep. p. 97. P. Peruviàna, Wall. cat. no. 2634. P. angulàta, var. β, Hamilt. herb.

Indian Winter Cherry. Fl. July, Aug. Clt. 1820. Pl. 1 to 2 feet.

19 P. MÍNIMA (Lin. hort. cliff. p. 62. spec. 262.) herbaceous, annual, loosely villous, diffusely branched; leaves cordate, or ovate, acuminated, serrately toothed, or almost entire, pilose; corolla spotless; anthers yellow; fructiferous calyx ovate, angular, hairy: the segments triangularly acuminated under florescence, and shorter than its tube. ⊙. H. Native of the East Indies, and Vera Cruz, Miller.? Roxb. fl. ind. 2. p. 242. Nees in Linnæa, 6. p. 479. in Lin. trans. 17. p. 89. P. parviflòra, Lag. gen. et spec. nov. diagn. p. 11. no. 147. Willd. enum. suppl. p. 11. P. Lagáscæ, Rœm. et Schultes, syst. 4. p. 679. P. villòsa, Roth. nov. spec. p. 122. P. Rothiàna, Rœm. et Schultes, syst. 4. p. 627. P. Peruviàna, Wall. cat. no. 2634. B. et J. P. angulàta, P. Peruviàna, and P. pubéscens, Heyne, herb. P. Barbadénsis, and P. Peruviàna, Wight. herb. P. pubéscens, Willd. herb. Pee Inotà-jnodien, Rheed. mal. 10. t. 140. f. 71.? The whole plant is covered with long, white, clammy hairs. Corolla tubularly campanulate, yellow.

Var. β, parviflòra; fruit smaller, ovate, almost globose; leaves almost entire. ⊙. H. P. parviflòra, Willd. herb. P. Abyssínica, et P. parviflòra, Willd. herb. Corolla yellow, hardly spotted at the throat.

Least Winter Cherry. Fl. July, Aug. Clt. 1759. Pl. ½ to 1 foot.

20 P. PROSTRA'TA (Lher. stirp. p. 43. t. 22.) herbaceous, annual; stem much branched, prostrate, villous, as well as the leaves; leaves cordate, or ovate-elliptic, repandly-toothed, on long petioles; corollas large, blue; fructiferous calyx globose, membranous, ribbed. ⊙. H. Native of Peru, Jacq. coll. 1. p. 99. icon. rar. 1. t. 38. Andr. bot. rep. t. 75. Ruiz. et Pav. fl. per. 2. p. 41. Lam. ill. t. 116. f. 2. P. Liménsis, Retz, obs. 5. p. 22. Physaloìdes prostràta, Mœnch. Corollas campanulately funnel-shaped, 1¼ inch in diameter, blue, painted with deeper purple veins. Berry small, yellowish.

Prostrate Winter Cherry. Fl. July, Aug. Clt. 1782. Pl. prostrate.

§ 2. *Fructiferous calyx open, and filled with the fruit.*

21 P. PHILADE'LPHICA (Lam. dict. 2. p. 101.) herbaceous, annual, smoothish; stem erect, dichotomous, and is, as well as the branches, strict; leaves obliquely ovate, acuminated, repandly angular; corollas spotted, and veiny; fructiferous calyx when mature open, girding the berry. ⊙. H. Native of North America, from New England to Virginia, in dry places on the banks of rivers, Pursh. Pursh, fl. amer. sept. 1. p. 157. Physàlis chenopodifòlia, Willd. spec. 1. p. 1023. enum. suppl. p. 11, but not of Lam. Physàlis ovàta, Poir. suppl. 2. p. 348. P. atriplicifòlia, Jacq. fragm. p. 58. t. 85. f. a. Poir. suppl. 2. p. 348. P. megistocárpos, Zucc. obs. cent. no. 56. in Rœm. coll. p. 130. Calyx 5-cleft to the middle, having the base and veins violaceous. Corolla yellow, marked with 5 violet spots at the bottom, which emit more obscure veins. Calyx not inflated, as in the other species, but like that of *Saràcha*, of which it is probably a species.

Philadelphian Water Cherry. Fl. July, Aug. Clt. 1800. Pl. 1 to 1½ foot.

SECT. III. ANÓMALÆ. Roots perennial. ? Stems herbaceous. Corolla campanulately funnel-shaped, not plicate as in the other sections. Perhaps a distinct genus.

22 P. ORINOCE'NSIS (H. B. et Kunth, nov. gen. amer. 3. p. 12.) stem angular, hairy; leaves quite entire, ovate, sub-acuminated, unequal at the base, hairy on the veins and nerves beneath; flowers twin?; teeth of calyx acute; corollas funnel-shaped. ♃.? S. Native on the banks of the Orinoco, near Arichuna, and the cataract of the Atures. Corolla 5 times longer than the calyx, pilose. Berry globose, size of a large pea, inclosed in the bladdery, reticulated calyx.

Orinoco Winter Cherry. Pl.

23 P. XALAPE'NSIS (H. B. et Kunth, l. c. 13.) stem angular? glabrous, or the branches are marked by a pilose line; leaves oblong, acuminated, entire, rather pilose, ciliated; flowers umbellate, pedunculate; corolla campanulately funnel-shaped. ♃.? S. Native of Mexico, between Perote and Xalapa, at the altitude of 700 hexapods. Flowers size of those of the preceding species; the fruit also resembling it.

Xalapa Winter Cherry. Pl.?

† *Species hardly known, or very imperfectly described.*

24 P. OBSCU'RA (Michx. fl. bor. amer. 1. p. 149.) leaves subcordate, almost orbicular, acuminated, unequally toothed; stem herbaceous, divaricate, much branched; branches angular. ⊙. H. Native of Lower Carolina, in sandy fields. P. obscùra, β, pubéscens, Pursh. fl. 1. p. 157. P. angulàta, Walt. fl. car. p. 99. Plant clothed with viscid down. Corolla yellow, with 5 brown spots, and bluish anthers. Nearly allied to *P. pruinòsa*.

Obscure Winter Cherry. Pl. 1 to 2 feet.

25 P. SUBTRIFLÒRA (Ruiz. et Pav. fl. per. 1. t. 178. f. b.) stem angular; leaves ovate, acute, quite entire, villous; peduncles 2-3-flowered; fruit drooping.—Native of Peru. Perhaps not belonging to the genus.

Subtriflowered Winter Cherry. Pl.

26 P. PA'TULA (Mill. dict. no. 12.) much branched, spreading; branches angular, glabrous; leaves lanceolate, pinnately-toothed. ⊙. H. Native of Vera Cruz, Houston. Humble. Leaves woolly. Flowers small, white. Berry small, yellowish.

Spreading Winter Cherry. Pl. humble.

27 P. VILLÒSA (Mill. dict. no. 13.) much branched; branches villous; leaves ovate, acuminated, serrately toothed. ⊙. H. Native of Vera Cruz, Houston. Flowers small, pale yellow. Berry globose, yellowish green, size of a cherry.

Villous Winter Cherry. Pl.?

28 P. CORDA'TA (Mill. dict. no. 14.) stem erect, branched; leaves ovate, serrate-toothed; petioles and peduncles very long. ⊙. H. Native of Vera Cruz, Houston. Leaves purple in autumn, like those of *Làmium*. Flowers small, white. Berry large, size of a cherry, greenish yellow, striped with purple.

Cordate-leaved Winter Cherry. Pl. 2 feet.

29 P. MA'XIMA (Mill. dict. no. 15.) stem erect, branched; leaves ovate-lanceolate, clammy; fruit large, cordate. ⊙. H. Native of Vera Cruz, Houston. Stem glabrous, almost 3 feet high. Leaves on long petioles. Flowers small, cream-coloured. Berry pale yellow.

Largest Winter Cherry. Pl. 3 feet.

30 P. LU'TEA (Medic. act. palat. 4. phys. p. 186.) fructiferous calyxes pear-formed, unopen, almost filled by the berry; corollas spotless. ♃. H. Native country unknown. Said to be allied to *P. viscòsa*, but differs in the fructiferous calyx being oblong, with 10 elevated angles.

Yellow Winter Cherry. Pl.?

31 P. RAMÒSA (Forsk. fl. arab. p. 204.) leaves solitary and twin, broadly ovate, acute, sinuately toothed, rather villous. ⊙. H. Native of Arabia, at Uahfad. Habit of *P. alkekéngi*, but the calyx is much inflated and pentagonal. Corolla yellow. Berry dry, red.

Branched Winter Cherry. Pl.?

32 P. NU'TANS (Walt. fl. carol. p. 99.) leaves alternate, ovate, and are, as well as the stem, which is rather angular, tomentose; flowers solitary, drooping. ⊙.? H. Native of Carolina.

Drooping Winter Cherry. Pl.?

33 P. MUCRONA'TA (Willd. enum. suppl. p. 11, without any diagnosis.) Nothing is known of this plant but the name.

Mucronate Winter Cherry. Pl. 1 foot.

34 P. MICRA'NTHA (Link, enum. 1. p. 181.) hairy; leaves cordate, acute, toothed; peduncles axillary, at length reflexed; calyx angular, with acute segments. ⊙. H. Native country unknown. P. parviflòra, Willd. enum. suppl. p. 11. Nearly allied to *P. pubéscens*, and probably only a variety of it. Corolla small, yellow.

Small-flowered Winter Cherry. Fl. July, Aug. Clt. 1826. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Solànum*, p. 442.

VI. SARA'CHA (named by Ruiz. and Pavon, after Isodore Saracha, a Benedictine monk much attached to the study of botany, and who enriched the royal gardens at Madrid with many rare plants.) Ruiz. et Pav. fl. per. 2. p. 42. t. 178. prod. p. 349. Bellínia, Rœm. et Schultes, syst. 4. p. lvi. and p. 687.

LIN. SYST. *Pentándria, Monogýnia.* Calyx campanulate, 5-angled, 5-cleft; segments ovate, permanent. Corolla campanulately rotate: with 5 equal, reflexed lobes, and furnished with 5 nectariferous pits at the base. Anthers cordate, straight, dehiscing lengthwise. Stigma capitate. Berry globose, 1-2-celled, half inclosed in the hardly inflated calyx, almost to the middle; placenta fleshy. Seeds many, compressed, reniform.—Usually herbaceous, procumbent, or erect plants. Leaves alternate, petiolate, entire, usually twin, especially the upper ones. Peduncles from the forks of the stem, or axils of the leaves, 2 or many flowered, usually umbellate and drooping. *Saràcha* only differs from *Solànum* in the filaments being woolly at the base, and closing up the mouth of the tube of the corolla; and by its cordate anthers, with the cells opening lengthwise.

* *Annual Plants.*

1 S. PROCU'MBENS (Ruiz. et Pav. fl. per. 2. p. 43. t. 180. f. b.) herbaceous, procumbent; leaves twin, unequal, ovate, quite entire, glabrous in the adult state, but when young villous on the margins and back; flowers umbellate, drooping; filaments glabrous. ⊙. H. Native of Peru, in the valley of Canta. A'tropa procúmbens, Cav. icon. 1. p. 53. t. 72. Jacq. hort. schoenbr. t. 492. A'tropa plicàta, Roth, catalect. 2. p. 24. Physàlis solanàcea, Mentens ex Roth, l. c. Solànum procúmbens, D. C. fl. fr. 3. p. 611. Bellínia procúmbens, Rœm. et Schultes, syst. 4. p. 687. Stem dichotomous, furrowed, downy, angular. Leaves rarely solitary. Peduncles axillary, 2-3-4-flowered; pedicels and calyxes villous. Corolla cream-coloured, with a green centre, and downy margin. Berry shining, size of a pea.

Procumbent Saracha. Fl. June, July. Clt. 1822. Pl. proc.

2 S. UMBELLA'TA (D. C. cat. hort. monsp. 1813. p. 142.) herbaceous, erect, hairy, much branched; leaves ovate, wrinkled, entire, shining, acute, scabrous: floral ones twin; flow-

ers umbellate, drooping; filaments bearded at the base. ⊙. H. Native of Peru. Sweet, fl. gard. t. 85. A'tropa umbellàta, Roth, catal. 2. p. 26. Jacq. schoenbr. t. 493. A'tropa Ròthii, Poir. suppl. 1. p. 610. Bellínia umbellàta, Rœm. et Schultes, syst. 4. p. 688. Stem solitary, dichotomous. Leaves canescent beneath, green above, entire, and sometimes slightly angular. Umbels pedunculate, 7-10-flowered, axillary, solitary. Corolla plicate, cream-coloured, or greenish-white, smaller than those of *S. procúmbens*. Berry dark purple.

Umbellate-flowered Saracha. Fl. June, July. Clt. 1822. Pl. 2 to 4 feet.

3 S. contórta (Ruiz. et Pav. fl. per. 2. t. 180. f. a.) herbaceous, erect; leaves ovate, angularly toothed, downy, and quite entire: upper floral ones twin; flowers umbellate drooping, pedunculate; filaments villous at the base. ⊙. H. Native of Peru, from Canta to Obragillo. Bellínia contórta, Rœm. et Schultes, syst. 4. p. 689. A'tropa contórta, Spreng. syst. 1. p. 699. Stem furrowed, glabrous, branched, of a livid violaceous colour at bottom; branches dichotomous, downy. Peduncles and pedicels twisted. Umbels 6-10-flowered. Corolla cream-coloured, rather large. Berry black, globose, size of a pea.

Twisted-pedicelled Saracha. Pl. 3 to 4 feet.

* * *Shrubby Plants.*

4 S. puncta'ta (Ruiz. et Pav. fl. per. 2. p. 42. t. 178.) suffruticose, erect; leaves ovate-oblong, quite entire, glabrous above, and powdery beneath; pedicels 1-flowered, unequal, aggregate, axillary and terminal; corollas spotted. ♄. G. Native of Peru, in elevated places. Bellínia punctàta, Rœm. et Schultes, syst. 4. p. 688. A'tropa punctàta, Spreng. syst. 1. p. 698. Branches angular, downy while young. Pedicels a little longer than the corollas. Calyx glabrous. Corolla large, campanulate, powdery outside, yellowish, and marked with small purple spots.

Dotted-flowered Saracha. Shrub 2 to 3 feet.

5 S. Zuccagnia'na; frutescent, erect; stem villous, 4-5-angled; leaves solitary or twin, ovate-cordate, rather villous, entire; common peduncle villous, between the petioles of the twin leaves, bearing an umbel of pedicellate drooping flowers. ♄. G. Native of America? A'tropa erécta, Zucc. cent. in Rœm. coll. p. 129. no. 41. Angles of stem violaceous. Leaves glabrous above, but the margins and nerves beneath are villous. Umbels 2-3-4-flowered. Segments of calyx ciliated. Corolla greenish-yellow, rotate, marked by 10 twin green spots at bottom; limb pentagonal, ciliated, revolute. Filaments villous at the base. Berry globose, glabrous, 2-celled.

Zuccagni's Saracha. Shrub.

6 S. villòsa; stem frutescent; leaves cordate-ovate, acuminated, quite entire, very villous: rameal ones twin, unequal; umbels axillary, many-flowered, drooping; limb of corolla 5-cleft. ♄. G. Native of Peru? A'tropa villòsa, Zucc. in Rœm. coll. p. 130. no. 42. Rœm. et Schultes, syst. 4. p. 684. Stem pentagonal, violaceous at the base, furrowed, villous, as well as the branches, which are tetragonal. Common peduncle horizontal, solitary, between the petioles of the twin leaves; pedicels 8-9, papillose. Corolla greenish-yellow, rotate; limb pentagonal; segments ciliated. Evidently a species of *Saràcha*.

Villous Saracha. Shrub erect.

7 S. denta'ta (Ruiz. et Pav. fl. per. 2. p. 176. f. b.) herbaceous, procumbent, downy; leaves entire and toothed, ovate, twin; peduncles usually 4-flowered, subumbellate, lateral and terminal, inclinate. ♃. G. Native of Peru, along with *S. punctàta*. Bellínia dentàta, Rœm. et Schultes, syst. 4. p. 689. A'tropa dentàta, Spreng. syst. 1. p. 699. Pedicels unequal, short. Corolla whitish-violet, villous, campanulate, marked by 5 green spots. Berry copper-coloured, size of a pea.

Toothed-leaved Saracha. Pl. procumbent.

8 S. biflòra (Ruiz. et Pav. fl. per. 2. p. 42. t. 179.) herbaceous, erect, downy; leaves ovate, usually twin; peduncles axillary, 2, rarely 3-flowered; flowers pendulous. ♃. G. Native of Peru, in corn-fields. Bellínia biflòra, Rœm. et Schultes, syst. 2. p. 689. Branches angular. Corolla greenish-yellow. Stamens twice as long as the corolla. Berry white, size of a pea, a little compressed.

Two-flowered Saracha. Pl. 2 feet.

9 S. viscòsa (Schrad. cat. sem. hort. goett. 1832. D. Don, in Sweet, fl. gard. n. s. t. 323.) clothed in every part with glandular pubescence, and viscid; stem erect, suffruticose; leaves twin, cordate, acuminated, sinuately toothed, and sometimes entire; peduncles umbellate; throat of corolla woolly; fructiferous calyx coloured. ♄. G. Native of Mexico, Spangenberg. Umbels solitary, nearly sessile. Calyx 5-cleft, large. Corolla large, with acute lobes, valvate in æstivation, cream-coloured, and marked towards the base with numerous olive-coloured spots. Anthers cordate, violet. Berry globose, size of a cherry, scarlet.

Clammy Saracha. Fl. June, Sept. Clt. 1835. Pl. 1 to 2 feet.

10 S. pube'scens (Willd. rel. ex Rœm. et Schultes, syst. 4. p. 689.) shrubby, downy; leaves ovate, acute; umbels pedunculate, terminal. ♄. G. Native of Peru. Humb. et Bonpl. Bellínia pubéscens, Rœm. et Schultes, syst. 4. p. 689.

Downy Saracha. Shrub?

N.B. What are Saràcha micrántha, D. C. hort. monsp. 1813. and S. Peruviàna, Dietr. gart. lex. 8. p. 522. ?

Cult. The shrubby species of *Saràcha* require protection in a frame or greenhouse in winter; but they may be planted out in open ground in summer; they are increased by cuttings and seeds. The seeds of annual species only require to be sown in the open ground in spring.

VII. WITHERI'NGIA (named by L. Heritier, in honour of William Withering, M.D., author of "A Botanical Arrangement of the Vegetables of Great Britain." 2 vols. 8vo. Birmingham, 1776. First edition.) Lher. stirp. 1. p. 33. t. 1. Dun. sol. p. 107. H. B. et Kunth, nov. gen. 3. p. 13. Mart. bras. 3. p. 73.—Solànum species of Lin. and other authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx urceolately campanulate, 4-5-cleft. Corolla rotate; tube short; limb 4-5-cleft. Stamens 4-5; anthers conniving, dehiscing lengthwise. Stigma subcapitate. Berry 2-celled, propped by the permanent calyx, many-seeded; placentas adnate. Seeds lenticular.—Trees, shrubs, or herbs, with soft wood, and large medulla, having the habit of *Solànum*. Branches opposite or alternate, thickened at the nodi. Leaves alternate, usually twin, (one in each pair smaller than the others,) quite entire, or sinuately-toothed, rarely pinnatifid. Inflorescence umbellate, racemose, or panicled, rarely having the flowers solitary. Peduncles lateral or extra-axillary. Corollas whitish, rose-coloured, yellow, greenish, or bluish.

* *Stems shrubby.*

1 W. stramoniifòlia (H. B. et Kunth, nov. gen. 3. p. 13.) arboreous; branches angularly winged; branchlets downy; leaves ovate, acuminated, unequally cordate, dentately angular, hairy, twin; umbels extra-axillary, sessile; filaments bearded at top. ♄. S. Native of Mexico, near La Bandarilla; and the city of Xalapa, at the altitude of 750 hexapods, where it is called *Oja Peluda* by the natives. Leaves 4-5 inches long, and 2-3 broad. Umbels many-flowered. Flowers nutant, pentamerous and pentandrous. Corolla yellowish, hairy outside, size of those of *Cápsicum frutéscens*. Berry globose, red, size of a pea.

Stramonium-leaved Witheringia. Fl. May, Aug. Clt. 1823. Tree 10 to 20 feet.

2 W. CRASSIFÒLIA (Dun. sol. p. 108. syn. p. 2.) stem shrubby, hairy, rather sarmentose; leaves ovate, entire, or sinuately-angular, bluntish; panicles subdichotomous, reclinate. ♄. G. Native of the Cape of Good Hope. Solànum crassifòlium, Lam. ill. no. 2323. Sol. dulcamàra, var. β, Lin. spec. p. 264. Solànum Africànum, Mill. no. 26.—Dill. hort. elth. 365. t. 273. f. 352. Branches hispid, rather angular at top. Leaves pilose. Panicles subcymose, and nearly terminal. Flowers pentamerous and pentandrous. Corolla of a violaceous purple colour; segments ovate, subconnivent. Anthers copper-coloured.

Thick-leaved Witheringia. Fl. May, Aug. Clt. 1706. Pl. 1 to 2 feet.

3 W. PI'CTA (Mart. bras. 3. p. 74. t. 227.) arborescent; branches and branchlets spreading, viscid and pilose, as well as the leaves; leaves alternate and twin, broad-ovate, short-acuminated, acutish at the base; peduncles solitary, and some aggregate, axillary, shorter than the leaves. ♄. S. Native of Brazil, in the mine provinces on Serra do Mar; and near the town of Joao d'El Rey, &c., in dry exposed places. Flowers pentamerous and pentandrous. Calyx with lanceolate segments. Corolla white, spotted with violet in the throat; segments broad-lanceolate, acutish, exceeding the anthers, which are linear. Berry yellowish.

Painted-flowered Witheringia. Shrub 6 to 8 feet.

4 W. DIVARICA'TA (Mart. bras. 3. p. 72. t. 228.) suffruticose, the whole clothed with fine down; leaves ovate-lanceolate, or ovate, acuminated, rounded at the base; racemes simple, few-flowered, lateral, exceeding the leaves. ♄. S. Native along with the preceding, on Serra do Mar; and on the descent to the valley of the river Paraiba. Branches for the most part opposite. Flowers pentamerous and pentandrous. Segments of the calyx ovate, acute, ciliated, and often serrulated. Corolla white; segments lanceolate, acute, twice as long as the inflated lanceolate anthers.

Divaricate Witheringia. Shrub 4 to 5 feet.

5 W. DIPLÓCONOS (Mart. bras. 3. p. 76. t. 229.) suffruticose, glabrous; leaves ovate, acuminated, cordate at the base; racemes alar, longer than the leaves. ♄. S. Native of Brazil, in hedges and woods at Tejuca, and elsewhere; near Sebastinople; also on Serra do Mar. Leaves twin. Corollas semiquinquefid, of a testaceous rose-colour, with a violaceous middle nerve, or wholly violaceous, size of those of *Sol. tuberòsum;* segments triangular, twice as long as the ovate, ventricose anthers, which are glandular at apex. Pistil referrible to an inverted cone in a cone. Segments of the calyx ovate, acute, denticulated on the margins. Perhaps a species of *Dunàlia.*

Double-coned Witheringia. Shrub 3 to 4 feet.

6 W. MACROPHY'LLA (Dun. syn. p. 1. sol. ed. 2d. ined. t. 77. H. B. et Kunth, nov. gen. amer. 3. p. 14.) shrubby; branches rather angular, puberulous; leaves ovate-elliptic, subacuminated, rather repand, smoothish: superior ones twin; umbels sessile, twice as short as the petioles; filaments bearded. ♄. S. Native of New Granada, near Turbaco, at the altitude of 180 hexapods. Leaves about 8 inches long, and about 4 broad, rather downy on the primary veins beneath. Flowers size of those of *Solànum nìgrum*, tetramerous and tetrandrous. Calyx 4-toothed. Corolla 4-cleft, greenish, with oblong, acute segments. Anthers ovate-lanceolate. Berries globose, red, size of pepper berries. This species differs from *W. solanàcea*, which it is very like; in the shrubby stem; larger leaves, and smoother branches; in the umbels being shorter than the petioles; and in the smaller flowers.

Long-leaved Witheringia. Shrub.

7 W. CILIA'TA (H. B. et Kunth, nov. gen. amer. 3. p. 15.) shrubby; branches terete, glabrous; leaves oblong, acute, narrowed at the base, quite entire, ciliated, glabrous, twin; peduncles extra-axillary, solitary or twin, elongated. ♄. S. Native of New Granada, on the Andes of Pasto, near Tulcan, at the altitude of 1580 hexapods. Young branchlets downy. Flowers size of those of *Solànum nìgrum*, pentamerous and pentandrous. Calyx downy, 5-toothed. Corolla white; limb angularly 5-lobed; lobes acute. Filaments glabrous; anthers oblong, obtuse. This species has much the habit of *Solànum phillyreoìdes*, with which at first sight it might be readily confounded.

Ciliated-leaved Witheringia. Shrub.

8 W. MÓLLIS (H. B. et Kunth, l. c.) shrubby; branches terete, clothed with hoary tomentum; leaves ovate, acuminated at both ends, quite entire, downy above, clothed with soft tomentum beneath, and canescent, twin; peduncles 2-3-4 together, elongated. ♄. S. Native of Peru, near the town of Caxamarca, at the altitude of 1500 hexapods. Leaves $1\frac{1}{2}$ to 2 inches long. Flowers drooping, size of those of *Solànum nìgrum*, pentamerous and pentandrous. Calyx 5-toothed, hoary. Corolla hairy outside; limb angularly 5-toothed: teeth acute. Anthers oblong, obtuse, on glabrous filaments. Berry size of pepper, globose. Very like the two preceding, but differs in the form of the leaves.

Soft Witheringia. Shrub.

9 W. RHOMBOI'DEA (Dun. syn. p. 1. H. B. et Kunth, l. c.) shrubby; branches terete, tomentose; leaves ovate, acutish, rounded at the base, and unequal, quite entire, clothed with soft pubescence above, and hoary tomentum beneath, twin; umbels sessile, 4-6-flowered, longer than the petioles; filaments glabrous. ♄. S. Native on the Andes of Quindiu, on El Machin, at the altitude of 1030 hexapods. Leaves an inch long, green above. Flowers size of those of *Solànum nìgrum*, pentamerous and pentandrous. Calyx clothed with hoary tomentum, 5-toothed: teeth linear, remote. Corolla glabrous, 5-cleft, with oblong, acute segments, which are hairy at top. Anthers linear-oblong.

Rhomboid-leaved Witheringia. Shrub climbing.

10 W. DUMETÒRUM (Dun. sol. p. 1. sol. ed. 2d. ined. t. 79. H. B. et Kunth, l. c. p. 16.) shrubby; branches rather angular, tomentose while young; leaves ovate, subacuminated, cuneated at the base, hairy above, clothed with hairy tomentum beneath, and canescent: superior ones twin; peduncles twin or tern, 1-flowered, much longer than the petioles; filaments glabrous. ♄. S. Native of New Granada, among bushes in the province of Pasto, between Chumban and Tusa, at the altitude of 1500 hexapods. Leaves 12-16 inches long. Flowers size of the preceding, pentamerous and pentandrous. Calyx like that of the last species, from which it is principally distinguished in the form of the leaves.

Bush Witheringia. Shrub.

11 W. RIPA'RIA (H. B. et Kunth, l. c. p. 16.) shrubby; branches angular? hispid from pili; leaves somewhat obliquely obovate-oblong, acuminated, acute at the base, glabrous, pilose on the nerves beneath, twin; flowers extra-axillary, crowded, about equal in length to the petioles; filaments pilose at the base. ♄. S. Native of New Granada, on the Andes of Quindiu, near the river Toche, at the altitude of 1050 hexapods. Leaves $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long. Flowers extra-axillary, size of those of *Lycium Bárbarum*. Calyx obsoletely 5-toothed, glabrous. Corolla greenish-white, glabrous; tube funnel-shaped; limb 5-parted.

River-side Witheringia. Shrub.

12 W. ANGUSTIFÒLIA (Dun. syn. p. 2. sol. ed. 2d. ined. t. 80. H. B. et Kunth, l. c. p. 17.) shrubby; branches flexuous,

terete; branchlets tomentose; leaves lanceolate, acuminated, acute at the base, glabrous; racemes few-flowered, twin; filaments glabrous. ♄. S. Native of New Granada, at the foot of Mount Catopaxo, in sandy places, at the altitude of 1600 hexapods. Leaves solitary, 2 to $2\frac{1}{2}$ inches long, clothed with canescent tomentum while young. Racemes extra-axillary, solitary or twin. Flowers size of the preceding. Calyx 5-cleft, clothed with hoary tomentum; with subovate acute segments. Corolla blue, clothed with hoary tomentum outside; limb 5-parted, with oblong segments. Anthers linear-oblong. Berry globose, size of those of *Solànum nìgrum*. Perhaps a distinct genus.

Narrow-leaved Witheringia. Shrub 4 to 6 feet.

13 W. pe'ndula (Rœm. et Schultes, syst. 3. p. 522.) frutescent; leaves ovate, entire, acuminated, glabrous above, but clothed with downy tomentum beneath; racemes terminal; peduncles long, reflexed. ♄. S. Native of Brazil. Solànum péndulum, Link. herb. Stems angular, and pubescently villous at top. Leaves 3 inches long, and $1\frac{1}{4}$ broad, thickish, subrepand, ciliated. Peduncles 3 inches long, downy. Calyx smoothish, hemispherical, obsoletely 4-5-cleft. Corolla 4-5-parted; segments linear-lanceolate, obtuse. Anthers 4-5, generally unequal.

Pendulous-flowered Witheringia. Shrub.

* * *Stems herbaceous.*

14 W. solana'cea (Lher. stirp. 1. p. 33. t. 1.) root composed of fusiform tubers; stem subherbaceous, pilose, rather angular; leaves ovate-oblong, or ovate-lanceolate, rather pilose: superior ones twin; umbels axillary, sessile, longer than the petioles. ♃. G. Native of South America. Lam. ill. t. 82. Leaves acute, entire, rather pilose. Calyx 4-toothed. Corolla pale yellow, 4-cleft. Stamens 4; filaments white, glabrous outside, and hairy inside. Tube of corolla suburceolate, with 4 gibbosities, bluntly tetragonal.

Solanaceous Witheringia. Fl. May, Sept. Clt. 1742. Pl. 1 foot.

15 W. umbella'ta (Dun. syn. p. 2. sol. ed. 2d. ined. t. 27.) stem herbaceous, winged, pilose; leaves ovate, attenuated at both ends, sinuately toothed, pilose; racemes axillary, usually solitary; pedicels umbellate. ♃. S. Native of St. Domingo. Poir. suppl. 5. p. 505. Calycine segments 5, acute. Nearly allied to *W. montàna*.

Umbellate-flowered Witheringia. Pl. 1 foot.

16 W. monta'na (Dun. syn. p. 2. Poir. suppl. 5. p. 505.) root tuberous; stems herbaceous, pilose; leaves pilose, ovate, entire, or dentately repand, or sinuated; peduncles 1-flowered. ♃. G. Native of Peru, on hills, where it is called Papa montàna. Solànum montànum, Lin. spec. 266. Dun. sol. p. 145.—Solànum tuberòsum minus, Atriplicis folio vulgò Papa montàna, Feuill. per. 3. p. 62. t. 46. Root ovate. Stem bifurcate. Leaves on long petioles, subcordate. Flowers in the fork of the stem. Corolla campanulate, 5-cleft, rose-coloured. Stamens purple.

Var. β, arenària (Dun. sol. p. 146.) peduncles many-flowered, bracteate; leaves lobed. ♃. G. Native of Peru, on sandy hills, and among rocks about Lima and Chancay, where it is called Papas de Loma. Solànum montànum, Ruiz. et Pav. fl. per. 2. t. 160. f. b. This variety is nearly allied to *W. phyllántha*. Stem larger than in var. *α*, hispid. Calyx 5-parted. Corolla flat, blue. Perhaps a distinct species.

Mountain Witheringia. Fl. May, Aug. Clt. 1822. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

17 W. phylla'ntha (Dun. syn. p. 2. Poir. suppl. 5. p. 505.) stem herbaceous, winged; leaves pilose, cuneiform, a little lobed at apex, decurrent; racemes rising with the leaves. ⊙.? ♃.? G. Native of Peru, in cultivated fields near the town of La Magdalena, Cav.; sandy places of Lima, Chancay, and Lurin, Ruiz. et Pav. Solànum phyllánthum, Cav. icon. 4. p. 35. t. 359. f. 1. Ruiz. et Pav. fl. per. 2. p. 32. Root fusiform. Leaves 5-lobed at top; lobes ovate, acute. Peduncles rising from the decurrent disk of the leaves. Calyx 5-cleft. Corolla pale blue, marked by a 5-rayed star, spreading, 5-angled. Berry round, red, size of a pea.

Leaf-flowered Witheringia. Fl. July, Aug. Clt. 1822. Pl. 1 foot.

18 W. pinnati'fida (Dun. syn. p. 2. Poir. suppl. 5. p. 506.) stem herbaceous, winged; leaves rather pilose, decurrent, pinnatifid: segments obtuse, sinuated; peduncles bractless; flowers panicled. ♃. G. Native of Peru: in sandy places in the provinces of Lima and Chancay; plentiful in Torre blanca and Jequan, on hills. Solànum pinnatífidum, Ruiz. et Pav. fl. per. 2. p. 37. t. 170. f. b. Dun. sol. 138. but not of Lam. Flowers drooping. Calyx 5-parted, with linear, obtuse segments. Corolla pale blue or white, flat. Berry yellow, size of a pea.

Pinnatifid-leaved Witheringia. Fl. June, Aug. Clt. 1822. Pl. 1 foot.

19 W. multi'fida (Dun. syn. p. 3. Poir. suppl. 5. p. 506.) stem herbaceous; leaves rather pilose, bipinnatifid, running into the petioles; petioles stem-clasping; peduncles long, panicled, leafy beneath the middle. ♃. G. Native of Peru, on hills at Pungo, in the province of Cumana. Solànum multífidum, Ruiz. et Pav. fl. per. 2. p. 37. t. 17. f. a. but not of Lam. Dun. sol. p. 138. Stem juicy, furnished with a few simple hairs, as well as the leaves. Segments of the leaves blunt, toothed. Peduncles multifid, terminal and lateral, very long, furnished each with an entire or trifid leaf, which is clasping beneath the middle. Corolla blue. Berry larger than the calyx.

Multifid Witheringia. Pl. 1 to 2 feet.?

Cult. For culture and propagation see *Solànum*, p. 442.

VIII. NETOU'XIA (named by Kunth, in honour of H. Netoux, author of "Dissertationes de Cassiis Egyptiacis.") H. B. et Kunth, nov. gen. amer. 3. p. 10. t. 193.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted, regular, with linear segments. Corolla salver-shaped; limb 5-parted; throat furnished with a tubular, short, entire, or obsoletely-toothed corona. Stamens 5, inclosed; anthers dehiscing lengthwise. Stigma emarginate. Fruit baccate?.—A fetid erect herb. Leaves scattered: superior ones twin, cordate, quite entire. Peduncles extra-axillary, solitary, 1-flowered. Corolla yellow, becoming blackish on drying. This genus is more nearly allied to *A'tropa* and *Petùnia* than any other; but it differs from them, as well as all others of the order, in the corolla being furnished with a corona faucis.

1 N. formòsa (H. B. et Kunth, l. c.) ♃. G. Native of Mexico, in woods near Real del Monte. A'tropa arenària, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 686. Flowers size of those of *Vínca màjor*.

Beautiful Netouxia. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

Cult. This singular plant will grow in any light rich soil; and may be readily increased by cuttings or divisions.

IX. MANDRA'GORA (The English name Mandrake is a corruption of the Greek appellation Μανδραγορος, compounded of *μανδρα, mandra*, an ox-stall, something relating to cattle; and *αγαυρος, agauros*, cruel; from its effects on cattle when accidentally gathered with their fodder in the countries where the plants abound. It is a venomous plant, and was an important engine in the days of medical charlatanry, from the roots being supposed to bear a resemblance to the human form.)

Tourn. inst. p. 76. t. 12. Lin. hort. cliff p. 51. Blackw. t. 364. Sabb. hort. rom. 1. t. 1. Juss. gen. p. 125. Gærtn. fruct. 2. p. 237. t. 131. f. 1. D. C. syn. fl. gall. p. 236. A'tropa species, Lin. gen. and most other authors.

LIN. SYST. *Pentándria, Monogýnia.* Calyx turbinate, 5-angled, 5-cleft. Corolla campanulate, 5-cleft. Stamens 5. Filaments dilated at the base, and connivent, but filiform and divaricate at apex. Ovarium furnished with a circular gland round the base, which is drawn out into 2 horns. Stigma capitate, furrowed. Berry globose, apple-shaped, fleshy, solid, 1-celled, having the receptacles rather prominent inside. Seeds many, reniform, peripheric, disposed in a simple series.—Stemless, fetid plants, with broad radical leaves; large, fusiform, usually forked roots; and numerous single-flowered scapes, which are always shorter than the leaves.

1 M. OFFICINA'RUM (Lin. spec. ed. 1st. p. 181.) leaves oblong-lanceolate and ovate, acute, a foot long, undulated, quite entire, at first erect, then spreading; root and flowers white; segments of the calyx lanceolate, linear, acuminated; segments of corolla acute. ♃. H. Native of Spain, Switzerland, Italy, &c. Bertol. el. pl. hort. bon. 1824. p. 6. M. officinàlis, Mill. dict. no. 1. fig. t. 173. M. acaúlis, Gærtn. fruct. 2. p. 236. t. 131. f. 1. M. vernàlis, Spreng. A'tropa Mandrágora, Lin. spec. 259. Bull. herb. t. 145.—Plenk. off. t. 126. Corolla bluish. Fruit as large as a nutmeg, of a yellowish green colour when ripe. Root white, fleshy, usually bifid, 3-4 feet long. The roots are supposed to bear a resemblance to the human form, and are figured as such in old herbals, being distinguished into the male with a long beard, and the female with a prolix head of hair. It has been fabled to grow under a gallows, where the matter falling from the dead body gave the root the shape of a man; to utter a shriek or groans at digging up; and it was asserted that he who would take up a plant of Mandrake should in common prudence tie a dog to it for that purpose, for if a man should do it himself he would surely die soon after, ex Linnæus. The whole plant is reputed poisonous, though in small doses it was used medicinally, and particularly as an opiate.

Officinal or Common Mandrake. Fl. May, June. Clt. 1548. Pl. 1 foot.

2 M. PRÆ'COX (Sweet, fl. gard. t. 198.) leaves lanceolate-oblong, obtuse, undulated, bullately wrinkled, villously pubescent, rising at the same time with the flowers; calycine segments lanceolate, acute, keeled; segments of corolla spreadingly reflexed, acute; scapes aggregate. ♃. H. Native of Switzerland. A'tropa Mandrágora, β, Lam. dict. 1. p. 391. Pers. ench. 1. p. 218. A'tropa Mandrágora fœmina, Bull. herb. t. 146. M. officinàlis, β. D. C. fl. fr. no. 2689.—Hall. helv. no. 578. Corolla woolly, of a yellowish-brown, tinged with blue. This plant flowers two months earlier than *M. vernàlis*, Spreng., and is also much smaller.

Early Mandrake. Fl. March, April. Clt. 1819. Pl. ½ foot.

3 M. AUTUMNA'LIS (Bertol. el. pl. hort. bon. 1820. p. 6. D. Don, in Sweet, fl. gard. n. s. t. 325.) leaves oblong, pilose, wrinkled, undulated, beset with warty bristles on the upper surface, as well as the calyx; calycine segments lanceolate, acuminated, keeled from the midrib; corolla spreading, with elliptic, obtuse segments; berry oblong, mucronate. ♃. H. Native of the South of Italy; and Greece, about Athens and Elis, and is likewise found in some of the Islands of the Archipelago. A'tropa Mandrágora, Sibth. et Smith, fl. græc. 3. p. 26. t. 232. M. macrocárpa, Bertol. Scapes pale purple, shorter than the leaves. Corolla violet-coloured, not unlike those of a species of *Campánula*. This plant is chiefly distinguished from *M. vernàlis* in the blunt lobes of the corolla, and the oblong pointed berry. It is, moreover, altogether a larger plant. This is probably the Mandrake mentioned in the Scriptures, in the 30th chapter of Genesis.

Autumnal Mandrake. Fl. Dec. Clt. 1548. Pl. ½ foot.

Cult. The species of Mandrake thrive best in a deep light soil, in a shady situation. They are only to be increased by seed. The roots are extremely apt to rot during winter.

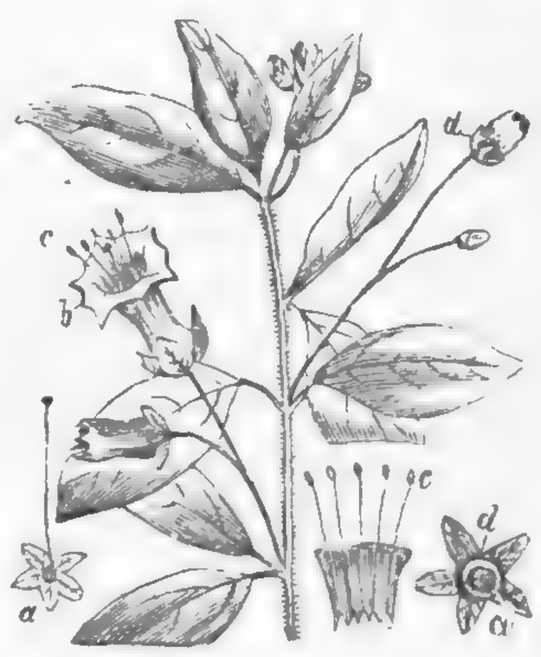
X. A'TROPA (from ατροπος, *atropos*, one of the destinies; derived from *a* priv.; and τρεπω, *trepo*, to turn; in reference to the poisonous effects of the species.) Lin. gen. no. 249. Schreb. gen. no. 335. Juss. gen. 125. ed. Usteri, p. 140. Gærtn. fruct. 2. p. 240. t. 131. Lam. ill. t. 114. f. 2. H. B. et Kunth, nov. gen. amer. 3. p. 11.—Belladónna, Tourn. inst. t. 13.

LIN. SYST. *Pentàndria, Monogýnia.* Calyx loose, 5-cleft, permanent. Corolla campanulate; limb usually 5-cleft, rarely 10-cleft, spreading. Stamens 5, generally exserted, conniving at the base; anthers dehiscing lengthwise. Stigma peltately depressed. Berry globose, propped by the permanent spreading calyx; placentas free, and distant from the dissepiment. Seeds numerous, reniform.—Caulescent shrubs or herbs. Leaves scattered, twin, entire. Peduncles extra-axillary, 1-2, or many-flowered. Corolla violaceous or greenish.

§ 1. *Limb of corolla* 10-*cleft or* 10-*toothed; the alternate lobes or teeth smaller.*

1 A. VIRIDIFLÒRA (H. B. et Kunth, nov. gen. amer. 3. p. 11. t. 196.) stem suffruticose, twining; leaves twin, elliptic-ovate, subacuminated, quite entire, hairy; peduncles 2-flowered; flowers, drooping; limb of corolla 10-cleft. ♄. ⌒. S. Native of New Granada, between the town of Pasto and Chilanquer, at the altitude of 850 hexapods. A'tropa flexuòsa, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 686. Corolla tubularly funnel-shaped, green, 3-4 times longer than the calyx, hairy, furnished with 5 tubercles on the outside at the base. Filaments glabrous, dilated at the base. This and *A. áspera* of Ruiz. et Pav. might probably form a distinct genus.

FIG. 39.



Green-flowered Deadly Nightshade. Shrub twining.

2 A. A'SPERA (Ruiz. et Pav. 2. p. 45.) stem herbaceous, angular, pilose; leaves twin, unequal, oval-oblong and lanceolate, quite entire or subsinuated, hairy; peduncles 1-flowered, drooping; limb of corolla 10-cleft. ♃. S. Native of Peru, on hills about Lima. Stem dichotomous, branched. Peduncles extra-axillary, or in the forks of the stem. Corolla yellowish-blue, violaceous in the centre, with 5 of the segments acute, and the alternating 5 emarginate. Filaments hairy, violaceous. Berry white, size of a pea. Seeds red.

Rough Deadly Nightshade. Pl. 2 feet.

3 A. HIRTE'LLA (Spreng. syst. 1. p. 699.) herbaceous; leaves ovate, acute, scabrous; branches rough; peduncles elongated, 1-flowered, filiform. ⊙. H. Native of Brazil.

Hairy Deadly Nightshade. Pl. ?

§ 2. *Limb of corolla* 5-*cleft. Stems frutescent.*

4 A. UMBELLA'TA (Ruiz. et Pav. fl. per. 2. p. 44. t. 181. f. a.)

stem frutescent; leaves ovate and cordate, quite entire and angular; peduncles many-flowered, umbellate, drooping; limb of corolla 5-cleft. ♄. S. Native of Peru, on hills about Lima. A. revolùta, Dietr. lex. 1. p. 422. Stem glabrous; branches dichotomous, downy. Leaves solitary or twin, downy. Peduncles short, axillary, downy, bearing 8-12 pedicellate flowers. Corolla yellow, melliferous; tube cylindrical, purple; limb reflexed, ciliated. Stamens inclosed. Style exserted. Berry whitish, globose, size of a pea.

Umbellate-flowered Deadly Nightshade. Shrub 4 feet.

5 A. biflòra (Ruiz. et Pav. fl. per. 2. p. 44. t. 181. f. b.) stem frutescent; leaves ovate, acute, quite entire: upper ones twin; peduncles 2-flowered, drooping?; limb of corolla 5-cleft. ♄. S. Native of Peru, in humid places. Shrub rather downy. Branches pendulous, rather angular. Corolla suburceolate, villous, striated; tube greenish, white, or purplish; limb greenish-yellow, erect. Anthers and stigma blue. Berry white, size of that of *Belladónna*, a little compressed.

Two-flowered Deadly Nightshade. Shrub 2 feet.

6 A. bícolor (Ruiz. et Pav. fl. per. 2. p. 45.) stem frutescent; leaves ovate, angular, glabrous; peduncles 3-4-flowered; limb of corolla 5-cleft. ♄. S Native of Peru, in shady places. Branches angular. Leaves acute, usually twin. Corolla tubular, reddish green; limb green.

Two-coloured-flowered Deadly Nightshade. Shrub 6 to 7 feet.

7 A. frute'scens (Lin. spec. p. 260. Lam. ill. t. 114. f. 2.) stem shrubby; leaves ovate-cordate, obtuse, downy; flowers 1-3 together, pedicellate, axillary; limb of corolla 5-cleft to the middle, reflexed. ♄. G. Native of Spain. Physàlis suberòsa, Cav. icon. 2. p. 1. t. 102. Physàlis frutéscens, D. C. fl. fr. 3. p. 611. Belladónna frutéscens, rotundifòlia, Hispánica, Tourn. inst. p. 77.—Barrel. icon. p. 1173. Habit of *Physàlis somnífera*, but differs from it in the calyx being 5-cleft, and in the flowers being 6 times larger, and campanulate, and in the leaves being smaller, and in the berry not being inclosed in the calyx. Leaves solitary. Corollas yellowish, divided into 5 reflexed segments beyond the middle. Anthers not exserted, ex Lam. Perhaps this will form a new genus.

Frutescent Deadly Nightshade. Fl. June, July. Clt. 1787. Shrub 4 to 6 feet.

8 A. arista'ta (Poir. suppl. 1. p. 609.) stem frutescent; leaves oblong, entire, almost glabrous; branches, petioles, and peduncles woolly; peduncles solitary, 1-flowered, hardly as long as the petioles; limb of corolla 5-cleft. ♄. G. Native of the Canaries. Physàlis aristàta, Ait. hort. Kew. 1. p. 244. Willd. spec. 1. p. 1020. Branches compressed, somewhat angular. Leaves solitary, or twin, ovate-lanceolate, acuminated. Corolla yellow, campanulate, with lanceolate, acuminated segments. Calycine teeth or segments awned. Berry globose.

Awned-calyxed Deadly Nightshade. Fl. June, Aug. Clt. 1779. Shrub 3 to 4 feet.

§ 3. Belladónna. Limb of corolla 5-cleft. Stems herbaceous.

9 A. Belladónna (Lin. spec. 260.) herbaceous, erect; leaves twin, ovate, quite entire, glabrous; peduncles solitary, 1-flowered. ♃. H. Native throughout Europe, frequent in woods; with us it is not very common. Smith, engl. bot. t. 592. Oed. fl. dan. t. 758. Curt. fl. loud. fasc. 5. t. 16. Jacq. fl. austr. 4. t. 309. Mill. icon. t. 62.—Plenck. icon. 125.—Bull. herb. t. 29.—Heyne, getr. darst. t. 43. Belladónna baccífera, Lam. fl. fr. 2. p. 255. Bell. trichótoma, Scop. carn. ed. 2d. no. 255. Solànum melanocérasus, Bauh. pin. p. 166. Belladónna, majoribus foliis et floribus, Tourn. inst. p. 77.—Blackw. t. 564.—Sabb. hort. 1. t. 3. Solànum lethàle, Clus. hist. 2. p. 86. Mor. hist. sect. 13. t. 3. f. 4. Root thick, branching. Stem trichotomous, tinged with purple; the branches dichotomous. Leaves rather large, soft to the touch, a little hairy on both surfaces. Corolla large, lurid, dusky purple within, and streaked, with a yellow variegated base, but greenish-red, or dusky brown outside. Berry size of a cherry, black when ripe, full of purple juice. The plant inhabits church-yards, dung-hills, and gloomy lanes, and uncultivated places in England, but in other countries it is said to be common in woods and hedges.

When this plant was found to differ from the genus *Solànum*, it assumed the Italian name of *Belladónna*, which was given to it, according to some, because it was used as a wash among the ladies, to take off pimples from the skin; or, according to others, from its quality of representing phantasms or beautiful women to the disturbed imagination. The qualities of the plant are malignant, and it is extremely poisonous in all its parts. Numerous instances have occurred of the berries proving fatal, after causing convulsions and dilirium. Buchanan relates the destruction of the army of Sweno, the Dane, when he invaded Scotland, by the berries of this plant, which were mixed with the drink which the Scots, according to truce, were to supply the Danes. The Danes became so inebriated that the Scottish army fell on them in their sleep, and slew such numbers, that there were scarcely men enough left to carry off their king. The case related by Ray is remarkable, that is, the dilatation of the pupil of the eye caused by a part of the leaf applied outwardly, and which took place successively on the repetition of the experiment. With respect to the berries, they have been frequently known to have been fatal to children, and also to adults, if a considerable number be eaten. The symptoms are said to occur in half an hour after taking them, and consist of vertigo, great thirst, dilirium, swelling, and redness of the face, difficulty of breathing. The general sensibility of the system is said to be weakened to a great degree, so that the stomach will bear a far larger dose of emetic medicines than it would otherwise have done. Vinegar liberally drank has been found efficacious in obviating the effects of the poison. A remarkable instance of the malignant powers of the young shoots occurred in the presence of Professor Martyn, in the botanic garden at Cambridge, which fully proved that they are not less deleterious than the berries.

The leaves are said to have been sometimes successfully applied to cancerous tumours. Belladonna, notwithstanding its deleterious nature, is not totally excluded from medicine; some diseases, and those of the most malignant kind, have been known to yield to the anodyne and anti-spasmodic virtues of the plant when administered with caution. Bergius relates, that he has often given relief in epilepsy and convulsions, by the internal use of the powder of the dried leaves, taken in doses of from one to four grains: and Gesner, in his medical epistles, recommends the expressed juice of the berries boiled with sugar into a syrup, and given by a teaspoonful at a time, as excellent in every case requiring an opiate, and as peculiarly efficacious in the cure of dysentery.

Belladonna has been best analyzed by Mr. Brandes, an apothecary at Salz Uffelm, who has discovered a new alkaloid upon which its narcotic virtues depend, which he calls atropia. He urges the necessity of caution in the examination of atropia and its salts. Even the vapour of their solutions causes dilatations and paralyses of the pupil; and during the whole time of the experiments Mr. Brandes experienced violent headach, vertigo, pain of back, and nausea, so that he could scarcely continue them. On tasting a small quantity of sulphate of atropia, which was rather salt than bitter, he had extreme confusion of head, trembling in all his limbs, pulse weak, and at last retching. But the most severe of these symptoms abated in half an hour.

Medical use of Deadly Nightshade.—Under proper manage-

ment this virulent poison may become an excellent remedy. Besides its narcotic power, it promotes all the secretions; but its exhibition requires the greatest caution, for it is apt, when continued for any length of time, even in small doses, to cause dryness and tension in the throat, vertigo, dimness of sight. When any of these symptoms occur its use must be suspended for some time, and afterwards resumed in smaller doses. Deadly Nightshade has been exhibited in several febrile diseases, in obstinate intermittents, in the plague, in inflammation, the gout, in palsy and loss of speech from apoplexy, in chorea, epilepsy, hydrophobia, melancholy, mania, dropsies, and obstinate jaundice; in amaurosis, ophthalmia, scirrhus, and cancer; and as an antidote to the contagion of scarlatina. Deadly Nightshade is best exhibited in substance, beginning with a very small dose of the leaves or root. In hydrophobia Munch gave the powdered root every second morning to the extent of from one to five grains to children, and from fourteen to fifteen grains to adults. The watery infusion is also a powerful remedy.

Belladonna, or Common Deadly Nightshade. Fl. June, July. Britain. Pl. 2 to 6 feet.

10 A. rhomboídea (Gill. et Hook, in bot. misc. 1. p. 135. t. 37.) plant herbaceous, downy; leaves rhomboidal-oval, obtuse; peduncles 1-flowered, drooping; corolla glabrous outside. ♃. F. Native of Chili. Stem somewhat quadrangular, branched. Stigma capitate, furrowed, green. Berry oblong, apiculated. Seeds large, marginate. Stamens placed much higher upon the corolla than in *A. Belladónna*, and the style and inside of the corolla are furnished with a belt of hairs. Corolla small, white.

Rhomboid-leaved Deadly Nightshade. Pl. 1 foot.

† *Species doubtful, or not sufficiently known.*

11 A. herba'cea (Mill. dict. no. 3.) stem herbaceous; leaves ovate, nerved, with undulated margins. ♃. S. Native about Campeachy, Houston. Stem sub-excavated, furnished with 2-3 small branches at top. Leaves 4 inches long, and 3 broad. Peduncles short, interfoliaceous. Corollas white, smaller than those of *A. Belladónna*.

Herbaceous Deadly Nightshade. Pl. 2 feet.

Cult. The species of *Atropa* are of an easy culture and propagation. They will grow in common earth. The shrubby kinds are increased by cuttings or seeds, and the herbaceous, perennial kinds by seeds, or dividing at the root.

XI. ANI'SODUS (from *ανισος, anisos*, unequal; and *οδους, odous*, a tooth; in reference to the inequality of the teeth of the calyx.) Link, et Otto. abbild. gart. berol. fasc. 6. p. 77. Spreng. gen. 1. p. 159. Nees in Lin. trans. 17. p. 72. Whitlèya, Sweet, fl. gard. t. 125. Nicándra species, Link, et Otto. l. c. t. 35.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, angular, 5-cleft; segments unequal. Corolla campanulate, 5-lobed; lobes rounded, gradually smaller. Stamens inclosed, inserted in the base of the corolla, straight. Berry 2-celled, many-seeded, operculate, inclosed in the erect, coriaceous, inflated, reticulated, 10-ribbed calyx; operculum 4-valved, mucronate. Placenta thick, ovate, scrobiculate. Seeds compressed, angular, dotted. Albumen fleshy. Embryo peripheric, semicircular, pale; with an obtuse, conical radicle, and semi-cylindrical cotyledons.—A large, robust, downy, branched, canescent plant, with broad leaves; and solitary, drooping flowers, which are of a yellowish green colour at first, but at length becoming purplish.

1 A. lu'ridus (Link, l. c. Spreng. syst. 1. p. 699. ♃. H. Native of the Himalaya, on Gosain-than. Nees in Lin. trans. 17. p. 72. Nicándra anómala, Link, et Otto, abbild. t. 35. Physàlis, stramonifòlia, Wall. in Roxb. fl. ind. 2. p. 242. Whitlèya stramonifòlia, Sweet, fl. gard. t. 125. Anísodus stramonifòlius, G. Don, in Loud. hort. brit. p. 61. Stems dichotomous. Leaves twin, ovate-elliptic, repandly lobed, attenuated at the base, villous beneath. All the tender parts are densely clothed with mealy, ferruginous, loose tomentum. Leaves smelling like those of tobacco when bruised.

Lurid Anisodus. Fl. Aug. Sept. Clt. 1823. Shrub 4 to 7 feet.

Cult. This is a strong, coarse growing plant, of the most easy culture. It will grow in almost any soil, but requires a dry situation. It is to be increased by division, and by seed.

XII. NICA'NDRA (so named after Nicander of Colophon, priest of Apollo, who lived about the time of Attalus. His Georgics are lost: his poems are commended by Cicero, and many fragments of them remain in Athenæus. There is a fine manuscript of Nicander at Vienna.—Haller.) Adans. fam. p. 219. Juss. gen. p. 125. ed. Usteri, p. 140. Gærtn. fruct. 1. p. 237. t. 131. f. 2.—A'tropa, spec. Lin.—Physàlis species, Lam.—Calydérmos, Ruiz. et Pav. fl. per. 2. p. 44.

Lin. syst. *Pentándria, Monogýnia.* Calyx pentagonal, 5-parted, inflated; angles compressed; segments sagittate. Corolla campanulate, slightly 5-lobed. Stamens 5, incurved, distant, dilated at the base, inclosed; anthers ovate, dehiscing lengthwise. Stigma capitate. Berry fleshy, almost dry, 3-5-celled, inclosed in the calyx; placentas prominent.—A strong, coarse, annual, much branched, glabrous plant. Leaves twin. Flowers extra-axillary, solitary, drooping.

1 N. physaloìdes (Gærtn. fruct. 2. p. 237. t. 131. Pers. ench. 1. p. 219.) ⊙. H. Native of Peru; and from Pennsylvania to Virginia, but is probably only indigenous to Peru. Pursh, fl. amer. sept. 1. p. 158. Sims, bot. mag. t. 2458. Calydérmos eròsus, Ruiz. et Pav. fl. per. 2. p. 44. A'tropa physaloìdes, Lin. spec. p. 260. Jacq. obs. 4. t. 98. Physàlis Peruviàna, Mill. dict. no. 16. Physàlis daturæfòlia, Lam. dict. 2. p. 102. no. 15. Thor. chlor. land. p. 74. Alkekéngi amplo flore violaceo, Feuill. per. p. 724. t. 16. Root fibrous. Leaves glabrous, sinuated, like those of *Datùra*. Corolla large, blue, rayed, with a white bottom, which is marked with 5 dark blue spots.

Winter-cherry-like Nicandra. Fl. July, Sept. Clt. 1759. Pl. 2 to 4 feet.

Cult. The seeds of this plant only require to be sown in the open border; and when the plants are up they must be planted separately; being large they require a good deal of space.

XIII. LY'CIUM (derived from Lycia in Asia Minor, hence *λυκιον, Lycion*, of Dioscorides, a name given by him to a thorny shrub, which was supposed by Dr. Sibthorp to have been the Rhámnus infectòrius, but which Mr. Royle, with greater probability, regards as identical with a species of Bérberis, which he has denominated *Bérberis Lýcium*. The name has been applied to the present genus, on account of its containing thorny shrubs.) Lin. gen. 262. Schreb. gen. no. 343. Gærtn. fruct. 2. p. 242. t. 132. Juss. gen. p. 126. ed. Usteri, p. 141. Lam. ill. t. 112. H. B. et Kunth, nov. gen. amer. 3. p. 50.—Jasminoìdes, Niss, in act. gall. 1711. Mich. gen. 224. t. 105.

Lin. syst. *Pentándria, Monogýnia.* Calyx urceolate, regularly 5-toothed, or irregularly 3-5-cleft, permanent. Corolla funnel-shaped, or tubular; limb 5 or 10 cleft, or toothed, imbricate in æstivation, sometimes plicate. Stamens 5, usually exserted; filaments bearded, and widened at the base; anthers cordate,

dehiscing lengthwise. Stigma peltately-depressed, or capitate, bisulcate, ex Juss. or 2-lobed. Berry roundish, 2-celled, propped by the permanent calyx; placentas adnate. Seeds numerous, reniform.—Trees or shrubs usually spinose. Leaves entire, or nearly entire, alternate, solitary, or in fascicles. Peduncles extra-axillary, or terminal, solitary, twin, or umbellate, rarely corymbose. Corollas white, yellow, rose-coloured, purple, blue, or scarlet.

Sect. I. Euly'cium (from *ευ, eu*, well or good; and *Lycium*; this section contains the true species of the genus.) Calyx urceolate, irregularly 3-6-cleft. Corolla tubularly funnel-shaped; with a 5-parted, spreading, or reflexed limb. Genitals exserted.—Shrubs or trees, usually spinose. Flowers extra-axillary, solitary, twin, or umbellate.

1 L. Europæ'um (Lin. syst. 228. mant. p. 47.) branches erect, loose; buds spinescent; leaves fascicled, obovate-lanceolate, obtuse, or spatulate, bent obliquely; flowers twin, or solitary; corolla funnel-shaped; stamens exserted, but shorter than the limb. ♄. H. Native of the South of Europe; and the North of Africa; in the Grecian Islands, common in hedges, but scarcely indigenous. Willd. enum. 1. p. 246. Sibth. et Smith, fl. græc. t. 236. L. salicifòlium, Mill. dict. no. 3.—Mich. gen. p. 224. t. 105. f. 1.—Mill. fig. t. 171. f. 2. Calyx 5-cleft, ruptured at the side. Corollas pale violet, reticulated with red veins; tube greenish. Clusius says, that the young shoots are eaten in Spain with oil and vinegar.

Var. α; berries yellow or fulvous.

Var. β; berries red.

European Boxthorn. Fl. May, Aug. Clt. 1730. Shrub 10 to 12 feet.

2 L. ba'rbarum (Lin. spec. 277.) branches dependent; buds spiny; leaves lanceolate, flat, glabrous, acute; flowers twin, extra-axillary, pedicellate; corolla funnel-shaped; stamens exserted, about equal in length to the limb. ♄. H. Native of the North of Asia, Africa, and South of Europe. Willd. spec. exclusive of Shaw, and the syn. of Lam. Wats. dendr. brit. t. 9. L. halimifòlium, Mill. dict. no. 6. L. Bárbarum a vulgàre, Ait. hort. kew. 1. p. 257. Schkuhr, handb. 1. p. 147. t. 46. Hayne, term. bot. t. 10. f. 5.—Dun. arb. 1. p. 306. t. 121. f. 4.—Mich. gen. t. 105. f. 1. Branches angular. Buds often without spines. Calyx 2-3-lobed. Corolla with a purple limb, and yellowish base. Stigma 2-lobed. Berry ovate, yellow. Stamens bearded near the base. There is a variety of this, having livid or pale corollas, and reddish yellow berries.

Barbary Boxthorn. Fl. May, Aug. Clt. 1696. Shrub cl.

3 L. Chine'nse (Mill. dict. no. 5.) branches pendulous, prostrate, striated; buds spinescent; leaves by threes, ovate, acute, attenuated at the base; peduncles much longer than the calyx, which is entire; stamens exserted. ♄. H. Native of China, about Pekin and Canton; and of Cochinchina. Bunge in mem. acad. petersb. 2. p. 123. Lam. ill. t. 112. f. 2. Wats. dend. brit. t. 8. L. Bárbarum, *β*, Chinénse, Ait. hort. kew. 1. p. 257. L. ovàtum, Duh. arb. ed. nov. p. 117. L. Bárbarum, Lour. coch. 1. p. 165.? Said by Bunge to be nearly allied to *L. Ruthénicum*, but differs in the leaves being broad-ovate. Corollas purple. Berries orange-coloured. Shoots very long, ex Mill. The Chinese use a decoction in wine, or an infusion in water of the berries, as a tonic, analeptic, and cephalic. We know not whether the plants described by Miller and Bunge be the same; the plant here meant is that of Bunge.

Chinese Boxthorn. Fl. May, Aug. Clt.? Shrub climbing.

4 L. Ruthe'nicum (Murr. comm. goett. 1779. p. 2. t. 2.) branches dependent; buds spinescent; leaves linear-lanceolate, fleshy, obtuse, attenuated at the base, solitary, or subfasciculate; peduncles longer than the calyx; calyx with 5 unequal teeth; stamens exserted, equal to the limb. ♄. H. Native of Siberia, in nitrous places; and at the Volga; and in Hyrcania. Bieb. fl. cauc. 1. p, 166. L. Tatáricum, Pall. fl. ross. 1. p. 78. t. 49. Calyx usually irregularly 5-toothed, rarely 2-3-lobed, as in *L. Bárbarum*. Corolla with a white tube, and purplish limb. Leaves grey, like those of *L. Afrum*.

Var. β, Cáspicum (Pall. fl. ross. t. 49. f. A.) leaves shorter; buds more spinose; flowers smaller. ♄. H. Native about the Caspian Sea.

Russian Boxthorn. Fl.? Clt. 1804. Shrub climbing.

5 L. Sha'wii (Rœm. et Schultes, syst. 4. p. 693.) branches dependent, rather tomentose at apex; buds spinescent; leaves ovate-lanceolate, thickish. ♄. H. Native of Barbary. L. Europœ'um, Mill. dict. no. 4.—Shaw. afr. p. 349. f. 349. Branches scattered. Prickles strong. Leaves short, thick, scattered. Flowers lateral, small, white.

Shaw's Boxthorn. Fl. June, July. Clt. 1700. Shrub 7 to 8 feet.

6 L. Trewia'num (Duh. abr. nov. ed. p. 116. t. 30. under L. Chinénse, as in Pers. ench. 1. p. 231. no. 9.) erect; branches diffuse, angular; buds spinose; leaves petiolate, lanceolate, acute; peduncles 1-flowered, solitary, or twin, extra-axillary; calyx 2-3-cleft; corolla funnel-shaped; stamens exserted. ♄. H. Native of China. L. Bárbarum, Lam. dict. 3. p. 509. ex Poir. suppl. 3. p. 427.—Trew. Ehret. t. 68. exclusive of the synonymes. This species differs from *L. Chinénse*, Mill. in the spines, and from *L. Bárbarum* in the leaves. Branches rufescent. Spines few. Corolla fine purple, with a white star in the centre. Filaments pilose at the base. Berry ovate.

Trew's Boxthorn. Fl. May, Aug. Clt. 1818. Shrub 6 feet.

7 L. lanceola'tum (Poir. suppl. 3. p. 429.) branches dependent, reflexed; buds spinescent; leaves lanceolate, nearly sessile, acute at both ends; flowers solitary, extra-axillary, pedicellate; corolla funnel-shaped; stamens exserted. ♄. H. Native of the South of Europe, as of Naples, Greece, &c. L. Europæ'um, *β*, D. C. fl. fr. no. 2699. Pers. ench. 1. p. 231. no. 8. —Duham, arb. nov. edit. p. 123. t. 32. Calyx unequally 5-toothed. Corolla purple, with a white bottom. Berry oblong, red.

Lanceolate-leaved Boxthorn. Fl. May, Aug. Clt.? Shrub climbing.

8 L. turbina'tum (Duh. arb. nov. edit. p. 119. t. 31. Pers. ench. 1. p. 231, exclusive of the syn. of Lam. no. 3.) stems erect, fascicled; branchlets dependent, terete; buds spiny; leaves sessile, lanceolate, acuminated; flowers aggregate, pedicellate, extra-axillary; corolla funnel-shaped; stamens exserted; calyx trifid; berry turbinate. ♄. H. Native of China. L. halimifòlium, Mill. dict. no. 6.? L. Bárbarum, *β*, D. C. fl. fr. no. 2700. Corolla violaceous, with a white bottom. Berries red.

Turbinate Boxthorn. Fl. May, Aug. Clt. 1709. Shrub climbing.

9 L. cilia'tum (Schlecht. in Linnæa, 8. p. 69.) branches elongated, subscandent; branchlets sometimes spiny; leaves alternate, broad-ovate, acute, denticulately ciliated, glabrous; flowers axillary, solitary, on short pedicels; calycine segments linear, acute, exceeding the berry, which is globose; corolla funnel-shaped, puberulous; genitals exserted. ♄. G. Native of the South of Brazil, at the Rio Negro, Sello. Calyx deeply 5-cleft. Filaments villous, as in *L. Bárbarum*. Corolla beset with glandular down, purple?

Ciliated-leaved Boxthorn. Shrub climbing.

10 L. obova'tum (Ruiz. et Pav. fl. per. 2. p. 46. t. 183. f. c.) branches spreading; spines stiff, leafy while young; leaves obovate, obtuse, petiolate, scattered, or fascicled; peduncles

solitary, extra-axillary, 1-flowered, drooping; corolla tubular: limb hairy, erect; calyx villous, 5-cleft. ♄. G. Native of Peru, in hedges at Tarma. Stem cinereous, much-branched. Calycine segments reflexed. Corolla purplish violet. Berry small, globose, orange-coloured. Old spines naked.

Obovate-leaved Boxthorn. Shrub.

11 L. sa'lsum (Ruiz. et Pav. l. c. t. 183. f. b.) branches long, pendulous; spines leafy; leaves obovate-oblong, sessile; flowers extra-axillary, drooping, solitary, on short pedicels; corolla funnel-shaped; stamens exserted. ♄. G. Native of Peru, in hedges near Lurin. Leaves small, fascicled. Calyx 5-toothed. Corolla small, whitish purple; segments oblong, clammy, obtuse, spreading. Berry small, ovate-oblong, acute, 2-celled, hardly pulpy. Seeds small yellow.

Salt Boxthorn. Shrub.

12 L. Thunbe'rgii; leaves lanceolate-elliptic; branches loose, sub-spinose. ♄. G. Native of the Cape of Good Hope, in Carro, between Roggefelt and Bokefelt. L. bárbarum, Thunb. in Lin. trans. 9. p. 152. Stem terete, grey, erect. Branches more or less spiny, elongated, usually simple. Leaves usually solitary beneath the spines, glabrous, 1½ inches long, and more.

Thunberg's Boxthorn. Shrub.

Sect. II. Isodòntia (from *ισος, isos*, equal; and *οδους οδοντος, odous odontos*, a tooth; in reference to the calyx being regularly 5-toothed.) Calyx urceolately campanulate, regularly 5-toothed. Corolla tubularly campanulate; limb 5-cleft, erect. Genitals inclosed.—Spiny shrubs. Leaves in fascicles. Peduncles almost axillary, solitary. Flowers drooping.

13 L. parvifòlium (Willd. rel. in Rœm. et Schultes, syst. 4. p. 698.) very spiny; leaves in fascicles, obovate, obtuse, glabrous; flowers almost axillary, solitary, pendulous; corollas tubular; stamens almost inclosed. ♄. F. Native of the Andes of Peru, between Caxamarca and Magdalena, at the altitude of 800 hexapods. L. microphýllum, Humb. et Bonpl. mss. but not of Duh. L. hórridum, H. B. et Kunth, nov. gen. amer. 3. p. 52. but not of Thunb. Leaves small. Calyx obsoletely 5-toothed, or nearly entire. Corolla tubular, a little curved, 6-7 times longer than the calyx. Filaments capillary, glabrous. Stigma thickened. Pedicels longer than the calyxes.

Small-leaved Boxthorn. Shrub 5 to 6 feet.

14 L. A'frum (Lin. spec. 277.) erect, spiny; leaves fascicled, linear, canescent, attenuated at the base, obtuse, fleshy; flowers almost axillary, solitary, drooping; corolla tubular, 3 times longer than the calyx; stamens inclosed. ♄. H. Native of the North of Africa, as of Palestine; and of Spain. Mill. icon. t. 171. f. 1. Sweet, fl. gard. n. s. t. 324. Ker. bot. reg. t. 354. Lam. ill. 112. f. 1.—Duh. arb. ed. nov. p. 107.-110. —Trew. ehret. 4. t. 24. f. 2.—Plenck. icon. t. 127.—Mich. gen. p. 224. t. 105. f. 2.—Nis. act. par. 1711. p. 420. t. 12. Bark grey coloured; the smaller branches frequently spiny. Leaves glaucous. Filaments bearded near the base, as in all the true species. Stigma slightly 2-lobed. Corolla violaceous, rich purple above. Berry globose, violaceous. Calyx 5-toothed.

African Boxthorn. Fl. June, July. Clt. 1712. Shrub 6 to 10 feet.

15 L. te'nue (Willd. enum. 1. p. 242.) erect, spiny; leaves linear, rather fleshy, in fascicles; flowers almost axillary, pedicellate, solitary, drooping; corolla tubular; stamens equal in length to the limb of corolla. ♄. F. Native country unknown, but probably of the Cape of Good Hope. Leaves narrower and shorter than in *L. A'frum*. Pedicels a little longer than the calyx. Calyx 5-toothed; teeth adpressed. The corolla is said by Willd. to be nearly like that of *L. Bárbarum*, and the stamens a little longer than the limb, and, therefore, probably belongs to the last section.

Slender Boxthorn. Fl. June, July. Clt. 1819. Shrub 5 to 6 feet.

16 L. propínquum; leaves linear-elliptic; branches strict; peduncles longer than the leaves. ♄. H. Native of the Cape of Good Hope. L. A'frum, Thunb. prod. 37. and in Lin. trans. 9. p. 158. but not of Lin. Stem stiff, erect; branches spinescent, somewhat verticillate, short, strict. Leaves fascicled, glabrous, a nail in length. Peduncles capillary, 1-flowered, about equal in length to the flowers. Corolla short, campanulate.

Allied Boxthorn. Shrub.

17 L. rígidum (Thunb. prod. 37. Lin. trans. 9. p. 153. t. 14.) erect, spiny; leaves linear, obtuse, in fascicles; peduncles shorter than the leaves and flowers; corolla tubular; stamens inclosed; calyx 5-toothed; teeth ciliated. ♄. F. Native of the Cape of Good Hope, about Cape Town. Willd. enum. 1. p. 245. L. carnòsum, Duh. arb. ed. nov. p. 111. Pers. ench. 1. p. 231. Poir. suppl. 3. p. 427. L. A'frum, *β*, Lam. dict. 3. p. 509. L. Itálicum, Mill. dict. no. 2.?—Trew. ehret. t. 24. f. 1. Stem flexuous, glabrous, grey; branches rugosely angular, cinereous, spiny at top. Leaves glabrous, curved, a nail in length. Flowers solitary, pedunculate, drooping. This species hardly differs from *L. A'frum*, unless in the pedicels being very short, the much dwarfer habit of the shrub, in the fewer spines, and in the leaves being paler. Pedicels solitary, or by threes. Calyx campanulate, 5-toothed; teeth acute. Corolla tubular, violaceous. Berry globose, size of a pea, and 2-celled.

Stiff Boxthorn. Fl. April, May. Clt. 1795. Shrub 3 to 4 feet.

18 L.? microphy'llum (Duh. arb. nov. ed. p. 112. Pers. ench. 1. p. 231.) erect, spiny, stiff, quite smooth; branches reflexed; leaves solitary, or in fascicles, parabolic; flowers axillary, solitary, pedicellate, drooping?; corolla funnel-shaped?; stamens inclosed?. ♄. F. Native of the East of Africa, and in India. Branches cinereous, terminated each by a strong spine. Leaves glaucous, small, linear?. Berry globose, dark blue. Perhaps not belonging to the present section.

Small-leaved Boxthorn. Fl. June, July. Clt. 1795. Shrub.

19 L. cine'reum (Thunb. prod. 1. p. 37. in Lin. trans. 9. p. 154. t. 16. Willd. spec. 1. p. 1059. enum. 1. p. 245.) branches terete, spreading, filiform; branchlets spiny, short; leaves lanceolate, obtuse, glaucous, glabrous, in fascicles; flowers axillary, solitary, drooping; corolla tubular; stamens inclosed. ♄. F. Native of the Cape of Good Hope. Pedicels shorter than the calyx, and twice as short as the leaves. Corolla purple?

Cinereous Boxthorn. Fl. June, July. Clt. 1818. Shrub.

20 L. hórridum (Thunb. prod. 37. in Lin. trans. 9. p. 154. t. 17. Ait. hort. kew. ed. 2d. vol. 2. p. 4.) branches strict; leaves obovate, fleshy, glabrous; flowers nearly sessile. ♄. F. Native of the Cape of Good Hope, in Saldanha Bay. Stem stiff, much branched, 3 feet high; branches nodulose, grey, spinescent. Leaves fascicled, 3-7 in each fascicle, flat above, and convex beneath, white, small. Flowers solitary, pedicellate. Pedicels terete, glabrous, a line long.

Horrid Boxthorn. Fl. July, Aug. Clt. 1791. Shrub 3 to 4 feet.

21 L. tetra'ndrum (Thunb. prod. p. 37. Lin. suppl. 150. Thunb. in Lin. trans. 9. p. 154. t. 15.) spiny, erect; branches angular, strict; leaves fascicled, ovate, obtuse; flowers nearly sessile; corollas quadrifid, tetrandrous. ♄. F. Native of the Cape of Good Hope, about Cape Town. Stem twisted, glabrous, angular, grey, stiff; branches horizontal, spiny. Leaves a line long. Flowers solitary, rising from the fascicles of leaves on short pedicels. Very like *L. A'frum*, but is distinguished

from that species in the leaves being more fleshy, and in the flowers being tetramerous and tetrandrous. It is also, perhaps, the *L. capénse*, Mill. dict. no. 7, of which he gives the following description. "Leaves oblong-ovate, thickish, crowded; spines strong, leafy. Leaves scattered, solitary, or fascicled, thick, pale green, permanent." This shrub has stood the open air throughout the winter in Chelsea botanic garden, but did not flower.

Tetrandrous-flowered Boxthorn. Fl. June, July. Clt.? Shrub 6 to 7 feet.

Sect. III. Anisodóntia (from *ανισος, anisos*, unequal; and *οδους οδοντος, odous odontos*, a tooth; in reference to the irregularly 5-toothed, or 5-cleft calyx.) Calyx urceolate, generally irregularly 5-cleft, or 5-toothed. Corolla tubular; limb erect, plicate, 5-10-toothed, rarely 5-cleft, or 5-lobed. Genitals inclosed, or nearly so.—Unarmed trees or shrubs. Leaves scattered. Flowers sub-axillary, or terminal, fasciculately umbellate.

§ 1. *Calyx 5-toothed, 5-cleft, or 5-lobed.*

22 L. fuchsioi'des (Humb. et Bonpl. pl. æquin. 1. p. 147. t. 42. H. B. et Kunth, nov. gen. amer. 3. p. 52.) branchlets puberulous; leaves obovate-oblong, bluntish, glabrous; umbels extra-axillary and terminal, sessile; corollas tubular, with a 5-toothed limb, glabrous; stamens hardly exserted. ♄. G. Native of the province of Quito, in cold places near Delay, Cumbe, and Cuenca, at the altitude of 1400 hexapods. Branches angular. Flowers pedicellate, pendulous. Calyx campanulate, 2-lobed, one of the lobes bidentate, and the other tridentate, or entire. Corolla purple. Filaments dilated and villous at the base. Stigma 2-lobed. Berry ovate, 1-celled, many-seeded, girded by the calyx.

Fuchsia-like Boxthorn. Fl. Aug. Shrub 6 to 8 feet.

23 L. gesnerioìdes (H. B. et Kunth, nov. gen. amer. 3. p. 53.) branchlets villously tomentose; leaves ovate, acute, glabrous above, and clothed with powdery pubescence beneath; umbels sub-axillary and terminal, sessile; corollas tubular, with a 5-lobed limb, downy; stamens hardly exserted. ♄. G. Native of the Andes of Quito, in temperate places near El Machin, and in the valley of the river Toche. Branchlets terete, glabrous. Pedicels villous. Calyx 5-toothed, downy. Corolla yellow; limb 5-lobed and plicate, downy. Berry girded by the calyx. Filaments a little dilated, and downy at the base. Stigma sub-capitate, 3-lobed.

Gesneria-like Boxthorn. Shrub 6 to 8 feet.

24 L. umbella'tum (Ruiz. et Pav. fl. per. 2. p. 45. t. 182. f. b.) branchlets downy; leaves oblong-lanceolate, glabrous, but powdery beneath; umbels axillary, on short peduncles; corolla tubular, with acute segments; stamens inclosed. ♄. S. Native of Peru, in the valley of Canta, in hedges by way sides. Leaves 6 inches long. Pedicels unequal. Corolla violaceous; segments of the limb acute. Filaments glabrous. Berry globose, orange-coloured, size of a pea. Seeds reniform.

Umbellate-flowered Box-Thorn. Shrub 10 to 15 feet.

25 L. cestroi'des (Schlecht, in Linnæa, 8. p. 70.) branches spinescent; leaves alternate, and falsely fascicled, broad, lanceolate, acute at both ends, glabrous; flowers pedicellate, rising in fascicles from the axils of the upper leaves, hence they are sometimes falsely umbellate; calyx tubular: teeth short, triangular, very acute; corolla tubular, glabrous, with downy margins; genitals inclosed; stamens unequal; berry nearly globose, exceeding the calyx a little, which is cleft at the side. ♄. H. Native of the South of Brazil, near San José do Uruquay, Sello. Largest leaves 2 to $2\frac{1}{2}$ inches long. Flowers large. Calyx downy, 5-toothed, at length cleft at the side. Limb of corolla bluntly 5-lobed. Berry globose, red. Seeds compressed. Embryo annular.

Cestrum-like Boxthorn. Shrub.

§ 2. *Calyx 10-toothed.*

26 L. Loxe'nse (H. B. et Kunth, l. c.) arboreous; branchlets pubescently tomentose; leaves ovate, somewhat acuminated, downy on both surfaces; umbels nearly axillary, and terminal, sessile; corollas tubular, with an obsoletely 10-toothed limb, downy; stamens inclosed. ♄. G. Native of Peru, near Loxa, at the altitude of 1050 hexapods. Branches terete. Leaves 3-$3\frac{1}{2}$ inches long. Pedicels clothed with hoary tomentum. Calyx campanulate, 5-toothed, downy. Corolla yellow, downy; limb plicate; alternate teeth very minute. Filaments a little dilated, and downy at the base. Stigma capitate. Berry ovate-oblong, girded by the calyx, 1-celled.

Loxa Boxthorn. Shrub 10 to 12 feet.

27 L. cornifòlium (H. B. et Kunth, l. c. p. 54.) arboreous; branchlets clothed with hoary tomentum; leaves roundish-ovate, sub-acuminated, complicate, puberulous above, but clothed with soft rufescent tomentum beneath; umbels almost axillary, and terminal, sessile; corollas tubular, with a 10-toothed limb, downy; stamens inclosed. ♄. G. Native of the province of Quito, in bushy places between Tiscan and Alausi, at the altitude of 1300 hexapods. L. ovàle, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 698. Leaves 3 inches long. Pedicels tomentose. Calyx downy, tubularly campanulate, 5-cleft. Corolla downy; limb plicate, the alternate teeth very minute. Filaments downy at the base. Stigma sublobate. Berry girded by the calyx.

Dogwood-leaved Boxthorn. Shrub 15 to 18 feet.

28 L. umbròsum (H. B. et Kunth, l. c.) arboreous; branchlets clothed with hairy down; leaves oblong, acuminated, smoothish: floral ones ovate-rhomboid; umbels almost axillary and terminal, sessile; corollas tubular, with a 10-toothed limb, hairy; stamens almost inclosed. ♄. G. Native of New Granada, in shady places near La Vega de St. Lorenzo, and Almaguer, at the altitude of 1200 hexapods, where it is called by the inhabitants *Upaquanda*. Branches rather angular. Leaves 6 inches long. Pedicels hairy. Corolla scarlet, widened at top, a little curved; the teeth of the limb obtuse and fimbriately ciliated. Filaments membranous at bottom and downy. Stigma obsoletely 3-lobed. Berry ovate, 1-celled, many-seeded. The plant is used in the cure of erysipelas.

Shaded Boxthorn. Shrub 12 to 16 feet.

† *Species hardly known.*

29 L. capsula're (Lin. amœn. acad. 4. p. 308.) leaves lanceolate, thin, glabrous; peduncles and calyxes downy; pericarp capsular. ♄. G. Native of Mexico, Miller. Willd. spec. 1. p. 1061. Lam. dict. 3. p. 510. Branches terete, furnished with spreading, axillary, simple spines. Leaves on short petioles. Peduncles simple, axillary, 1-flowered, shorter than the leaves. Calyx downy. Corolla rotate. Stigmas 2, straight, slender. Capsule ovate, mucronate, 2-celled. Certainly not a species of *Lycium*, from the capsular fruit and rotate corolla.

Capsular Box-Thorn. Shrub.

30 L. Carolinia'num (Walt. fl. carol. p. 84. Michx. fl. bor. amer. 1. p. 95.) unarmed; leaves narrow, spatulate-oblong; flowers quadrifid, tetrandrous, bluish. ♄. H. Native of Carolina, Georgia, Florida, by the sea shore, among rushes.

Caroline Box-Thorn. Fl. July, Sept. Clt. 1806. Shrub 4 to 5 feet?

31 L. obtu'sum (Willd. rel. ex Rœm. et Schultes, syst. 4. p.

698.) leaves obovate, on long petioles; peduncles crowded; branches spiny; flowers tetrandrous. ♄. S. Native of Cumana, Humb. et Bonpl.

Blunt-leaved Box-Thorn. Shrub.

32 L. GRANDIFLÒRA (Willd. rel. l. c.) leaves elliptic; peduncles aggregate; calyx 3-lobed. ♄. S. Native of Caraccas.

Great-flowered Box-Thorn Shrub.

33 L. INE'RME (Mill. dict. no. 9.) leaves lanceolate, alternate, permanent, petiolate. ♄. S. Native country unknown. Stem thick, woody. Branches numerous, short, brown. Leaves 3 to $3\frac{1}{2}$ inches long, dark green. Flowers white. Fruit unknown. Perhaps not a species of the present genus.

Unarmed Box-Thorn. Shrub.

34 L. COCHINCHINE'NSE (Lour. coch. p. 134. ed. Willd. 1. p. 165.) leaves oblong, obtuse; stem unarmed; cymes terminal. ♄. G. Native of Cochinchina, in woods. Shrub erect, branched. Leaves thick, glabrous, alternate. Calyx 5-cleft. Corolla white, tubular; limb 5-cleft, reflexed. Stamens 5, about equal in length to the corolla, clothed with many long hairs, which close up the tube. Berry roundish, 2-celled. Perhaps belonging to section *Eulycium*.

Cochinchina Box-Thorn. Shrub 4 to 6 feet.

Cult. The hardy kinds of Box-Thorn are well fitted for arbours, or to be trained against trellis-work or walls. The *L. A'frum*, and some of the Cape species belonging to the same section, are very handsome while in flower; and they will thrive and flower if trained against a wall, with a south or west aspect. They are all readily increased by ripened cuttings, under a hand-glass in sand. The stove and greenhouse species should be treated like other stove and greenhouse shrubs.

2 A. GUAYAQUILE'NSIS; arboreous; leaves elliptic-oblong, acute, downy above, but clothed with soft tomentum beneath; umbels extra-axillary, sessile. ♄. S. Native of Quito, near Guayaquil, in humid places. Lycium Guayaquilénse, H. B. et Kunth. nov. gen. amer. 3. p. 50. Branches terete, canescent, tomentose. Stigma capitate, somewhat 2-lobed. Corolla glabrous.

Guayaquil Acnistus. Tree or Shrub.

3 A. FLORIBU'NDUS; shrubby; leaves oblong, acute, glabrous above, and downy beneath; umbels extra-axillary, sessile, approximate. ♄. S. Native of Peru, on the Andes, between Caxamarca and the river Magdalena, at the altitude of 800 hexapods. Lycium floribúndum, H. B. et Kunth. nov. gen. 3. p. 51. Branches glabrous, white. Flowers larger than those of the preceding. Corolla downy outside. Stigma capitate, somewhat 2-lobed.

Bundle-flowered Acnistus. Shrub 3 to 6 feet.

4 A. SPATULA'TUS; glabrous; leaves obovate-spatulate, scattered or fascicled; umbels nearly axillary, sessile; corolla with acute downy segments. ♄. S. Native of Peru, about Huanuco, in hedges. Lycium spatulàtum, Ruiz. et Pav. fl. per. 2. t. 183. f. a. Branchlets angular. Leaves 1-2 inches long. Berry roundish, reddish-yellow, size of a pea.

Spatulate-leaved Boxthorn. Shrub.

5 A. SIDEROXYLOI'DES; leaves oblong-ovate, acute at both ends, downy beneath; umbels lateral, sessile. ♄. S. Native along the banks of the river Magdalena. A'tropa sideroxyloìdes, Herb. Willd. ex Rœm. et Schultes, syst. 4. p. 686.

Iron-wood-like Acnistus. Shrub.

Cult. For culture and propagation see the stove species of *Lycium*.

XIV. ACNI'STUS (meaning unknown to us.) Schotte, in wien. zeit. litt. 4. p. 1180. Linnæa, 6. p. 54. Schlecht, in Linnæa, 7. p. 66. Céstrum Lycium and A'tropa species of authors.

LYN. SYST. *Pentándria, Monogýnia.* Calyx campanulate, 5-toothed, nearly regular. Corolla funnel-shaped; tube short, dilated at the base; limb 5-parted, reflexed or spreading, imbricate in æstivation. Genitals exserted; filaments naked, dilated at the base. Anthers elliptic, cordate, dehiscing lengthwise. Stigma funnel-shaped. Berry 2-celled, many-seeded; placenta semiglobose, adnate by the middle to the dissepiment. Seeds reniform, compressed. Embryo?—Unarmed shrubs. Leaves and branches scattered, quite entire. Flowers fascicled, or in contracted racemes, from the axils of the leaves of the preceding year. Corollas white, sweet-scented at night. Berry red, or black, globose.

1 A. ARBORE'SCENS (Schlecht, in Linnæa, 7. p. 67.) shrubby; leaves elliptic, acute, downy above, but at length green, and clothed with white tomentum beneath; racemes umbellate, from the axils of the fallen leaves. ♄. S. Native of Martinico, Jamaica, Brazil, Peru, as about Lima and Chancay. Acnístus cauliflòrus, Schotte, l. c. A'tropa arboréscens. Lin. amœn. acad. 4. p. 307. Lam. dict. 1. p. 396. Swartz, obs. p. 91. Lycium aggregàtum, Ruiz. et. Pav. fl. per. 2. p. 45. t. 182. f. a. Céstrum campanulàtum, Lam. dict. 1. p. 688. Céstrum cauliflòrum, Jacq. hort. schœnbr. 3. p. 41. t. 325. A'tropa solanàcea, Allioni. Belladónna frutéscens, flore albo, Nicotianæ foliis, Plum. spec. 1. icon. t. 46. f. 1. Leaves 3-7 inches long, white from tomentum, powdery when young, but at length green. Filaments free almost to the base. Lycium Guayaquilénse, and L. floribúndum, H. B. et Kunth, 3. p. 39. does not seem to differ much from the present plant.

Arborescent Acnistus. Fl. May, June. Clt. 1821. Shrub 3 to 6 feet.

XV. JABORO'SA (a name given by Jussieu, derived from the Arabic word Jaborose, which was applied to the Mandrake, from its affinity to it.) Juss. gen. 125. ed. Usteri, p. 140. Lam. t. 114. Gill. et Hook. bot. misc. 1. p. 347. t. 71.

LIN. SYST. *Pentándria, Monogýnia.* Calyx short, 5-cleft; segments acute. Corolla campanulate or tubular, 5-cleft; segments acute. Stamens 5, inserted towards the top of the tube; filaments short, flat. Stigma capitate. Berry globose, 3-celled, ex Cav., 2-celled, ex Hook.; placenta fixed to the longitudinal dissepiment.—Herbs natives of Chili and Buenos Ayres. Leaves radical. Scapes 1-flowered. Corollas white.

1 J. CAULE'SCENS (Gill et Hook. in bot. misc. 1. p. 347. t. 71.) stems many, decumbent; leaves lyrately pinnatifid, spinulosely-toothed, petiolate; bracteas subulate, verticillate; corolla narrow, campanulate, hairy inside. ♃. G. Native of Chili, in the valleys of the Andes towards Mendoza. Root long, descending, nearly fusiform. Limb of corolla spreading, with acute segments. Capsule globose; receptacle fixed to a longitudinal dissepiment. Seeds numerous, black.

Caulescent Jaborosa. Pl. prostrate.

2 J. INTEGRIFÒLIA (Lam. dict. 3. p. 189. ill. t. 114.) stemless; leaves petiolate, oval, nearly entire; corolla with a long tube and acuminated segments. ♃. G. Native of Buenos Ayres. Hook. bot. mag. t. 3489. J. Bonariénsis, Gmel. syst. 1. p. 380. Leaves radical, 3-6 inches long. Scapes length of petioles. Corolla 2 inches long.

Entire-leaved Jaborosa. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

3 J. RUNCINA'TA (Lam. dict. l. c. Link, et Otto. pl. sel. p. 103. t. 48.) usually stemless; leaves petiolate, oblong-obovate, sinuately pinnatifid; corolla campanulate, with acute segments. ♃. G. Native of Monte Video, and Buenos Ayres, in the flats called Pampas. Leaves like those of *Taráxacum*, 2-4 inches long, and hardly $1\frac{1}{2}$ broad. Scapes a little shorter than the

leaves. Corolla hardly an inch long; segments of the limb spreading or reflexed. The specimens collected by Dr. Gillies have no stem; while the plant figured by Link and Otto has a stem 4-5 inches long, from which both the leaves and flowers have their origin; but in Gillies's specimens the leaves and flowers spring at once from the root.

Runcinate-leaved Jaborosa. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

Cult. For culture and propagation see *Netoúxia*, p. 454.

Tribe II. Nicotia'neæ. Limb of corolla plicate in æstivation. Stamens equal in number to the segments of the corolla. Fruit capsular, 2-celled. Calyx and corolla 5-cleft.

XVI. NICOTIA'NA (this genus takes its name of Jean Nicot, of Nismes in Languedoc, agent from the king of France to Portugal, who procured the seeds from a Dutchman, who had brought them from Florida, and sent them to France.) Tourn. inst. 1. p. 117. t. 41. Lin. gen. no. 248. Schreb. gen. no. 334. Juss. gen. 125. ed. Usteri, 139. Vent. tabl. 2. p. 369. St. Hil. fam. nat. 1. p. 286. t. 46. Lam. ill. 2. p. 6. t. 113. Schkuhr, handb. 1. p. 141. t. 44. Gærtn. fruct. 1. p. 264. no. 331. t. 55. f. 11. Lehm. nicot. p. 12. H. B. et Kunth, nov. gen. 3. p. 1.—Tábacus, Mœnch. meth. p. 448.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft. Corolla funnel-shaped or salver-shaped; limb 5-lobed, plicate, spreading. Stamens 5, length of the tube of the corolla. Anthers dehiscing lengthwise. Stigma capitate. Capsule 2-celled, covered by the permanent calyx, 2-valved; valves bipartite, therefore the capsule opens by 4 parts at the apex; placentas free, distant from the dissepiment. Seeds very numerous, minute.—Usually herbs, rarely subshrubs, generally clothed with clammy hairs or down. Flowers terminal, racemose or panicled, white, greenish or purplish.

Sect. I. Ta'bacum (the name Tobacco, which has superseded all others, is the appellation of a district in Mexico.) Leaves large. Flowers funnel-shaped, red; limb of corolla spreading, acuminated or acute; throat inflately ventricose.—Plants clothed with clammy down. Flowers disposed in short, many-flowered racemes, the whole constituting terminal subcorymbose panicles.

1 N. Ta'bacum (Lin. spec. 258.) herbaceous; leaves sessile, oblong-lanceolate, acuminated: lower ones decurrent; throat of corolla inflately ventricose; segments of the limb acuminated. ⊙. H. Native of America. Desf. fl. atl. 1. p. 109. Pursh, fl. 1. p. 141. Ruiz. et Pav. fl. per. 2. p. 15. Lam. ill. t. 113. Woodv. med. bot. p. 162. t. 69. Stev. et Church. med. bot. 1. t. 37. N. Havanénsis, Lag. elench. pl. hort. reg. madr. 1796.—Bull. herb. 3. t. 285.—Blackw. 1. t. 146.—Sabb. hort. rom. 1. t. 89. —Regn. bot. 1. t. 31. Plant downy, clammy. Leaves half stem-clasping. Calyx oblong, with lanceolate, acute, unequal segments. Corolla downy outside; limb rose-coloured. Capsule length of calyx, or a little longer.

The Spaniards are said to have first become acquainted with tobacco in the West Indies. It early attracted the notice of the English settlers in Virginia, especially after the founding of James Town in 1607. Shortly after this, it appears that tobacco was introduced in lieu of specie, as the tavern-keepers were compelled to exchange a dinner for a few pounds of tobacco; and government officers were paid in the same commodity.—Tatham, p. 180.

The species of Nicotiàna, principally grown as tobacco, are *N. Tábacum*, *N. macrophýlla*, and *N. rústica*. The two first are, however, generally preferred. The popular narcotic which it furnishes is probably in more extensive use than any other, and its only rival is the betel of the east. According to Linnæus, tobacco was known in Europe from 1560, being brought by the Spaniards from America, and was cultivated at Lisbon in the same year. It was brought to England from Tobago, in the West Indies, or from Tobasco, in Mexico (and hence the name), by Sir Ralph Lane, in 1586, but only the herb for smoking. Afterwards, according to Hakluyt, seeds were introduced from the same quarter. Sir Walter Raleigh first introduced smoking: in the house in which he lived at Islington were his arms, on a shield, with a tobacco plant on the top. Smoking has, consequently, been common in Europe for upwards of two centuries. Pallas, Rumphius, and Loureiro, are of opinion, that in China the use of tobacco is more ancient than the discovery of the new world.

Tobacco, from being the solace only of the Red Indians of America, has become one of the luxuries of the rich, and almost a necessary of life for the poorer inhabitants of a great portion of the globe. The Hindoo, slow to adopt strange customs, has been caught with the general infection, though some religiously abstain from its use: their nobles, as well as their women, may be seen inhaling it in the midst of perfumed essences; while the labouring bearer, and hard-working boatmen, seem to derive fresh vigour from their ever-in-hand hooqqas: the mountaineer, finding it inconvenient to carry such an apparatus over his rugged roads, makes a hole in the ground, through which he smokes. "Tobacco, as used by man," says Du Tour (Nouveau cours d'Agriculture, &c.) "gives pleasure to the savage and the philosopher, to the inhabitant of the burning desert and the frozen zone. In short, its use, either in powder, to chew, or to smoke, is universal; and for no other reason than a sort of convulsive motion (sneezing) produced by the first, and a degree of intoxication by the two last modes of usage. A hundred volumes," he adds, "have been written against it, of which a German has preserved the titles. Among those books is that of James Stuart, king of England, who violently opposed its introduction. The grand duke of Moscow forbade its entrance into his territory under pain of the knout for the first offence, and death for the next. The emperor of the Turks, the king of Persia, and Pope Urban VIII., issued similar prohibitions, all of which were as ridiculous as those which attended the introduction of coffee or jesuits' bark. At present, all the sovereigns of Europe, and most of those of other parts of the world, derive a considerable part of their revenue from tobacco."

Tobacco is cultivated in Europe as far north as Sweden; and is also grown in China, Japan, and other eastern countries. The sort preferred is *N. Tábacum*, which is an elegant plant, grown also in gardens as a border flower. *N. rústica*, the fausse tabac of the French, Bauern taback of the Germans, and Tabacca cimarosa of the Spanish, is also frequently cultivated, especially in Europe, it being considered hardier than the Virginian sort. Parkinson says he has known Sir Walter Raleigh, when prisoner in the Tower, prefer it to make good tobacco, "which he knew so rightly to cure." Tobacco has been successfully cultivated and cured in this country; but its growth is prohibited to encourage our commerce with America. It is now only grown as a curiosity, or for border flowers, or by gardeners for the destruction of insects. In Germany, and other northern countries, most families who have gardens grow enough of *N. rústica* for their own use; but as they do not know how to cure it, it is not much valued, and is never made into chewing tobacco. The cultivation of tobacco for commerce is chiefly carried on in Virginia, Maryland, &c., or almost from 35° to 40° north latitude. The other places of America celebrated for tobacco are Cuba, Vera Cruz, and Cumana; but in these places it is always grown

on elevated ground, where the temperature alone suits it in these latitudes.

In the culture of tobacco in America, the plants are reared on beds in spring; and when they have acquired about 4 leaves, they are planted in the field, in well prepared earth, about 3 feet distance every way. Every morning and evening the plants require to be looked over, in order to destroy a worm, which sometimes invades the bud. When 4 or 5 inches high, they are moulded up. As soon as they have 8 or 9 leaves, and are ready to put forth a stalk, the top is nipped off, in order to make the leaves longer and thicker, by diverting all the energies of the plant to them. After this, the buds which sprout from the joints of the leaves are all plucked, and not a day is suffered to pass without examining the leaves to destroy a large caterpillar which is sometimes very destructive to them. When they are fit for cutting, which is known by the brittleness of the leaves, they are cut with a knife close to the ground; and after lying some time, are carried to the drying-shed, where the plants are hung up by pairs, upon lines having a space between, that they may not touch each other. In this state they remain to sweat and dry. When perfectly dry the leaves are stript, and covered with blankets. Care is taken not to overheat them; for which reason the heaps are laid open to the air from time to time, and spread abroad. This operation is repeated till no more heat is perceived in the heaps; and the tobacco is then stowed in casks for exportation. Long. Jamaica, 3. p. 719. In Persia the seed of the Shiraz tobacco is sown in December, in a dark soil slightly manured; and to protect the seeds, the ground is covered with bushes, which are removed when the plants are 3 or 4 inches high; and during this period the plants are watered every 4 or 5 days, if the weather is dry. They are afterwards transplanted into a well moistened soil, on the tops of ridges made for them. As soon as the flowers appear, the buds are pinched off. After this operation the irrigation is continued, and the leaves increase in size and thickness till August or September, when each plant is cut close to the root, and again stuck firmly into the ground. At this season dews fall at night; and while exposed to these, the colour of the leaves change from green to the desired yellow colour; during this stage no water is given, and when they are sufficiently yellow, the plants are taken from the earth early in the morning; and while they are yet wet with the dew, and heaped on each other in a shed, the walls of which are made with bushes, where they are freely exposed to the wind,—while there, and in 3 or 4 days, those leaves which were still green, become of the desired pale yellow colour. The stalks and centre of each leaf are now removed and thrown away. The leaves are again heaped together in the drying-house for 3 or 4 days more, when they are in a fit state for packing. For this purpose the leaves are carefully spread on each other, and formed into a sort of cake, 4-5 feet in circumference, and 3-4 inches thick, great care being taken not to injure the leaves: these cakes are finally packed in bags. The leaf of the Shiraz tobacco is valued for being thick, tough, and of a uniform yellow colour.

In the manufacture of tobacco, the leaves are first cleansed from any earth, dirt, or decayed parts; next they are gently moistened with salt and water, or water in which salt along with other ingredients has been dissolved, according to the taste of the fabricator. This liquor is called tobacco sauce. The next operation is to remove the midrib of the leaf; then the leaves are mixed together, in order to render the quality of whatever may be the final application equal. It is then cut into small shreds for smoking, by a machine like a straw-cutter, or formed into small cords for chewing, or dried and ground for numerous varieties of snuffs. The three principal sorts of snuffs are called Rappees, Scotch or Spanish, and Thirds. The first is only granulated, the second is reduced to a very fine powder, and the third is the siftings of the second sort. The large Havannah cigars are probably made from the leaves of *N. macrophýlla*, or Oronoko tobacco; the smaller, or Queen's, are said to be made from those of *N. repánda*. The Indians of the rocky mountains of North America use the leaves of *N. quadriválvis* and *N. nàna*, and the Indians on the banks of the Columbia use those of *N. multiválvis*. *N. rústica* is the tobacco of Salonica, and probably also that of Latakkia, which is so much esteemed. Manilla has long been celebrated for its tobacco. Niebuhr describes it as very fine. Many smokers prefer Manilla cheroots to any other. The next tobacco which has obtained reputation in England is that of Darabjird in Fars, (Shiraz,) *N. Pérsica*. Still farther north, the tobacco commonly denominated Turkish, the produce of *N. rústica*, and grown on the coasts of the Mediterranean, is highly valued in India. There is an excellent kind of tobacco called Arracan, or Martaban. Dr. Ainslie states, that the finest tobacco in India, and perhaps in the world, is grown near the village of Woodanum, in the northern circars, in some of those low sandy islands formed at the mouth of the river Krishna (from which is made the famous Masulipatam snuff); also in the Delta of Godavery, where the soil is particularly rich and fertile. The Chunar and Bhilsa tobaccos are also celebrated in India.

The active constituents of tobacco are supposed to be an essential oil; for by long boiling, the decoction and extract of tobacco become inert, and by distillation an oil is obtained from it so active, that small animals are almost instantly killed when wounded by a needle dipped in it. Vauquelin has analysed tobacco, both in its fresh and prepared state. The expressed juice is manifestly acid, and contains a great quantity of albuminous matter, supermalate of lime, acetic acid, nitrate and muriate of potass, muriate of ammonia, and a red matter soluble in alcohol, and an acrid principle called narcotin, which is also soluble in alcohol and water. Narcotin is obtained in a state nearest to purity in the distilled water of the infusion of the dry, or of the expressed juice of the fresh plant.

Tobacco is capable of producing deleterious effects on the living body, whether taken into the stomach in substance or solution, or into the lungs in the form of smoke, or applied to abraded surfaces. The system, however, becomes easily habituated to the action of tobacco; and many people use very large quantities of it in several ways as a luxury, without experiencing any other bad effect than what arises from their being unable to relinquish it after the habit is confirmed. In medicine it is exhibited in various forms; when chewed, it causes an increased flow of saliva, and sometimes relieves the toothache; and reduced to powder, it proves an excellent errhine and sternutatory when snuffed up the nostrils. An infusion of it in water and wine, in small doses, so as to have little effect on the stomach, proves powerfully diuretic, and is employed with great success in dropsy and dysuria. The infusion is also applied externally for the cure of psora, tinea, and other cutaneous diseases. It is employed both in infusion and smoke, in the form of clysters in cases of obstinate constipation. An infusion of the leaves forms a powerful lotion for obstinate ulcers. The oil applied to a wound is said by Redi to be as fatal as the poison of a viper. The decoction, powder, and smoke of tobacco are used in gardening to destroy insects, and in agriculture for the same purpose, and to cure cutaneous eruptions in domestic animals.

Var. α, attenuàtum (Schrank, in Hoppe's bot. zeit. 1807. p. 260.) flowers attenuated; leaves lanceolate, acute, subdecurrent, attenuated at the base: lower ones large. ⊙. H. Flowers red.

Var. β, macrophyllum (Schrank, l. c.) corollas obtuse, flatly mucronate at the angles; petioles short, winged, at length

dilated and stem-clasping. ⊙. H. Flowers pale red, suborbicular, or with the margin obsoletely pentagonal. Perhaps not distinct from the species under the same name.

Var. γ, palléscens (Schrank, l. c.) corollas acute; leaves ovate, acuminated, attenuated at the base, sessile, subdecurrent. ⊙. H. Corolla white, with a rose-coloured margin, white beneath.

Var. δ, álipes (Schrank, l. c.) angles of corolla acuminated; leaves ovate, acuminated, attenuated into the petioles at the base, which are broadly winged; wings reflexed, at length half stem-clasping, and a little decurrent. ⊙. H. Flowers pale red. Leaves all large. Perhaps the same as *N. macrophýlla*, Spreng.

Var. ε, serótinum (Schrank, l. c.) leaves ovate, short-acuminated, subpetiolate, auriculately stem-clasping, and a little decurrent. ⊙. H. This is the latest flowering of all the sorts.

Var. ζ, gracílipes (Schrank, l. c.) flowers acute; leaves lanceolate, acute, very much attenuated at the base, running into a short-winged petiole. ⊙. H. Flowers as in var. α, and the leaves as in var. θ.

Var. η, Vérdan (Schrank, l. c.) leaves petiolate, ovate-lanceolate, longish, acute; petioles semi-terete, two-edged, somewhat decurrent at the base. ⊙. H. Flowers late.

Var. θ, línqua (Schrank, l. c.) corollas long, acute; leaves ovate, petiolate, longish, acute; petioles long, obsoletely margined, auricled at the base.

Common *Tobacco*, or Virginian or Sweet-scented Tobacco. Fl. July, Aug. Clt. 1570. Pl. 4 to 6 feet.

2 N. Loxe'nsis (H. B. et Kunth, nov. gen. amer. 3. p. 3.) leaves sessile, decurrent, oblong, acuminated, clammy and pilose; corolla 3 times longer than the calyx, greenish-white; lobes acuminated. ⊙. H. Native of New Granada, in shady places between the town of Loxa and Mount Uritusinga, at the altitude of 1060 hexapods. N. Tábacum, var. ?. Herb clammy and pilose. Leaves 5 inches long, and 2 broad. Calyx 5-cleft, rather unequal. This hardly differs from *N. Tábacum*, unless in the colour of the flowers.

Loxa Tobacco. Pl. 3 to 4 feet.

3 N. fruticòsa (Lin. spec. 258.) stem suffruticose, almost simple; leaves petiolate, lanceolate, obliquely acuminated; throat of corolla inflately ventricose: segments of the limb acuminated. ♄. G. Native of the Cape of Good Hope. Lehm. nicot. p. 23. no. 5. N. frutéscens, Cav. elench. pl. hort. madr. 1807. Plant pubescent and viscid. Axillary branches short. Leaves tapering into the petiole at the base. Calyx ovate, with unequal, lanceolate segments. Limb of corolla rose-coloured. Capsule conical, longer than the calyx.

Var. β, angustifòlia (Ehrh. beytr. 5. p. 169. Mill. icon. t. 185. f. 1.) leaves lanceolate, acute, sessile; calyxes acute; tube of corolla long. ♄. G. In Mill. dict. no. 5. there is mentioned a var. álba, which has broad leaves and white flowers, which is now unknown.

Shrubby Tobacco. Fl. July, Aug. Clt. 1699. Shrub 3 to 4 feet.

4 N. macrophy'lla (Spreng. ind. hort. hal. 1807. p. 45. Lehm. nicot. p. 10.) herbaceous; leaves stem-clasping, ovate, acute, auricled at the base; throat of corolla inflately ventricose: segments of the limb short, acuminated. ⊙. H. Native of America. Horn. hort. hafn. 1. p. 214. Lehm. nic. p. 19. N. latíssima, Mill. dict. no. 1. D. C. hort. monsp. 1813. p. 128. N. gigantèa, Enum. pl. hort. dorp. 1814. Plant downy, clammy. Stem branched from the base. Calyx ovate, with rather unequal, lanceolate, acute segments. Limb of corolla rose-coloured. Capsule ovate, obtuse, a little longer than the calyx.

Large-leaved, or Oronoko Tobacco. Fl. July, Aug. Clt.? Pl. 5 to 7 feet.

5 N. Chine'nsis (Fisch. in litt. ex Lehm. nic. p. 18.) stem suffruticose; leaves petiolate, ovate-lanceolate, quite entire; throat of corolla inflately ventricose: segments of the limb acute. ♄. G. Native of China. N. fruticòsa, Lour. coch. 1. p. 111.? exclusive of the synonymes. Plant pubescent, clammy. Stem branched at top. Calyx oblong, with nearly equal lanceolate-acute segments. Limb of corolla rose-coloured. Stamens a little exserted.

China Tobacco. Fl. July, Sept. Clt. 1819. Pl. 3 to 6 feet.

6 N. lancifòlia (Willd. herb. ex Lehm. nic. p. 26.) herbaceous; leaves sessile, linear-lanceolate, narrowly acuminated; throat of corolla inflately ventricose; segments of the limb acuminated. ⊙. H. Native of Quito, near Villa de Barra, at the altitude of 1180 hexapods. N. Ybarrénsis, H. B. et Kunth, 3. p. 4. Plant clothed with clammy hairs. Flowers paniculately corymbose. Calyx tubularly campanulate. Corolla purplish or rose-coloured. Capsule inclosed in the calyx.

Lance-leaved Tobacco. Fl. July, Sept. Clt. 1823. Pl. 2 to 3 feet.?

7 N. auricula'ta (Bertero, ined. ex Mor. elench. sard. ex Linnæa, 5. p. 93.) leaves oblong-lanceolate, acuminated, all auricled at the base, and stem-clasping; corolla with an inflated throat; segments acuminated. ⊙. H. Native of Sardinia. Spontaneous on the edges of fields, but has probably been introduced.

Auricled-leaved Tobacco. Pl.?

Sect. II. Ru'stica (from *rusticus*, rustic. *N. rústica* is generally grown by the peasants in the country, being much hardier than any of the other species.) Corollas yellow, funnel-shaped, salver-shaped, or tubular; segments bluntish, or acute.

§ 1. *Corolla funnel-shaped or tubular; tube inflated at top, and mouth contracted.*

8 N. pusi'lla (Lin. spec. 258.) stem herbaceous, dichotomous; leaves sessile: radical ones oblong-oval; calyx very short; tube of corolla subcylindrical, 3 times longer than the calyx; segments of the limb acute. ⊙. H. Native of Vera Cruz. Lehm. nicot. p. 29. N. hùmilis, Ehret, beytr. 5. p. 169. Mill. dict. no. 10. Plant pubescent. Radical leaves rosulate, 2-3 inches long; cauline leaves half stem-clasping. Racemes terminal. Calyx villous, 5-toothed; teeth acute. Capsule ovate, obtuse, glabrous, longer than the calyx. Corollas small, of a yellowish-green colour.

Var. β, hùmilis (Lehm. nicot. p. 29.) stem more humble, villous; leaves narrower, dilated at the base; flowers smaller; segments of corolla oblong, bluntish. ⊙. H. Native of Monte Video.

Small Tobacco. Fl. July, Aug. Clt. 1733. Pl. 1 foot.

9 N. undula'ta (Ruiz. et Pav. fl. per. 2. p. 16. t. 130. f. b. Lehm. nicot. p. 31.) stem herbaceous, angular; leaves petiolate, lanceolate, undulated; tube of corolla length of calyx; segments of the limb ovate, bluntish. ⊙. H. Native of Peru, in Tarma. Plant downy, clammy. Flowers disposed in terminal racemes. Corolla yellow; tube length of calyx, ventricose at top, with a contracted mouth, and a short limb. Stigma 2-lobed. Capsule ovate, inclosed in the calyx. Calyx sub-bilabiate, 5-toothed; upper tooth large, and very long.

Undulated-leaved Tobacco. Pl. 3 feet.

10 N. panicula'ta (Lin. spec. 259.) stem herbaceous, nearly simple; leaves petiolate, ovate, cordate, entire, obtuse, smoothish, quite glabrous, clavate; tube of corolla much longer than the calyx; segments of the limb very short and acute, ex Lehm., obtuse, ex Lin. ⊙. H. Native of Peru, near Patabilca, on the sea shore. Lin. in act. holm. 1753. vol. 15. t. 1.

Ruiz. et Pav. fl. per. 2. t. 129. f. b. Lehm. nicot. p. 36. N. viridiflòra, Cav. elench. madr. 1803.—Feuill. per. t. 10. Plant pubescent, clammy. Leaves petiolate. Flowers disposed in a terminal panicle. Filaments downy at the base. Capsule ovate, bluntish, glabrous. Corolla salver-shaped, with a contracted throat, green, or yellowish-green.

Panicled-flowered Tobacco. Fl. July, Sept. Clt. 1752. Pl. 2 to 3 feet.

12 N. CERINTHOI'DES (Horn. hort. hafn. 1. p. 214. Lehm. nicot. p. 38. t. 2.) stem herbaceous, branched from the base; leaves petiolate, all cordate, quite entire; tube of corolla clavate, downy, much longer than the calyx; segments of the limb very short, acute. ⊙. H. Native country unknown, but probably of America. Plant downy, clammy. Flowers disposed in a terminal panicle. Calyx 5-toothed; teeth unequal. Corolla tubular, greenish-yellow, having the throat a little contracted; segments subcordate, roundish, acute. Stamens nearly equal, villous at the base. Capsule conical, obtuse, a little longer than the calyx.

Honeywort-like Tobacco. Fl. Aug. Clt. 1821. Pl. 1 to 2 feet.

13 N. GLAU'CA (Graham, in bot. mag. 2837.) arboreous, erect, branched, glabrous; leaves unequally cordate-ovate, naked, glabrous, on long petioles; panicles terminal; corolla having the tube slightly curved, the throat slightly inflated, the mouth contracted, the limb small, cup-shaped, with short, acute segments. ♄. H. Native of Buenos Ayres. Plant glaucous in every part. Leaves sometimes slightly sinuated. Corolla green in the bud, afterwards yellow, covered with soft down. Calyx obscurely angled, with 5 sharp, unequal, erect, somewhat ciliated teeth.

Glaucous Tobacco. Fl. Aug. Oct. Clt. 1827. Shrub 10 to 20 feet.

14 N. LANGSDÓRFFII (Weinm. in litt. ex Rœm. et Schultes, syst. 4. p. 323.) stem herbaceous, branched; lower leaves ovate, obtuse, petiolate: superior ones almost sessile, decurrent; tube of corolla clavate: segments of the limb obtuse. ⊙. H. Native of Brazil. Sims, bot. mag. 2221. and 2555. Plant downy or pilose, viscid. Lower leaves tapering into the petioles, undulated: superior ones lanceolate, acute. Flowers terminal, panicled, green, or greenish-yellow. The two superior teeth of calyx longer. Tube of corolla an inch long; limb subplicate. Pollen blue. Capsule ovate, obtuse.

Langdorff's Tobacco. Fl. Aug. Clt. 1819. Pl. 3 to 5 feet.

§ 2. Corolla salver-shaped; tube inflated, cylindrical.

15 N. RU'STICA (Lin. spec. 258.) stem herbaceous, terete; leaves petiolate, ovate, quite entire; tube of corolla cylindrical, longer than the calyx: segments of the limb roundish, obtuse. ⊙. H. Native of Europe, Asia, Africa, and America. Desf. fl. atl. 1. p. 190. Mœnch, meth. 448. Lehm. nicot. p. 34.—Blackw. herb. t. 437.—Bull. herb. t. 289.—Sabb. hort. rom. 1. t. 90.—Regn. bot. 1. t. 52. Plant villous, clammy. Leaves thick, fleshy. Panicle composed of terminal racemes. Corolla greenish-yellow. Stamens villous at the base. Capsule nearly globose, obtuse, a little longer than the calyx. This is commonly called English Tobacco, from its having been the first introduced here; and being much more hardy than the other sorts, insomuch that it has become a weed in many places. It came, however, originally from America, by the name of Petum.

Var. β, Asiática (Schultes, obs. p. 43. Lehm. nicot. p. 34.) lower leaves ovate: superior ones cordate, pilose on both surfaces; flowers obtuse, mucronate. ⊙. H. N. Tatárica, Hort. cracov. N. Sibírica, Hort. parm. pl. hort. florent. 1797. N. scàbra, Cav. elench. matr. 1813. N. rugòsa, Mill. dict. no. 7. There are several other varieties of this species.

Rustic, Common or English Tobacco. Fl. July, Sept. Clt. 1570. Pl. 2 to 4 feet.

16 N. HU'MILIS (Link, enum. 1. p. 178. but not of Ehret.) stem nearly simple; leaves ovate, obtuse, repand, equal at the base; corolla with a cylindrical tube, which is twice as long as the calyx, and hairy, and the limb 4 times shorter than the tube. ⊙. H. Native country unknown. Very like *N. rústica;* but differs in the proportions of the corolla, and in the more slender habit.

Humble Tobacco. Fl. July, Sept. Clt.? Pl. ½ to 1 foot.

17 N. PULMONARIOI'DES (H. B. et Kunth, nov. gen. amer. 3. p. 2.) leaves petiolate, oblong, acute, running into the petioles at the base, rather pilose; flowers panicled; corollas salver-shaped, exceeding the calyx a little: limb obtuse. ⊙. H. Native of the Province de Los Pastos, near Rio Blanco, between Guachucal and Tulca, at the altitude of 1620 hexapods. Plant clammy and hairy. Calyx 5-cleft, with ovate, acute segments. Corolla green; tube ventricose at top. Capsule subglobose, acute, glabrous, inclosed in the calyx.

Lungwort-like Tobacco. Pl. 3 feet.

18 N. ANDI'COLA (H. B. et Kunth, nov. gen. 3. p. 1.) herbaceous; leaves sessile, lanceolate, acutish, narrowed at the base, smoothish; panicles terminal, nearly simple, spreading, clammy, and pilose; corolla somewhat salver-shaped, exceeding the calyx a little: lobes of limb obtuse, emarginate. ⊙. H. Native of the Andes of Peru, near Micuipampa, at the altitude of 850 hexapods. Herb clammy, and rather pilose. Calyx 5-cleft, with ovate, obtuse segments. Corolla green; tube ventricose at top. Stamens pilose at the base. Capsule glabrous, covered by the permanent calyx.

Andicolous Tobacco. Pl. 3 to 6 feet.

SECT. III. PETUNIOÌDES. Corollas salver-shaped, white; tube subcylindrical; segments of the limb obtuse or acute. Plants densely clothed with clammy villi. Flowers disposed in racemes or panicles, terminating the stem and branches.

19 N. SUAVE'OLENS (Lehm. nicot. p. 43.) stems herbaceous, nearly simple; leaves subpetiolate, ovate-lanceolate, undulated; tube of corolla cylindrical, much longer than the calyx; segments of the limb rather unequal, roundish, obtuse. ⊙. H. or ♃. G. Native of New Holland. N. undulàta, Vent. malm. t. 10. Jacq. fragm. t. 56. Sims, bot. mag. t. 673. R. Br. prod. p. 447. Stem villous at the base, and smoothish at top. Leaves with a few scattered soft hairs on the veins and midrib; radical ones subspatulate, bluntish, rosulate. Calyx deeply 5-cleft; segments acute, unequal. Limb of corolla white. Capsule ovate, obtuse, glabrous, inclosed in the calyx.

Sweet-scented Tobacco. Fl. May, Sept. Clt. 1800. Pl. 1 to 2 feet.

20 N. VINCÆFLÒRA (Lag. hort. madr. ex Link, enum. 1. p. 179.) leaves nearly sessile, oblong-lanceolate, attenuated at both ends, a little serrulated, glabrous; calycine segments equal, acuminated; tube of corolla elongated; segments of the limb blunt; stem rough at top. ♃. G. Native of South America. Very nearly allied to *N. suavèolens;* but differs in the plant being glabrous, and in the stem being warted at top.

Periwincle-flowered Tobacco. Fl. July, Sept. Clt. 1820. Pl. 2 feet.

21 N. LONGIFLÒRA (Cav. descr. p. 106. D. Don, in Sweet. fl. gard. n. s. no. 196.) scabrous; cauline leaves stem-clasping, cordate-lanceolate, acuminated; tube of corolla long, filiform, 5 times longer than the subfoliaceous calyx; lobes of corolla ovate-lanceolate, acute. ⊙. H. Native of Chili and Buenos

Ayres. Corolla at first of a dirty white, afterwards tinged with purple, greenish-yellow, and pubescent outside; inside of limb pure white. The whole plant is said to be villous, and the lower leaves petiolate, by Cavanilles.

Long-flowered Tobacco. Fl. July, Oct. Clt. 1832. Pl. 2 to 3 feet.

22 N. noctiflòra (Hook. bot. mag. t. 2785. Sweet, fl. gard. t. 262.) glandular and clammy, and beset with adpressed hairs; leaves petiolate, oblong-lanceolate, acute, undulately curled; tube of corolla cylindrical, much longer than the calyx; segments of corolla equal, obcordately emarginate. ♃. F. Native of Chili. Flowers disposed in terminal panicles. Corollas white, purple beneath, sweet-scented.

Night-flowering Tobacco. Fl. Aug. Clt. 1826. Pl. 2 to 3 feet.

23 N. Pe'rsica (Lindl. bot. reg. 1592.) clothed with clammy down; radical leaves oblong-spatulate: cauline ones sessile, half stem-clasping, acuminated, hardly repand; calyx acutely 5-toothed; corolla salver-shaped, with a long clavate tube, and ovate, obtuse, emarginate, rather unequal segments. ⊙. H. Native of Persia. Radical leaves cordate at the base. Flowers racemose, extra-axillary, on short pedicels, sweet-scented at night. Tube of corolla green, ventricose at top; limb green outside, and white inside. This kind of Nicotiàna furnishes the far-famed Shiraz tobacco. The *N. Tábacum* is, however, also cultivated in Persia.

Persian or Shiraz Tobacco. Fl. Sept. Oct. Clt.? Pl. 1½ to 3 feet.

24 N. acumina'ta (Sims, bot. mag. 2919.) downy; leaves broad-lanceolate, acuminated, undulated, on longish petioles; panicles few-flowered; calyx clothed with glandular down; calycine segments narrow; corolla with an elongated tube, and roundish obtuse segments. ⊙. H. Native of Valparaiso. Petùnia acuminàta, Graham, in edinb. phil. journ. july, 1828. Corolla with a spreading white limb.

Acuminated-leaved Tobacco. Fl. June, Sept. Clt. 1827. Pl. 2 feet.

25 N. angustifòlia (Ruiz. et Pav. fl. per. 2. p. 16. t. 130. f. a. Lehm. nic. p. 25.) herbaceous, branched; leaves petiolate: superior ones linear; tube of corolla widened and subventricose at top: segments of the limb spreading, acute. ⊙. H. Native of Chili, about Conception. Horn. hort. hafn. 1. p. 215. Pers. ench. 1. p. 218. Plant pubescent, clammy. Branches slender. Flowers disposed in diffuse, terminal panicles. Calycine segments unequal, lanceolate-linear, acute. Limb of corolla milk-coloured, nearly equal; tube greenish. Capsule conical, obtuse.

Narrow-leaved Tobacco. Pl. 2 to 3 feet.

26 N. dilata'ta (Link, enum. 1. p. 179.) stem herbaceous, rather tomentose, clammy; leaves sessile, lanceolate, attenuated towards the base, but dilated at the base, repand; tube of corolla much longer than the calyx, subclavate; segments of the limb acute. ⊙. H. Native country unknown. Lower leaves a foot long, and more than 3-4 inches broad; cauline leaves smaller, dilated at the base, all long-acuminated, and rather tomentose. Limb of corolla white. Link received this species under the name of *N. angustifòlia*.

Dilated-leaved Tobacco. Fl. July, Sept. Clt. 1820. Pl.

27 N. plumbaginifòlia (Viv. elench. pl. hort. dinegro, p. 26. t. 5.) stem herbaceous; leaves sessile: lower ones obovate-spatulate, bluntish: superior ones half stem-clasping, undulated; tube of corolla very long, subclavate; segments of the limb ovate, acute. ⊙. H. Native country unknown, but probably of South America. Lehm. nicot. p. 41. N. crìspa, Jacq. fragm. p. 57. t. 84. Desf. cat. hort. par. 1804. p. 67. N. cerinthoìdes, Vittmann. Plant rather scabrous and hairy. Branches slender. Superior leaves oblong, the uppermost ones lanceolate-linear. Racemes disposed in a terminal panicle. Calyx 5-cleft, 10-striped; segments unequal. Limb of corolla white above, and fuscescent beneath. Capsule ovate, glabrous, length of calyx.

Plumbago-leaved Tobacco. Fl. May, June. Clt. 1816. Pl. 1 to 2 feet.

28 N. repa'nda (Willd. herb. ex Lehm. nicot. p. 40. t. 3.) stem herbaceous; leaves stem-clasping, cordate-spatulate, roundish, repandly undulated, sometimes lyrate; tube of corolla slender, very long: segments of the limb ovate, acutish. ⊙. H. Native of Cuba, near Havannah. Sims, bot. mag. 2484. N. lyràta, H. B. et Kunth, nov. gen. amer. 3. p. 4. Plant almost glabrous, except the young leaves, which are downy. Flowers distant, disposed in terminal, elongated racemes. Calyx scaly, on being examined by a lens, 5-cleft; segments equal. Tube of corolla clavate at top; limb white above. Capsule ovate, obtuse, shorter than the calyx. The small Havannah cigars, or queen's, are said to be made of this species.

Repand-leaved Tobacco. Fl. June, July. Clt. 1820. Pl. 1 foot.

29 N. viscòsa (Lehm. nicot. p. 28.) stem herbaceous, clammy; leaves sessile, somewhat cuneiform, obtuse, dilated towards the base, half stem-clasping; tube of corolla subcylindrical, twice as long as the calyx: segments of the limb ovate, obtuse. ⊙. H. Native of Buenos Ayres. Stem angular. Axillary branches short, terminated by flowers. Leaves 2-3 inches long. Calycine segments unequal, short, obtuse. Corolla white? tube widened a little at top.

Clammy Tobacco. Fl. July, Sept. Clt. 1821. Pl. 2 to 3 feet?

30 N. Bonarie'nsis (Lehm. nicot. p. 27. t. 1.) stem herbaceous; leaves sessile, lanceolate, acute, broader towards the base, subrepand; tube of corolla cylindrical; segments of the limb ovate, obtuse. ⊙. H. Native of Buenos Ayres. Plant pubescently pilose. Leaves half stem-clasping at the base. Flowers racemose, terminating the stem and branches. Calycine segments nearly equal, narrow-lanceolate, acute. Corolla downy, white; tube a little dilated at top.

Buenos Ayrean Tobacco. Fl. July, Sept. Clt. 1821. Pl. 2 to 3 feet.

Sect. IV. Polydi'clia (from πολυς, *polys*, many; and δικλις, *diclis*, a valve; in reference to the capsule being 4 or more valved.) Corolla tubular, ventricose at the base, white inside, and livid outside. Capsule 4 or many-valved. Flowers axillary, solitary.

31 N. quadriva'lvis (Pursh, fl. amer. sept. 1. p. 141. Spreng. syst. p. 48. no. 95. Lehm. nicot. p. 45. t. 4.) stem herbaceous, branched; leaves petiolate, oblong; tube of corolla twice as long as the calyx; segments of the limb oblong, bluntish; capsule 4-valved, nearly globose. ⊙. H. Native of North America, at the Missouri river. Sims, bot. mag. t. 1778. The whole plant is clammy and pilose, with a bad smell. Superior leaves nearly sessile. Calyx deeply 5-cleft; segments unequal. Corolla tubular, white inside.

Four-valved-capsuled Tobacco. Fl. July, Aug. Clt. 1811. Pl. 1 to 1½ foot.

32 N. na'na (Lindl. bot. reg. t. 833.) plant dwarf; leaves lanceolate, pilose: radical ones longer than the solitary flowers; corolla longer than the calyx, with obtuse segments. ⊙. H. Native of North America, among the rocky mountains. Calyx turbinate, clothed with glandular hairs. Corolla white, downy outside. Flowers rising from the axils of the leaves. The Indians are said to prepare the finest of their tobacco from the leaves of this species.

Dwarf Tobacco. Fl. June. Clt. 1823. Pl. ¼ foot.

33 N. multiva'lvis (Lindl. bot. reg. t. 1057.) clothed with viscid hairs or down; leaves fleshy, ovate-lanceolate: lower ones petiolate; flowers axillary, solitary; calyx many-parted; capsule many-celled; segments of corolla obtuse, deeply veined. ⊙. H. This species is cultivated by the Indians, who inhabit the banks of the Columbia, for tobacco; for which purpose the calyx, which is very fetid, is selected in preference to any other part. Calyx inflated, ribbed. Corolla ventricose at the base; limb spreading, usually 6-cleft. Stamens equal in number to the segments of the corolla.

Many-valved-capsuled Tobacco. Fl. Aug. Sept. Clt. 1826. Pl. 2 feet.

† *Species not sufficiently known.*

34 N. crí spa (Cav. descr. p. 105.) leaves lanceolate-linear, curled, villous, clammy, petiolate; panicles dichotomous. ⊙. H. Native of North America, about San Blas. Stem slender, hard, villous. Branches alternate, forked at top. Leaves shorter than in *N. angustifòlia*, undulated. Calyx villous. Tube of corolla 5 inches long; limb small.

Curled-leaved Tobacco. Pl.

35 N. ala'ta (Link et Otto, abbild. p. 63.) stem erect, glandularly pilose; leaves oblong and lanceolate, repandly-toothed, scabrous, glandularly ciliated; teeth of calyx long, acute; tube of corolla very long; segments obtuse. ⊙. H. Native of Brazil.

Winged Tobacco. Fl. Aug. Oct. Clt. 1829. Pl. 2 feet?

36 N. tene'lla (Cav. descr. p. 105.) stem herbaceous, filiform; leaves sessile, acute: radical and lower ones ovate: superior ones lanceolate. ⊙. H. Native of Mexico, about Acapulco. Stem solitary, simple. Radical leaves 2 inches long, and 1 inch broad. Flowers solitary, axillary, pedicellate, distant. Tube of corolla slender, 1½ inch long; segments of the limb acute.

Slender Tobacco. Pl. 1 foot.

37 N. Forste'ri (Rœm. et Schultes, syst. 4. p. 323.) leaves lanceolate, subpetiolate, stem-clasping; flowers acute; stem shrubby. ♄. G. Native of the South Sea Islands. N. fruticòsa, Forst. floral. insul. austr. prod. p. 17. Lehm. nicot. p. 51.

Forster's Tobacco. Shrub.

38 N. mínima (Molina. voy. du. chili. p. 153. ed. 2d. p. 281.) leaves sessile, ovate; flowers obtuse. ⊙. ? H. Native of Chili. Leaves very like those of *Dictámnus Crética.*

Least Tobacco. Pl. small.

39 N. rugòsa (Mill. dict. no. 7.) leaves ovate, rugose, petiolate. ⊙. H. Native country unknown. Nicotiàna minor foliis rugosioribus amplioribus, Vaill. Stem tall. Leaves like those of *N. macrophýlla*, but twice their size, deeper green, and on longer petioles. Flowers larger than in *N. rústica*, but the form is the same. Perhaps only a variety of *N. rústica.*

Wrinkled-leaved Tobacco. Pl. 4 feet.

40 N. silenoi'des (Hort. Prince, Salm. Dyck. Dum. Cours. ed. 2d. suppl. p. 148. Perhaps the same as *N. suavèolens.*

Catchfly-like Tobacco. Pl.?

N.B. The following names are given in Loud. hort. brit. suppl. p. 594, of which we know nothing; they are probably only varieties of *N. Tábacum.* 1. N. Nepalénsis, Link et Otto. 2. N. Brasiliénsis, Link et Otto. 3. N. petiolàta, Agardh. 4. N. sanguínea, Link et Otto.

Cult. Most of the kinds of *Tobacco* are showy when in blossom, and some of them answer well for decorating flower-borders, particularly the white flowered species. The seeds of all require to be reared on a hot-bed in spring, and when the plants are grown with 2 or 3 leaves, they should be planted separately into small pots, and placed again in the frame; and about the end of May those which are intended for the flower border should be planted out in conspicuous situations, and those intended for leaves in rows 3 feet distant, with the balls entire.

XVII. SAIRA'NTHUS (from *σαιρω, sairo,* to clean; and *ανθος, anthos,* a flower; with reference to the ringent corolla which separates this genus from *Nicotiàna.*) Nicotiàna glutinòsa, Lin.

Lin. syst. *Didynàmia, Angiospérma.* Calyx campanulately ventricose, sub-bilabiate; limb 5-cleft, with linear-lanceolate, acutish, unequal segments. Corolla somewhat funnel-shaped, twice as long as the calyx; tube ventricose above, a little curved; limb 5-lobed, rather ringent, spreading a little; lobes ovate, acutish, nearly equal. Stamens 5, inserted in the tube, exserted a little, unequal, directed all to one side of the flower; filaments filiform, dilated and downy at the base. Anthers dehiscing lengthwise inside. Style curved at top. Stigma capitately thickened, green. Capsule roundish-ovate, acute, covered by the permanent calyx, and hardly exceeding it, 2-celled, 2-valved; valves at length bipartible at top. Placentas free, remote from the dissepiment. Seeds very minute, oblong, angular, verrucosely warted.—An erect, branched, villously clammy herb. Leaves petiolate, ovate-cordate, acuminated. Racemes terminal, erect, secund. Corollas rose-coloured, clothed with clammy hairs outside.

1. S. glutinòsus; ⊙. H. Native of Peru, in temperate places near Guancabamba, and elsewhere in South America. Nicotiàna glutinòsa, Lin spec. 259. Andr. bot. rep. 484. Ruiz. et Pav. fl. per. 2. p. 16. Lehm. nicot. 32. N. militàris, Lin. act. holm. 1753. vol. 15. p. 44. t. 2. Tábacus víridis, Mœnch. meth. p. 448. The whole plant is clammy and villous.

Clammy Sairanthus. Fl. July, Sept. Clt. 1759. Pl. 2 to 4 feet.

Cult. For culture and propagation see *Petùnia* below.

XVIII. LEHMA'NNIA (named in honour of Professor John George Christian Lehmann, of Hamburgh; author of Aperifoliæ nuciferæ, and Generis Nicotianarum Historia, and many other botanical papers.) Spreng. anleit. ed. 2d. 1817. 1. p. 458. Nicotiàna species, Ruiz. et Pav.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft, bilabiate; segments nearly equal, spreading. Corolla irregular; with a very narrow incurved tube, which exceeds the calyx a little; throat thickened; limb campanulate, with acute segments. Genitals exserted, recurved. Capsule ovate, half covered by the calyx. Seeds angular, wrinkled.—An erect, woody, rather clammy shrub, divided into many angular branches. Leaves scattered, lanceolate, decurrent, acute, quite entire, white, with purple veins. Panicles large, diffuse, clammy, villous. Corolla glabrous, purple.

1 L. tomentòsa (Spreng, l. c.) ♄. G. Native of Peru, in corn fields, and in waste places. Nicotiàna tomentòsa, Ruiz. et Pav. fl. per. 2. p. 16. t. 129. f. a. Poir. suppl. 4. p. 94.

Tomentose Lehmannia. Shrub 15 to 20 feet.

Cult. For culture and propagation see *Petùnia* below.

XIX. PETU'NIA (Petun or Petum is the name of tobacco in Brazil; the name is given to this genus on account of its affinity with *Nicotiàna.*) Juss. in ann. mus. 2. p. 215. t. 47. f. 2. Pers. ench. 1. p. 218. Sweet, fl. gard. 119.—Nicotiàna species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx deeply 5-cleft; segments oblong, subspatulate. Corolla salver-shaped, with a cylindrical tube, which is a little widened at top, and a spread-

ing, dilated, 5-lobed, obtuse, unequal limb. Stamens unequal, inclosed; anthers roundish, dehiscing lengthwise. Stigma capitate, slightly 2-lobed. Capsule girded by the calyx below, 2-celled, 2-valved at apex, many-seeded. Seeds minute.—Diffuse, pubescently villous, evergreen, herbaceous plants. Leaves alternate, on short petioles. Flowers axillary, pedicellate, white, shape of those of *Mirábilis dichótomus*.

1 P. nyctaginiflòra (Juss. l. c. p. 216. t. 47. f. 2.) herbaceous, diffuse, clothed with clammy, glandular villi; lower leaves alternate, ovate-oblong, obtuse, pubescent, attenuated into the petioles at the base: floral leaves sessile, cordate-ovate, opposite; flowers axillary, pedunculate; corolla large, having the tube 3-4 times longer than the calyx, and the limb broad and obtuse. ♃. F. Native of South America, at the mouth of the river Plata. Poir. suppl. 4. p. 375. Tratt. tab. t. 72. Sweet, fl. gard. 119. Sims, bot. mag. t. 2552. Nicotiàna axillàris, Lam. ill. no. 2287. Nicotiàna nyctaginiflòra, Lehm. nicot. p. 20. Branched. Stem hairy. Leaves pubescent. Pedicels villous, furnished with 2 opposite leaves at the base. Calyx pubescently villous, with unequal, oblong, obtuse, spreading, foliaceous segments. Corollas large, white, clammy, downy outside, similar to those of *Mirábilis*, hence the specific name.

Marvel-of-Peru-flowered Petunia. Fl. June, Oct. Clt. 1823. Pl. 2 to 4 feet.

2 P. parviflòra (Juss. l. c. p. 216. t. 47. f. 1.) herbaceous, prostrate; leaves sessile, oblong, obtuse, thickish; corollas small, hardly longer than the calyx; segments of the limb obtuse. ♃. F. Native of South America, at the mouth of the river Plata. Pers. ench. 1. p. 218. Stems many from the same root, rather villous. Leaves small, size of those of a species of *Cerástium*, downy. Segment of calyx oblong, bluntish, foliaceous, spreading. Corolla coarctate in the middle, red; limb plicate. Capsule inclosed in the calyx.

Small-flowered Petunia. Pl. prostrate.

3 P. intermèdia; clothed with short, glandular, clammy, hoary pubescence; leaves linear, obtuse; peduncles opposite the leaves, or terminal; corolla funnel-shaped, having the tube hardly longer than the calyx, and the segments emarginate; style clavate; capsule 5-ribbed; calycine segments foliaceous, unequal. ♄. or ♃. F. Native of Buenos Ayres, on the banks of the Parana. Nierembérgia intermèdia, Graham, in edinb. phil. journ. 1833. D. Don, in Sweet. fl. gard. n. s. t. 237. Salpiglóssis lineàris, Hook, in bot. mag. no. 3256, in a note. Tube of corolla yellow, striated; throat ventricose, yellow within; limb 5-lobed, of a rich purple.

Intermediate Petunia. Fl. Aug. Sept. Clt. 1832. Pl. ½ foot.

4 P. violàcea (Lindl. bot. reg. t. 1626.) prostrate, clothed with clammy hairs or down; leaves ovate, on short petioles, acute; corolla ventricose, with ovate, acute segments; flowers solitary, axillary, pedunculate. ♃. F. Native of Buenos Ayres, on the Uruquay. Nierembérgia punícea, D. Don, in Sweet, brit. fl. gard. n. s. t. 193. Salpiglóssis integrifòlia, Hook. bot. mag. t. 3113. Calycine segments linear-spatulate, obtuse, foliaceous. Corollas large, of a rose purple colour; limb irregular. Stamens inserted in the middle of the tube. Embryo short, straight; albumen copious.

Var. β, *Atkinsiàna* (D. Don, in Sweet, fl. gard. n. s. t. 268.) leaves ovate, acutish; calycine segments ligulate; tube of corolla twice as long as the calyx. ♃. F. A hybrid between *P. nyctaginiflòra* and *P. violàcea*. In habit it is much like the former, but the flowers are nearly intermediate between the two parents, but the colour is almost that of the latter.

Violaceous-flowered Petunia. Fl. July. Clt. 1831. Pl. 1 foot.

Cult. The species are all exceedingly elegant plants when in blossom. In the open border they succeed very well from May to September; and large patches of them have a very gaudy appearance. In autumn a few plants of each species should be put into pots, and removed to the greenhouse, so as they may be preserved from the frost of winter. All succeed best in a light rich soil, and are readily propagated from cuttings. Seeds of them are also sometimes ripened in this country, by which they may be increased.

XX. NIEREMBE'RGIA (named in honour of John Eusebius Nieremberg, a Spanish Jesuit; author of Historiæ Naturæ maximè peregrinæ. 1. vol. in folio. Antwerp, 1635.) Ruiz. et Pav. fl. per. 2. p. 13. t. 123. H. B. et Kunth, nov. gen. amer. 3. p. 8. t. 198.

Lin. syst. *Pentándria*, *Monogýnia*. Calyx tubular, 5-cleft; segments lanceolate, acute. Corolla somewhat salver-shaped; with a very long, cylindrical, slender tube; and a 5-lobed, plicate, equal, blunt limb. Stamens 5, exserted; filaments connate at the base; anthers dehiscing lengthwise. Stigma peltately 2-lobed. Capsule 2-celled, 2-valved in the bottom of the permanent calyx; dissepiment parallel with the valves, at length free.—Stems suffruticose, or herbaceous, filiform, procumbent, and often creeping. Leaves scattered, solitary, sometimes twin, entire. Flowers extra-axillary, or opposite the leaves, solitary, almost sessile, white, and tinged with blue or red.

1 N. calycìna (Hook. bot. mag. t. 3371.) clothed with glandular pubescence; stems herbaceous, procumbent; leaves opposite and alternate, roundish-obovate, petiolate; peduncles lateral, 1-flowered, extra-alar, short; calyx large, campanulate, with obovate, 3-nerved, foliaceous segments; corolla with a very long, slender, cylindrical tube, and a 5-lobed, campanulate limb. ♃. F. Native of Buenos Ayres, on the Uruquay. Sweet, fl. gard. n. s. t. 319. Corolla rising from the broad calyx; limb white, its base alone yellow; tube yellowish. Habit of *Petùnia*.

Large-calyxed Nierembergia. Fl. Sept. Oct. Clt. 1834. Pl. procumbent.

2 N. spatula'ta (H. B. et Kunth, nov. gen. amer. 3. p. 8.) stems woody, creeping; leaves petiolate, elliptic-spatulate, glabrous, rather downy, and somewhat ciliated while young; calycine segments lanceolate, acute: lower ones a little smaller and reflexed; capsule few-seeded. ♄. F. Native of New Granada, near Santa Fe de Bogota, and Loxa, at the altitude of 1000 and 1300 hexapods. Stems filiform, prostrate; branches short, erect, puberulous. Leaves solitary or twin, obtuse or rounded at apex. Flowers pedicellate. Calyx pilose at bottom, a little arched. Corolla glabrous; tube slender, half an inch long, 4 times longer than the calyx; limb campanulately funnel-shaped. Stamens glabrous, membranous, linear. Capsule in the bottom of the ventricose calyx.

Spatulate-leaved Nierembergia. Pl. creeping.

3 N. re'pens (Ruiz, et Pav. fl. per. 2. p. 13. t. 123. f. c.) stems creeping at the base, but erectish at top, and filiform; leaves in fascicles of 5 or 6, oblong, obtuse, rather pilose; flowers sessile. ♃. F. Native of Chili, about Conception, in dry sandy pastures. Leaves ½ an inch long, and 2-3 lines broad. Corolla white, with a yellow throat, and with 3 purple lines on each of the segments of the limb.

Creeping Nierembergia. Fl. Cult. Pl. 1 foot.

4 N. angustifòlia (H. B. et Kunth, nov. gen. 3. p. 9. t. 198.) stems herbaceous tufted, diffuse; leaves sessile, linear-lanceolate, glabrous; calycine segments linear, acute, equal; capsule many-seeded. ♃. F. Native of Mexico, near Real del Monte, at the altitude of 1430 hexapods. Flowers opposite the leaves, on short pedicels. Corolla glabrous, white; tube longer than the calyx; limb campanulately urceolate, not plicate.

Narrow-leaved Nierembergia. Pl. diffuse.

5 N. PUBE'SCENS (Spreng. syst. 1. p. 615.) leaves oblong-linear, clothed with glandular hairs; capsule 2-valved, many-seeded; stem woody, diffuse. ♄. F. Native of Monte Video.

Downy Nierembergia. Shrub diffuse.

6 N. GRA'CILIS (Hook. bot. mag. t. 3108.) downy; stems erectish; leaves linear, subspatulate, obtuse; calycine segments linear, bluntish, much shorter than the tube of the corolla; flowers terminating the young branches; lobes of corolla rounded, obtuse. ♃. F. Native of Buenos Ayres, about the Uruquay. D. Don, in Sweet, fl. gard. n. s. t. 172. Corolla with a very long slender tube; the limb white, streaked with purple, with a yellow centre.

Slender Nierembergia. Fl. July, Aug. Clt. 1831. Pl. ½ foot.

7 N. FILICAU'LIS (Lindl. bot. reg. 1649. Hook. bot. mag. t. 3370.) glabrous, erect, filiform; leaves linear-lanceolate, acute, or obtuse; peduncles opposite the leaves, 1-flowered; tube of corolla glandular, as well as the filaments. ♃. F. Native of Buenos Ayres. D. Don, Sweet, fl. gard. no. 243. N. linariæfòlia, Graham. Stems ascending. Corolla with a slender tube. Calycine segments acuminated, equal in length to the tube of the corolla. Limb of corolla lilac, with a yellow centre. Stamens as if they were monadelphous, as in the rest. Corolla variable in colour from almost white to purplish.

Thread-stemmed Nierembergia. Fl. Clt. Pl. ½ to 1 foot.

8 N. ARISTA'TA (D. Don, in Sweet, fl. gard. n. s. t. 255.) smoothish; leaves linear, acuminated; calycine segments acuminated, much shorter than the tube of the corolla; stigma peltate; peduncles opposite the leaves; limb of corolla spreading: lobes rounded, slightly crenulated. ♄. F. Native of Buenos Ayres, on the banks of the Parana. Corolla white, suffused with purple, with the mouth of a deeper colour, glandular outside.

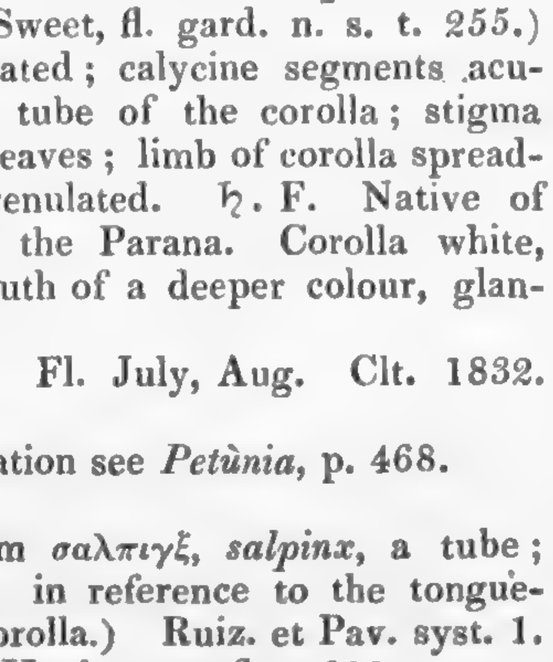
Awned-calyxed Nierembergia. Fl. July, Aug. Clt. 1832. Pl. ¼ to ¾ foot.

Cult. For culture and propagation see *Petùnia*, p. 468.

XXI. SALPIGLO'SSIS (from *σαλπιγξ*, *salpinx*, a tube; and *γλωσσα*, *glossa*, a tongue; in reference to the tongue-shaped style in the tube of the corolla.) Ruiz. et Pav. syst. 1. p. 163. Pers. ench. 2. p. 169. Hook. exot. fl. t. 229.

LIN. SYST. *Didynàmia*, *Angiospérmia*. Calyx 5-angled, 5-cleft, funnel-shaped, gradually widening to the top; limb 5-cleft, plicate; segments 2-lobed. Stamens 4, 2 long, and 2 short, with the rudiment of a fifth between the two longer ones. Style tongue-shaped at apex; stigma truncate, transverse. Capsule ovate, 2-celled, 2-valved; valves bipartible; dissepiment contrary, placentiferous on both sides. Seeds erect, angular, a little compressed, truncate, scabrous from elevated dots. Embryo arched, with short oval cotyledons.—Annual or biennial plants clothed with glandular, clammy hairs, natives of Peru and Chili. Stem paniculately branched at top; branches dichotomous, forked. Corolla large, purple, or straw-coloured, or variegated. Leaves alternate: lower ones petiolate, sinuated: upper ones narrower, entire.

FIG. 40.



1 S. SINUA'TA (Ruiz. et Pav. syst. p. 163.) plant clothed with glandular hairs; lower leaves petiolate, elliptic-oblong, sinuated: upper ones sessile, lanceolate-linear, quite entire; stem paniculately branched at top; branches racemose, dichotomous; filaments glandularly pilose. ♂. H. Native of Chili. S. atropurpùrea, Graham in bot. mag. 2811. Sweet. fl. gard. 271. Corollas large, dark purple, sometimes almost black, orange-coloured in the centre, and striped with deeper coloured veins.

Var. β, pícta; corolla elegantly variegated with yellow and bluish purple. ♂. H. Native of Chili. S. pícta, Sweet, fl. gard. t. 258. S. stramínea, β, pícta, Hook. bot. mag. t. 3365.

Var. γ, stramínea; corolla cream-coloured, veined with blue. ♂. H. Native of Valparaiso. S. stramínea, Hook. exot. fl. t. 229. Sweet, fl. gard. t. 231.

Var. δ, Barclayàna; corolla striped with brown and yellow. ♂. H. A hybrid. S. intermèdia, Sweet, fl. gard. n. s. t. 112. S. Barclayàna, Penny, mss.

Sinuated-leaved Salpiglossis. Fl. Aug. Sept. Clt. 1824. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Schizánthus*, below. Showy plants, worth the cultivator's care.

XXII. SCHIZA'NTHUS (from *σχιζω*, *schizo*, to cut; and *ανθος*, *anthos*, a flower; in reference to irregularly cut or divided corolla.) Ruiz. et Pav. fl. per. 1. p. 13. t. 17. Hook. exot. bot. 3044. D. Don, in Sweet, fl. gard. n. s. no. 201.

LIN. SYST. *Diándria*, *Monogýnia*. Calyx 5-parted, nearly equal. Corolla with a narrow, short tube, and a 4-parted, irregular, shapeless limb, which is plicate in æstivation. Stamens 4, the 2 upper ones sterile; filaments altogether adnate; anthers inserted by the base, 2-celled; cells confluent at apex. Ovarium 2-celled, seated on a fleshy disk; stigma compressed, obtuse: lobes connate. Capsule 2-celled, many-seeded; valves bifid. Dissepiment parallel. Placentas 2, spongy. Seeds cochleate, tubercled. Albumen fleshy. Embryo arched, with a cylindrical, obtuse radicle, which is twice as long as the cotyledons.—Annual glandular herbs, natives of Chili. Leaves bipinnatifid. Flowers somewhat racemose, variegated. A peculiar acid secretion is given out by the glandular hairs, first pointed out by Miss Murray, a young lady of eminent botanical taste and knowledge.

1 S. PINNA'TUS (Ruiz. et Pav. fl. per. 1. p. 13. t. 17.) fructiferous peduncles inflexed at top, secund; lateral segments of the lower lip of the corolla longer than the intermediate one, which is obcordate: upper segment of the corolla cuneate, emarginate. ⊙. H. Native of Chili. Hook. exot. fl. 73. Ker. bot. reg. 725. Hook. bot. mag. t. 2404. Corolla rose-coloured, almost approaching to white towards the centre; the 2 lateral segments cut into blunt, spatulate, sometimes emarginate lobes; the lower lip deep, reddish-purple; the lower part of the upper segment yellow and spotted.

Var. β, hùmilis (Lindl. bot. reg. 1562. D. Don, in Sweet, fl. gard. t. 197.) stature more humble; leaves lyrate: segments roundish, crenated, or entire; racemes crowded. ⊙. H. Corollas as in the species.

Pinnate-leaved Schizanthus. Fl. June, Oct. Clt. 1822. Pl. 2 feet.

2 S. PÓRRIGENS (Graham, in Hook. exot. fl. t. 86.) fructiferous pedicels spreading, straightish; tube of corolla shorter than the calyx; lateral segments of the lower lip longer than the middle one: upper segment oblong, obtuse. ⊙. H. Native of Chili. Hook. bot. mag. 2521. Lateral segments of corolla doubly lobed; lobes bifid, obtuse, but not deep. Lower lip of flower violet or purple; the rest of the corolla pale red, except the centre of the upper segment, which is yellow.

Spreading-peduncled Schizanthus. Fl. June, Oct. Clt. 1822. Pl. 2 feet.

3. S. RETU'SUS (Hook. bot. mag. 3045. Lindl. bot. reg. 1544. D. Don, in Sweet, fl. gard. n. s. t. 201.) fructiferous peduncles erect; tube of corolla longer than the calyx; lateral segments of the lower lip shorter than the middle one, which is sagittate; upper segment rhomboid-oblong, retuse. ⊙. H. Native of the Andes of Chili, Dr. Gillies. Plant lively green. Leaves like those of the other species, deeply and interruptedly pinnatifid, almost pinnate, similar to those of *Tansy;* the segments lanceolate, rather blunt; and the primary ones deeply pinnatifid. Corolla pale violet; the lateral segments of an uniform lake colour, doubly 2-lobed; the lobes blunt, unequal, and divaricate; lower lip of a deep reddish purple, tripartite; the lateral segments linear, obtuse: the upper segment of the corolla yellow, marked with dark brown spots, veiny beneath, the edges revolute, with a cucullate base; the ends lilac.

Retuse-flowered Schizanthus. Fl. June, Oct. Clt. 1831. Pl. 2 feet.

4 S. HOOKE'RI (Gillies, mss. Graham, in edinb. phil. journ. 1830. Hook. in bot. mag. 3070.) pedicels erect; tube of corolla much longer than the calyx, and about equal in length to the limb; middle segment of the lower lip bicornute, much longer than the lateral ones, which are linear; upper segment, or upper lip long-acuminated. ⊙. H. Native of Chili. The whole corolla is of a pale rose-colour, except the middle of the upper segment, which is yellow. Leaves interruptedly bipinnatifid, like those of the other species.

Hooker's Schizanthus. Fl. June, Oct. Clt. 1828. Pl. 2 feet.

5 S. GRAHA'MII (Hook. in bot. mag. 3044.) fructiferous peduncles erect; tube of corolla equal in length to the calyx; lateral segments of the lower lip equal in length to the middle one, which is bifid: upper lip or segment ovate, acuminated. ⊙. H. Native of Chili, Dr. Gillies. Lateral segments of the corolla doubly bifid, obtuse, like those of other species, of a lilac colour, as well as the lower lip: upper lip or segment yellow, tipped with lilac. Leaves like those of the other species.

Graham's Schizanthus. Fl. June, Oct. Clt. 1831. Pl. 2 feet.

Cult. Schizánthus is a genus of the most elegant, most handsome, and showy annual plants. They succeed well if the seed be sown in the open border early in spring; or the plants may be reared in autumn, and preserved in a greenhouse or frame during winter if they are wanted to blossom early in summer; they may also be reared on a hot-bed in early spring, and the sets in part planted out in the open border, and the remainder grown singly in pots, and placed in the greenhouse. A light fresh earth, not too rich, will be found to suit the species best; and if they are to be kept in the greenhouse, a free admission of air and light is absolutely necessary to preserve them in health and vigour, and to give the flowers their proper tints of colour.

XXIII. SCOPO'LIA (named in honour of John Anthony Scopoli, a celebrated professor, and author of Methodus Plantarum, in 8vo. Vienna, 1754, Flora Carniolica, 1 vol. 8vo. Vienna, 1760, and a second edition in 1772, and several other botanical works.) Jacq. obs. 1. p. 32. t. 20.—Scopolìna Schultes, œstr. fl. ed. 2d. vol. 1. p. 335.—Hyocỳamus Scopòlia, Lin.

LIN. SYST. *Pentándria, Monogýnia.* Calyx campanulate, 5-cleft, mutic. Corolla campanulate, 5-cleft, 3 times longer than the calyx; segments obtuse, rather deep. Stamens approximate, bent towards the lower side of the corolla. Capsule circumcised, or opening transversely. Seeds reniform, scabrous. —An erect, glabrous plant, with many stems rising from the same root, which are bifid at top. Leaves petiolate, wrinkled a little, alternate, solitary, or twin. Flowers axillary, solitary, pedunculate, drooping, rising from the twin leaves. Corollas campanulate, dingy, or dusky purple.

1 S. CARNIÓLICA (Jacq. obs. 1. p. 32. t. 20.) ♃. H. Native of Carniola, Hungary, Bavaria, &c. in woods. Hyocỳamus Scopòlia, Lin. spec. St. Hil. 20. t. 6. Sims, bot. mag. t. 1126. Scopolìna atropoides, Schultes, œstr. fl. ed. 2d. no. 844. Rœm. et Schultes, syst. 4. p. 312. Leaves ovate-oblong, entire: cauline ones alternate, solitary; but those under the fork of the stem are 3 in a whorl, or 3 together: on the branches they are twin, having a solitary, pedunculate, drooping flower rising from between each of the pairs of leaves.

Carniolian Scopolia. Fl. April, May. Clt. 1780. Pl. 1 foot.

Cult. A light dry soil, and a shady situation suit this plant best. It is very desirable, as it flowers early in spring when very few hardy herbaceous border flowers are in blossom. It is easily increased by divisions of the root.

XXIV. PHYSOCHLA'INA (from φυσα, *physa*, a bladder; and χλαινα, *chlaina*, an outer garment; in reference to the inflated calyx.) Hyocỳamus species of authors.

LIN. SYST. *Pentándria, Monogýnia.* Calyx sub-inflated, 5-toothed; teeth ovate, obtuse. Corolla campanulately funnel-shaped, widening gradually to the mouth, slightly 5-lobed; lobes short, obtuse. Stamens 5, exserted; filaments fixed to the bottom of the corolla, hairy at the base. Stigma dilated. Anthers dehiscing lengthwise at the sides. Capsule similar to that of *Hyocỳamus.*—Herbaceous perennial plants. Stems simple, many from the same root. Leaves alternate, solitary, entire. Flowers fascicled, capitately corymbose, terminal. Corollas dark purple.

1 P. PHYSALOI'DES; leaves petiolate, ovate, acute, somewhat repand, or quite entire; flowers pedicellate, terminal, capitately corymbose; genitals a little shorter than the corolla; fructiferous calyx inflated, angular, glabrous, mutic, much larger than the capsule. ♃. H. Native of several parts of Siberia, as among rocks on the mountains at the river Tscharysch and Irtysch; and also on Mount Arkat, in the Kirghisean steppe. Hyocỳamus physaloìdes, Lin. amœn. acad. 7. t. 6. f. 1. Curt. bot. mag. t. 852. Sweet, fl. gard. t. 13. A'tropa physaloìdes, Georgi, beschr. russ. Reichs. nachtr. p. 261.—Gmel. fl. sib. 4. p. 93. no. 49. Root creeping a little. The whole plant glabrous. Stems simple or branched, scaly at the base. Leaves dark green, smoothish, ovate, truncate at the base, quite entire or repand. Corolla purplish-violet.

Physalis-like Physoclaina. Fl. March, April. Clt. 1777. Pl. 1 to $1\frac{1}{2}$ foot.

2 P. ORIENTA'LIS; leaves petiolate, deltoid-ovate, repand, or entire, acute, downy; flowers pedicellate, fasciculately and capitately corymbose; genitals a little exserted; fructiferous calyx tumid, downy, mutic, much larger than the capsule. ♃. H. Native of Iberia, in hidden places about Narzana. Hyocỳamus orientàlis, Bieb. fl. cauc. 1. p. 164. Sweet, fl. gard. t. 12. Sims, bot. mag. 2414. Hyocỳamus orientàlis betæ folio tuberosâ radice, Tourn. cor. p. 5. Stem villous. Corolla pale purplish-blue. This is very like *P. physaloìdes;* but differs in the higher stature, and more robust habit; in the herb being pale green, and more downy; the calyx being longer; and in the tube of the corolla widening gradually to the top; in the genitals being usually exserted; and in the calyx being less inflated, and hardly twice as long as the capsule.

Oriental Physoclaina. Fl. March, May. Clt. 1821. Pl. 1 to $1\frac{1}{2}$ foot.

Cult. The species of *Physochlàina* are extremely desirable plants; being early flowerers, and elegant when in blossom. They will grow in any soil, and are readily propagated by divi-

sions of the root, or by seed. They are well adapted for decorating borders in early spring.

XXV. HYOCY'AMUS (from ὑς ὑος, *hys hyos*, a hog; and κυαμος, *kyamos*, a bean, hog-bean; these animals, according to Ælian, being poisoned with it, unless drenched with water without and within.) Tourn. inst. p. 118. t. 42. Brunf. 224. Rivin. mon. t. 102. Lin. gen. no. 247. Schreb. gen. no. 333. Juss. gen. p. 124. ed. Usteri, p. 139. Gærtn. fruct. 1. p. 369. t. 76. Lam. ill. t. 117. f. 1. Nees, in Lin. trans. 17. p. 77.

LIN. SYST. *Pentándria, Monogýnia.* Calyx tubular, 5-cleft, permanent, ventricose at the base. Corolla campanulately funnel-shaped; limb rather oblique, 5-cleft; segments obtuse, one of which is much larger than the rest. Stamens inclinate. Stigma capitate. Capsule immersed in the calyx, 2-celled, many-seeded, operculate. Placenta fixed to the dissepiment. Seeds excavated and angular.—Coarse, clammy, downy, fetid, canescent herbs. Leaves decurrent, stem-clasping, sinuated. Flowers axillary, sessile, racemose, alternate, unilateral, disposed in 2 rows, dirty yellow, veined with purple, or yellow with a dark bottom.

1 H. NI'GER (Lin. spec. 257. hort. cliff. 56. fl. suec. no. 199.) clothed with clammy villi; stem branched; leaves sessile, semi-decurrent, stem-clasping, sinuated; flowers almost sessile; corolla reticulated; teeth of calyx mucronate. ♂. H. Native throughout Europe and Caucasus; and of the North of India, among rubbish; but always near the habitation of man; in many parts of Britain, among rubbish, and on dunghills. Oed. fl. dan. t. 1452. Smith, engl. bot. t. 591. Pursh, fl. amer. sept. 1. p. 141. Woodv. med. bot. 143. t. 52.—Blackw. herb. t. 550.—Plenck, icon. 97. H. flàvus, Fuschs. hist. 833. Stem branched. Radical leaves pinnatifidly sinuated. Corollas pale yellowish-brown, beautifully reticulated with purple veins; and with a deep purple bottom. Linnæus says it is not touched by any quadruped, except perhaps the goat. The English name of the genus is probably derived from its being noxious to poultry. In Germany the plant is called *Bilsenkraut;* in Dutch *Bulsenkruid;* in Danish *Bulsme* and *Honsebane;* in Swedish *Bolwort* and *Honsabale;* in French *La Jusquame;* in Italian *Guisquiamo, Favaporcina;* in Spanish *Belena* and *Velena;* in Portuguese *Miemendro, Velenho, Yosciamo;* in Russian *Belena.*

The leaves of henbane have a strong and peculiar smell when bruised, something like tobacco, especially when burnt; and on burning they sparkle as if they contained a nitrate. From the writings of Dioscorides and others, it appears to have been long used in the practice of medicine. By Celsus it was applied externally as a collyrium in ophthalmia; for allaying the pain of toothache; and he gave it internally as an anodyne. Its virtues depend upon an alkaloid principle discovered by M. Brandes, which is called hyocyamia. The use of henbane was for a long period entirely relinquished, until revived by Dr. Stoerk, of Vienna, in those cases where an anodyne is requisite; and where there are objections to the use of opium, it is now much employed. In a moderate dose it often produces sweat, and sometimes an eruption of pustules, generally sound sleep, succeeded by serenity of mind, and recruited vigour of the body; but, like other narcotics, instead of these, it sometimes gives rise to vertigo, headache, and general uneasiness. With some individuals it occasions vomiting, cholic pains, &c. In excessive doses its effects are fatal; general debility, delirium, remarkable dilatation of the pupils of the eyes, convulsions, and death. Upon the whole, like opium, it is a powerful anodyne; and, like cicuta, it is free from any constipating effects, having rather a contrary tendency. It is employed in wandering rheumatic pains, in indurations of the mammæ, painful swellings—whether schirrous or not, scrofulous and cancerous ulcers, &c.: under the form of a cataplasm of the bruised leaves, with bread and milk; of an ointment made of powder of the leaves, with wax and oil; of a simple powder sprinkled on the sore, or of a decoction with milk as an injection. An infusion, prepared by digesting the bruised leaves in olive oil, is also usefully applied in inflammations of the bowels, kidneys, urethra, &c. An extract from the leaves, or from the seeds, is the form in which it is given internally; and it has been used with advantage in a variety of nervous affections, as mania, melancholia, epilepsy, hysteria, &c.; in glandular swellings; in obstinate ulcerations; to allay inordinate action, or to mitigate pain. Its dose may be gradually increased from half a grain: Cullen pushed it to the length of 30 grains to a dose.

The extract of henbane has lately been much used by oculists, for dilating the pupils of the eyes; in order to facilitate the extraction or breaking down of the cataract; to diminish sensibility; to destroy adhesions; to reduce protrusions of the iris, and to dilate contraction of the pupil. The mode of application is by dropping a few drops of solution of the extract into the eye, or applying them with a camel's-hair pencil. The greatest effect is produced in about 4 hours, and it is generally over in 12 hours; and vision is not impaired during its action.

Black or Common Henbane. Fl. June, July. Britain. Pl. 2 to 4 feet.

2 H. AGRE'STIS (Kit. ex Schultes, œstr. fl. ed. 2d. p. 383.) stem simple, downy; leaves smoothish, sessile, semi-decurrent, sinuately toothed; flowers sessile; corolla reticulated. ⊙. H. Native of Bohemia, Austria, Hungary; as well as of the North of India, in corn-fields. Mart. et Koch. fl. germ. 2. p. 225. Sweet, fl. gard. 1. t. 27. H. nìger, Roxb. fl. ind. 2. p. 237. H. nìger, β, agréstis, Nees, in Lin. trans. 17. p. 77. H. nìger, β, ánnuus, Sims, bot. mag. 2394. H. Bohèmicum, Schmidt, fl. bohem. no. 230.? Flowers rather smaller than those of *H. niger*, and darker in colour.

Field Henbane. Fl. April, May. Clt. 1820. Pl. 1 foot.

3 H. PA'LLIDUS (Waldst. et Kit. ex Willd. enum. 1. p. 228.) leaves stem-clasping, angular; radical ones angularly toothed; flowers sessile; corolla one colour. ⊙. H. Native of Hungary. Very like *H. nìger;* but differs from it in the root being annual, and in the flowers being yellow, without any purple veins.

Pale-flowered Henbane. Fl. April, May. Clt. 1815. Pl. 1 to 2 feet.

4 H. A'LBUS (Lin. spec. 257. hort. cliff. 56.) leaves petiolate: lower ones orbicular, entire; the rest from cordate to ovate at the base, sinuated; flowers sessile. ⊙. H. Native from the South of Europe to Tauria, among rubbish, on walls, and on road sides near the sea. Lam. ill. t. 117. f. 2. Mill. fig. t. 149. Sibth. et Smith, fl. græc. t. 230. St. Hil. pl. fr. 45. t. 5.—Bull. herb. t. 99.—Sabb. hort. 1. t. 191.—Blackw. t. 111.—Besl. eyst. 8. t. 8. f. 2. Plant clothed with white hairs. Calycine segments ovate: lower ones the smallest. Corolla yellow, or greenish-yellow, with a white or greenish bottom. The corolla varies, with the base dark purple or green; hence Miller has made two species, *H. májor* and *H. álbus*. The first of these having the flowers on short pedicels, of a pale yellow colour, with very dark purple bottoms; and growing naturally on islands of the Archipelago. This is the H. major, albo similis, umbilico floris atropurpureo, Tourn. cor. p. 5; the plant figured in Flora Græca. The second has the flowers in larger bunches, sessile on the ends of the branches, of a greenish-yellow colour, with green bottoms. This is a native

of the South of Europe; and is the H. major albo similis, umbilico floris virente, Jussieu, and is the plant figured by Miller. There is also the var. mìnor. Clus. hist. 2. p. 84. f. 1.

White Henbane. Fl. July, Aug. Clt. 1570. Pl. 1 to 2 feet.

5 H. va'rians (Vis. in bot. zeit. 1829. p. 7.) plant woolly, viscid; leaves petiolate, sinuately lobed, obtuse: lower ones subcordate: floral ones ovate, attenuated at the base, almost entire; flowers racemose, secund, almost sessile: lower ones on long pedicels; tube of corolla incurved, dark purple inside, at length becoming green; limb irregular; the 3 superior lobes large and flat. ⊙. H. Native of Dalmatia, on walls, and in waste places.—An intermediate plant between *H. álbus* and *H. aúreus*. Anthers lilac, at length white.

Varying Henbane. Pl. 1 to 2 feet.

6 H. au'reus (Lin. spec. 257. syst. 220. hort. cliff. 56.) leaves petiolate, cordate-ovate, acute, angularly toothed; flowers pedicellate; the 3 larger segments of the corolla undulated. ♃. F. Native of the Levant, Candia, and the South of France. Curt. bot. mag. 87. Sibth. et Smith, fl. græc. t. 231.—Bull. herb. t. 20. H. Creticus luteus major et minor, Tourn. inst. p. 118. H. Créticus, Park. theatr. 362. f. 8.—Mor. hist. sect. 5. t. 11. f. 4.—Alp. exot. 99. t. 98. The whole plant is clothed with clammy hairs. Leaves undulated. Teeth of calyx short, roundish-ovate, mucronate. Corolla yellow, with a deep violaceous bottom; limb cleft at the side. Stamens and anthers violaceous. Capsules drooping.

FIG. 41.

Golden-flowered Henbane. Fl. March, Oct. Clt. 1640. Pl. 1 foot.

7 H. senecìonis (Willd. enum. 1. p. 228.) leaves petiolate, somewhat 3-lobed, deeply toothed; flowers pedicellate; segments of the limb of the corolla equal, flat. ♃. F. Native of Egypt. The whole plant is clothed with clammy hairs. Calycine segments ovate, acute. Corolla yellow, purplish in the bottom, as well as the base of the stamens; limb not cleft at the side. Anthers white.

Groundsel-like Henbane. Fl. March, Oct. Clt. 1812. Pl. 1 foot.

8 H. mu'ticus (Lin. mant. p. 45. syst. 220.) leaves petiolate, ovate, acute-angled; flowers pedicellate; calyxes mutic; bracteas undivided. ♂. H. Native of Egypt and Arabia; and the Levant. H. álbus Ægýpticus, Alp. exot. 193. t. 192.? H. mìnor, Mill. dict. no. 4. H. betæfòlius, Lam. dict. 3. p. 329. H. mìnor, albo similis, umbilico floris atropurpureo, Tourn. cor. p. 5. Plant downy. Corolla yellow outside, dark purple inside; the 2 lower segments white, smaller, at length the whole becomes white; limb cleft. Stamens purple.

Mutic-calyxed Henbane. Fl. March, April. Clt. 1822. Pl. 1 foot.

9 H. Datòræ (Forsk. ægypt. arab. p. 45.) leaves petiolate, ovate-lanceolate, a little toothed; flowers nearly sessile; floral leaves or bracteas entire. ♄. F. Native of Egypt, in deserts about Cairo. Plant villous. Calyx 5-toothed. Flowers disposed in long secund spikes, 3 at the top of each stem. Corolla villous outside, and yellowish, violaceous inside, white between the lower segments. Stamens villous at the base. The corolla in the plant cultivated is yellow, with a dark purple bottom, very like those of *H. aùreus*. It is perhaps the Nepénthes of Homer.

Datora Henbane. Fl. May, July. Clt. 1829. Shrub 1½ foot.

10 H. Canarie'nsis (Ker. bot. reg. t. 180.) shrubby, pilose; lower leaves petiolate, cordate-ovate, angular, obtuse: floral ones ovate or elliptic, entire; flowers pedicellate. ♄. G. Native of the Canaries. Corolla yellow, with a dark purple, or almost black eye or throat.

Canary Island Henbane. Fl. Year. Clt. 1816. Shrub 1½ foot.

11 H. pusi'llus (Lin. syst. 220. mant. p. 339.) leaves petiolate, oblong-lanceolate, a little toothed; flowers pedicellate; teeth of calyx mucronulately and spinosely-cuspidate. ⊙. H. Native of Persia. Lin. hort. cliff. 56. ups. p. 44.—Plukn. phyt. t. 37. f. 5. Plant pilose. Leaves tapering into the petioles: floral ones entire. Calyx nearly as long as the corolla. Corolla small, yellow, with a violaceous bottom; the lower side divided beyond the limb, ex Lin.

Least Henbane. Fl. July. Clt. 1691. Pl. ½ to 1 foot.

12 H. micra'nthus (Ledeb. mss.) leaves petiolate, oblong: radical ones pinnatifid: cauline ones toothed, or entire; flowers nearly sessile; teeth of calyx mucronate. ⊙. H. Native of Altaia, on the dry and rocky mountains of Arkaul, and Dolenkara, Tschingis-tau; and on the mountains of Kalmy-Tologoi, in the Kirghisean Steppe, Falck. H. pusíllus, Led. fl. alt. 1. p. 228, but not of Lin. Stem simple, or branched, sparingly pilose. Leaves nearly glabrous. Calyx attenuated towards the base; teeth elongated, lanceolate, mucronate. Corolla small, hardly longer than the calyx, yellow, with a deep violet bottom; the lower side cleft even to the middle of the tube. Capsule shorter than the calyx.

Small-flowered Henbane. Fl. June, July. Clt. 1829. Pl. ½ foot.

13 H. auricula'tus (Tenore, fl. nap. prod. p. 16. syn. p. 38.) stem erect, simple; leaves ovate, petiolate, sinuated, acute; petioles winged, auricled at the base; flowers sessile; corollas yellow, reticulated with purple veins at bottom. ⊙. H. Native of Naples, in the fields of Abellino.

Auricled-petioled Henbane. Fl. June, July. Clt. 1823. Pl. 1 foot.

Cult. The species of Henbane are plants of the most easy culture. The seeds of the annual and biennial kinds only require to be sown in the open ground. The half shrubby, or herbaceous kinds are well fitted for decorating rockwork during summer; but in winter they need protection by being covered with haulm of other plants, or by being preserved in pots in the green-house; and they are readily increased by cuttings and seeds.

Tribe III. DATU'REÆ (the plants contained in this tribe agree with the genus Datùra in the characters given below.) Limb of corolla plicate in æstivation, repandly 5-10-toothed. Capsule coriaceous, succulent, 2-celled, 4-valved; placentas septiform, free. Seeds reniform. Stamens 5, inclosed.

XXVI. DATU'RA (said to be a corruption of the Arabic name of one of the species *tatorah.*) Lin. gen. 246. Schreb. gen. 332. Juss. gen. 125. ed. Usteri. p. 139. H. B. et Kunth, nov. gen. amer. 3. p. 5. Nees, in Lin. trans. 17. p. 73. —Stramònium, Tourn. inst. 43, 44.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, angular, 5-toothed, falling off at top, leaving only the orbicular base; limb 5-cleft, irregular. Corolla conically funnel-shaped; limb plicate, repandly 5-10-toothed; teeth drawn out. Stamens

usually inclosed. Stigma 2-lobed. Capsule coriaceous, succulent, 2-celled, 4-valved, many-seeded. Placentas septiform, free. Seeds reniform.—Poisonous annual herbs. Flowers alar, solitary, white, or violaceous.

SECT. I. STRAMÒNIUM (a syncope of *στρυχνον μανικον*, the Greek name for the madapple; given to this plant on account of the fruit being the size of a small apple.) Limb of calyx acutely 5-angled, and acutely 5-lobed, or 5-toothed at apex, tubular. Margin of corolla acutely 5-angled, or 5-toothed. Stamens inclosed; anthers remote. Capsule erect, ovate, 2-celled at apex, but 4-celled beneath the apex, (but in *D. díscolor* 2-celled at the base,) dehiscing regularly. Seeds compressed, black, opaque, wrinkled.—Herbaceous annual plants. Leaves ovate, toothed. Flowers oblique.

§ 1. *Corollas purplish outside, and white inside.*

1 D. DI'SCOLOR (Bernhardi, in Linnæa, 8. p. 138.) leaves sharply and sinuately toothed, clothed with hoary down beneath; capsule 2-celled, muricated with prickles. ⊙. H. Native of the West Indies. Stramònium americanum minus, Alkekengi folio, Tourn. inst. p. 119. Boerh. ind. 1. p. 261. Stramònium Curassavica humilior, hyocyami folio, Herm. par. bat. p. 233, with a figure.

Two-coloured-flowered Thorn-apple. Pl. 2 to 3 feet.

§ 2. *Corollas white.*

2 D. INE'RMIS (Jacq. hort. vind. 3. p. 44. t. 82.) leaves ovate, angularly toothed, glabrous; capsule smooth, unarmed. ⊙. H. Native of Abyssinia. D. læ'vis, Lin. suppl. 146. Willd. spec. 1. p. 1009. Stramònium læ've, Mœnch, meth. p. 456.

Unarmed-capsuled Thorn-apple. Fl. June, Sept. Clt. 1780. Pl. 2 feet.

3 D. FE'ROX (Lin. amœn. 3. p. 403.) leaves ovate, angularly toothed, cuneiform at the base, glaucous; capsule furnished with unequal prickles: the upper prickles large and erect. ⊙. H. Native of Cochinchina and Nipaul. Mill. dict. no. 4. D. Stramònium, *β*, canéscens, Wall. in Roxb. fl. ind. 2. p. 229. Stramònium fèrox, Zan. hist. ed. Mont. p. 212. t. 162. Mor. hist. 3. p. 607. sect. 15. t. 2. f. 4. Bocc. rar. p. 50. Tourn. inst. 119.

Fierce Thorn-apple. Fl. July, Sept. Clt. 1731. Pl. 2 to 3 feet.

4 D. STRAMÒNIUM (Lin. spec. 255.) leaves ovate, angularly-toothed, cuneiform at the base, smoothish, green; capsule furnished with nearly equal sized spines or prickles. ⊙. H. Native of America, but now found almost throughout Europe, and north of Asia and Africa, among rubbish, and on dung hills, having escaped from gardens; always near the habitation of man. Ruiz. et Pav. fl. per. 2. p. 15. Pursh, fl. amer. sept. 1. p. 141. Smith, engl. bot. t. 1288. Curt. fl. lond. fasc. 6. t. 17. Svensk. bot. t. 43. Oed. fl. dan. t. 436. Woodv. med. bot. 338. t. 124. Hayne, arz. 4. t. 7. Blackw. off. t. 313. Bull. herb. t. 13. Plenck, off. t. 96.—Sabb. hort. 1. t. 92. Stramònium vulgàre, Mœnch. meth. p. 456. Stramònium fœ'tidum, Scop. carn. 2. p. 252. Stramònium vulgàtum, Gærtn. fruct. 2. p. 243. t. 132. Stramònium spinòsum, Lam. fl. fr. 2. p. 256. D. loricàta, Sieb. coll. sem. D. pseùdo-stramònium, Sieb. herb. mart. 286. D. Capénsis, Hort. Stramònium fructu spinoso oblongo, flore albo, Tourn. inst. p. 119.—Hall. helv. no. 586. D. Turcàrum, Besl. eyst. 3. 2. fol. 12. f. 1. a. Thlapatl, Hern. mex. 278, with a figure.

The leaves of *Common Thorn-apple*, or *Stramonium* have a disagreeable smell and nauseous taste. Every part of the plant is a strong narcotic poison, producing vertigo, torpor, and death. Dr. Barton mentions the cases of two British soldiers, who ate it by mistake for *Chenopòdium álbum*; one became furious, and ran about like a madman; and the other died with all the symptoms of tetanus. The best antidote to its effects is vinegar. The seeds contain the narcotic principle which pervades the whole plant, but in a more uniform degree than the other parts, and hence are more to be depended upon for internal use. An excellent analysis of the seeds has been published by Mr. Brandes, in Buchner's repertorium for 1821, and in which it is shown that its peculiar properties depend upon a peculiar alkaloid called Daturia.

Dr. Stoerk first tried Stramonium as a remedy in mania and melancholia with considerable success. It has also been employed in convulsive and epileptic affections. Dr. Barton of Philadelphia gives it in powder, beginning with doses of a few grains, and increasing them in some days to the extent of 15 to 20 grains. In a case in which it was exhibited to the extent of 30 grains it dilated the pupil of one eye, and produced paralysis of the eyelids, which was removed by a blister. Hufeland gave it in the form of a tincture prepared of two ounces of the seeds in four ounces of wine, and one of diluted alcohol, in diseases of the mind. The inspissated juice of the leaves has been most commonly used, but its exhibition requires the greatest caution. At first a quarter of a grain is a sufficient dose. An ointment prepared from the leaves has been said to give ease in external inflammations and hæmorrhoids. And the bruised leaves, according to Plenck, soften hard, inflamed tumours.

The smoke of *Stramònium* has been much extolled for the cure of asthma. Its use in this manner has been derived from the East Indies, where, however, other species of *Datùra* are employed. It is the root and lower part of the stem which is used in this way. This is dried quickly, and cut into slips, and used in the manner of tobacco. The smoke excites a sense of heat in the chest, followed by copious expectoration, and sometimes attended with temporary vertigo and drowsiness. In some cases a perfect cure is effected, but more commonly the relief is only temporary. Dr. Marcet, med. chirurg. trans. 7. p. 551, used Stramonium in the form of extract, and the result of his experience is, that the most common effect of it, when administered in appropriate doses from $\frac{1}{8}$ to 1 grain, in cases of chronic disease, attended with acute pain, is to lessen powerfully, and almost immediately, sensibility and pain; and it almost always excites those symptoms which are produced by intoxication.

Stramonium, or Common Thorn-apple. Fl. July, Sept. Britain. Pl. 2 to 3 feet.

5 D. TRAPE'ZIA (Nees, in Lin. trans. 17. p. 74.) leaves ovate, trapezoid, acute, repandly-toothed, and are, as well as the stem, downy; fruit furnished with nearly equal spines or prickles. ⊙. H. Native of the East Indies, on the banks of the Irrawaddy, Gomez. D. Stramònium, Wall. cat. suppl. no. 278.

Trapezoid-leaved Thorn-apple. Pl. 2 to 3 feet.

§ 3. *Corollas violaceous. Stems purplish.*

6 D. TA'TULA (Lin. spec. 256. Mill. dict. no. 2. Sweet, fl. gard. t. 83.) leaves cordate-ovate, angularly toothed, unequal at the base, glabrous; capsule furnished with nearly equal spines or prickles. ⊙. H. Native of America, but has now become naturalized in almost all the places along with *D. Stramònium*, but is less frequent. Pursh, fl. amer. sept. 1. p. 141. Stramònium Tátula, Mœnch, meth. p. 456. Stramònium fructu spinoso oblongo, flore purpureo, Tourn. inst. p. 119.

Tatula, or Purple Thorn-apple. Fl. July, Sept. Clt. 1629. Pl. 2 to 3 feet.

7 D. quercifòlia (H. B. et Kunth, nov. gen. amer. 3. p. 7.) leaves sinuately pinnatifid, hairy on the veins beneath; capsule furnished with unequal prickles: the upper prickles the largest. ⊙. H. Native of Mexico, in temperate places near Zelaya and Molino de Sarabia, at the altitude of 930 hexapods. Branches hairy.

Oak-leaved Thorn-apple. Pl. 1 to 2 feet.

Sect. II. Du'tra (an alteration of the generic name.) Limb of calyx tubularly ventricose, angular, or terete, 5-lobed at apex. Margin of corolla 5-10-toothed. Stamens inclosed, or a little exserted; anthers remote. Capsule nearly globose, more or less drooping, or reflexed, 2-celled at apex, but 4-celled below the apex, dehiscing irregularly. Seeds pale, or brownish opaque, compressed, flat in the disk, convex on the margin, surrounded by 3 wrinkled ribs.—Annual herbs. Flowers oblique, showy.

8 D. a'lba (Nees, in Lin. trans. 17. p. 73.) leaves ovate, acuminated, repandly toothed, unequal at the base, and are, as well as the stem, smoothish; stamens inclosed; fruit prickly. ⊙. H. Native every where in the East Indies; as of Nipaul, Silhet, Tavoy. D. Mètel, Roxb. fl. ind. 2. p. 238. Wall. cat. 2639. Fleming, in asiat. res. 11. p. 165. Hardw. in asiat. res. 6. p. 351. under D. Stramònium. Stramònia I'ndica prima seu Dùtra álba, Rumph, amb. 5. p. 242. t. 87. f. 1. Humalu, Rheed. mal. 2. p. 47. t. 28. Corollas white.

White-flowered Thorn-apple. Pl. 2 to 3 feet.

9 D. fastuòsa (Mill. dict. no. 6. Lin. spec. p. 256.) leaves ovate, acuminated, repandly-toothed, unequal at the base, and are, as well as the stem, downy; fruit tubercled. ⊙. H. Native of the East Indies, and Egypt, and of Caraccas. Roxb. fl. ind. 2. p. 238. Stramònium fastuòsum, Mœnch, meth. p. 456. D. Coutarèna, Alp. exot. p. 181. icone. D. Ægyptìaca, Vesl. pl. ægypt. p. 203. icone.—Lob. icon. 264. Corolla violaceous outside, and white inside; teeth of the limb subulate.

Var. β; corollas double and triple, purple outside, and white inside. ⊙. H. Native of Malabar. Stramònium Malabáricum, fructu glabro, flore duplici et triplici, Tourn. inst. 119.—Sabb. hort. rom. 1. t. 93. Mudela-Nila Hummatu, Rheed. mal. 2. p. 51. t. 30.

Var. γ, *rùbra* (Bernhardi, in Linnæa, 8. p. 142.) corolla violaceous; fruit muricated; leaves dentately sinuated. ⊙. H. Native of the East Indies. Stramònium fructu spinoso rotundo; flore violaceo simplici, Tourn. inst. 118. There is also a double flowered variety of this, the Dùtra rùbra, Rumph. amb. 5. p. 243. t. 87. f. 2. Stramònium seu Datùra Ægyptìaca flore pleno Ponæ, Mor. hist. 3. p. 15. t. 2. f. 9. Stramònium fructu spinoso rotundo, flore violaceo duplici triplicive. Tourn. inst. 119.

Var. δ, *parviflòra* (Nees, in Lin. trans. 17. p. 74.) corolla smaller; calyx more than twice as short as the tube of the corolla. ⊙. H. Native of the East Indies, at Prome, Gomez. Wall. cat. suppl. no. 278.

Proud Thorn-apple. Fl. July, Sept. Clt. 1629. Pl. 2 to 3 feet.

10 D. du'bia (Pers. ench. 1. p. 216.) leaves quite entire, glabrous, as well as the stem; limb of corolla 5-6-toothed; stamens inclosed; capsule smooth, unarmed. ⊙. H. Native of the East Indies. D. fastuòsa, δ, capsulis muticis, Poir. dict. 7. p. 461. D. Tátula, β, Poir. l. c. D. Hammátu, Bernhardi, in Linnæa, 8. p. 141. Stramònium Malabáricum, fructu glabro, flore simplici violaceo, Tourn. inst. 119. Nila Hummatu, Rheed. mal. 2. p. 49. t. 29. Corolla violaceous. Perhaps a variety of *D. fastuòsa*.

Doubtful Thorn-apple. Pl. 2 to 3 feet.

11 D. murica'ta (Bernh. sem. 1818. gart. mag. 4. p. 163, with a figure. Link. enum. 1. p. 177.) leaves ovate, repand, when young toothed, glabrous; fruit muricated with strong short prickles, erectish. ⊙. H. Native country unknown, but probably of America. D. hùmilis, Desr. hort. par. D. hýbrida, Tenore. ? D. læ'vis, Schkuhr, handb. 1. p. 140. under D. fastuòsa. D. fastuòsa, fl. albo, Mœnch. meth. 456. D. Mètel, and D. innóxia, Mill. dict. no. 3 and 5.—Knor. del. 1. t. s. 12.—Besl. hort. eyst. 2. fol. 11. f. 1. a. Corolla long, white. The whole plant green. Leaves unequal at the base. Perhaps the same as *D. álba*, Nees.

Muricated-fruited Thorn-apple. Fl. July, Sept. Clt. 1820. Pl. 2 to 3 feet.

12 D. Me'tel (Lin. spec. p. 256.) leaves cordate, quite entire, or a little toothed, and are, as well as the stem, downy; limb of corolla 10-toothed; calyx terete; capsule furnished with prickles. ⊙. H. Native of the East Indies, in hot regions; Africa, and the Canary Islands. Sims, bot. mag. t. 1440. D. Mètel, and D. fruticòsa, Horn. hort. hafn. 1. p. 212. D. Mètel, et D. innóxia, Mill. dict. nos. 3 and 5, partly. Dùtra nìgra, Rumph. amb. 5. p. 243. Stramònium, fructu spinoso rotundo, flore albo, Tourn. inst. p. 118.—Ludw. ect. t. 158.—Knip. cent. 1. t. 24. D. Stramònium, Thunb. jap. p. 91, ex Lour. Corollas large, white.

Metel, or Hairy Thorn-apple. Fl. June, Sept. Clt. 1596. Pl. 2 feet.

13 D. Guayaquile'nsis (H. B. et Kunth, nov. gen. 3. p. 8.) leaves ovate, very unequal at the base, quite entire, or obsoletely and angularly toothed, downy, as well as the stem and branches; limb of còrolla angularly 10-toothed; stamens a little exserted; capsule muricately spinose. ⊙. H. Native of America, in humid places near Guayaquil. Stem and branches reddish. Calyx tubular, downy; limb cleft on one side. Corolla large, white. Perhaps a variety of *D. Mètel*.

Guayaquil Thorn-apple. Fl. July, Sept. Clt. 1826. Pl. 2 to 3 feet.

Sect. III. Ceratocau'lis (from κερας κερατος, *keras keratos*, a horn; and καυλος, *kaulos*, a stem; shape of stem.) Calyx nearly terete, entire, dehiscing by a lateral fissure at the apex. Limb of corolla 10-toothed. Stamens exserted a little; anthers contiguous. Capsule obovate, unarmed, pendulous. Seeds compressed, subovate, fuscescent, shining, rather scabrous.—An annual herb. Leaves ovate-lanceolate, toothed, hoary beneath. Corollas white, purple outside.

14 D. ceratocau'lon (Ort. dec. p. 11. Jacq. hort. schoenbr. 3. p. 48. t. 309.) ⊙. H. Native of Cuba and Mexico. Hook, bot. mag. t. 3352. D. macrocaúlis, Roth, beitr. p. 159. Stem terete, purplish, dichotomous, horn-formed, pilose at the base. Corolla smaller than that of *Brugmánsia cándida*, with a green tube, white limb, and purplish outside, sweet-scented. Capsule size of a nut, glabrous, smooth.

Horn-stemmed Thorn-apple. Fl. July, Sept. Clt. 1805. Pl. 2 to 3 feet.

Cult. The seed of all the commoner kinds of *Stramònium* only require to be sown in the open ground in April; but the rarer kinds answer better if reared on a hot-bed, and afterwards planted out in the open border about the middle of May, like other tender annuals.

XXVII. BRUGMA'NSIA (named in memory of Sebald Justus Brugmans, author of Dissertatio de plantis inutilibus et benenatis, 1. fasc. in 8vo. Groningen, 1783.) Pers. ench. 1. p.

216. D. Don, in Sweet, fl. gard. n. s. 272. Rœm. et Schultes, syst. 4. p. xxiii. Datùra species of authors.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, ventricose, 5-angled, permanent, coarctate at top, and 2-3-5-lobed. Corolla funnel-shaped, 5-plicate, 5-lobed; lobes cuspidate. Stamens 5, inclosed, coarctate; anthers conglutinate. Stigma thick, 2-lobed, with revolute margins. Capsule 2-celled, smooth, many-seeded. Seeds opaque, reniform, obsoletely trigonal, flat on the sides, and tubercularly wrinkled, a little ribbed on the convex side; testa corky, very thick.—Trees or shrubs natives of Peru. Flowers extra-axillary, pedunculate, or from the forks of the branches, as in *Datùra*, large, white, or blood red, drooping. Fruit oval, pendulous, golden yellow.

1 B. suave'olens; leaves elliptic-oblong, quite entire, glabrous above, and scarcely downy beneath; points of corolla short; capsule muricated?. ♄. S. Native of Mexico, Chili, and Peru. D. arbòrea, Mill. dict. no. 7, exclusive of the syn. and description. Stramònium arbòreum, Mœnch. meth. suppl. p. 173. Datùra suavèolens, Willd. enum. 1. p. 227. Flowers large, white. Calyx 5-toothed, or 5-lobed.

Sweet-scented Brugmansia. Fl. Aug. Sept. Clt. 1733. Tree 10 to 15 feet.

2 B. ca'ndida (Pers. ench. 1. p. 216.) leaves elliptic-oblong, quite entire, and are, as well as the petioles and branches, clothed with powdery pubescence; points of corolla elongated. ♄. G. Native of New Granada, Peru, and Chili. Datùra arbòrea, Lin. spec. 256. Ruiz. et Pav. fl. per. 2. p. 15. t. 128. Willd. enum. 1. p. 227.—Feuill. per. 2. p. 761. t. 46. Calyx 2-3-lobed?. Corollas white, 7-8 inches long.

White-flowered Brugmansia. Fl. Aug. Sept. Clt. 1813. Shrub 7 to 10 feet.

3 B. bícolor (Pers. ench. 1. p. 216.) leaves sinuately lobed, sub-tomentose, as well as the branches and petioles: points of corolla elongated; calyx 2-3-lobed. ♄. F. Native of New Granada and Peru, from whence it has been introduced to Chili. B. sanguínea, D. Don, in Sweet, fl. gard. n. s. t. 272. Datùra sanguínea, Ruiz. et Pav. fl. per. 2. p. 15. H. B. et Kunth, nov. gen. amer. 3. p. 6. In Peru the plant is called *Floripondio encarnado*, and *Campanillas encarnados*, and in New Granada it is called *Bovochevo*. From the bruised leaves an ointment is prepared, which is said to possess superior healing properties; and from the fruit a highly narcotic liquor is prepared. Corolla 7 inches long, pubescent, with 15 straight, prominent ribs; tube thick and fleshy, with 5 blunt angles, orange yellow, green towards the base; throat inflated and pitted outside; limb of a fine scarlet, or orange red.

Two-coloured-flowered Brugmansia. Fl. June, Oct. Clt. 1833. Shrub 3 to 12 feet.

Cult. All the species of *Brugmánsia* are free flowerers, and are desirable plants for conservatories, on account of their fine foliage, and large, trumpet-shaped, white, orange, or scarlet pendant blossoms. They grow best in a light, rich soil, and should not have much water given to them during winter, as they are liable to damp. They also succeed well in the open ground during summer in a warm, sheltered situation; here they grow luxuriantly, and flower freely, and the blossoms become larger, and of a finer colour, than if grown under glass, but here they are killed by the first frosts of winter if not protected. All the species strike readily from cuttings if placed in a moist heat.

XXVIII. SOLA'NDRA (so named by the younger Linnæus, in honour of Daniel Charles Solander, L.L.D. F.R.S., a Swede, and disciple of Linnæus; companion of Sir Joseph Banks in his voyage round the world, and the laborious collector of the botanical notes made during that celebrated expedition. His descriptions are preserved among the mss. in the British Museum, and attest his learning, diligence, and skill.) Lin. fil. in Swartz. act. holm. 1787. t. 11. prod. 42. fl. ind. occ. 1. p. 387. t. 9. Schreb. gen. no. 1732. Correa de Serra, in ann. mus. 8. p. 389. t. 4. f. 1, but not of Lam. Poir. nor Willd.

Lin. syst. *Pentándria, Monogýnia.* Calyx spathaceous, splitting on one side, 3-5-cleft at apex. Corolla large, clavately funnel-shaped; tube long; throat inflated; lobes fringed, a little acuminated. Berry or capsule globosely conical, 4-celled, many-seeded.—Erect or scandent trees, with broad, alternate leaves, and large, extra-axillary flowers, which are much like those of *Brugmánsia*.

1 S. grandiflòra (Lin. fil. in Swartz. act. holm. 1807. p. 300. t. 11.) leaves alternate, close together, viscid, and pubescent, petiolate, obovate-oblong, acuminated; flowers terminal, drooping, usually solitary, rarely 2-3; anthers a little lunate, 4-cornered, pointed, a little cloven at the base. ♄. ◡. S. Native of Jamaica; climbing and rooting on trees and rocks. Jacq. hort. schœnbr. 1. p. 21. t. 45. Sal. in Lin. trans. 6. p. 100. t. 6. Meen, exot. bot. t. 6. Sims, bot. mag. 1874. Tratt. tab. t. 352. Solándra scándens, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 700. Swártzia grandiflòra, Gmel. syst. p. 360. Datùra sarmentòsa, Lam. ill. 2. p. 9. no. 2295. Branches and stem radicant. Leaves, tender branches, and calyxes clothed with viscid down. Calyx and petioles pale, purplish green: the latter tubular, cornered, unequally cloven at 2-3 of the angles. Corolla 7-8 inches long; tube pale, yellowish green, widening gradually above, 5-cornered; limb white, the undivided part indistinctly 10-cornered, 5 of the corners painted with a dusky purple fillet; the segments are of a purplish colour outside, having the interstices minutely suborbicular at the base, and very finely ciliated. Genitals exserted. Fruit pyramidal, pale, yellowish green, 4-celled almost to the top, then 2-celled. Seeds reniform, sessile. The fruit ripens in August and September, and is of a sweet, sub-acid flavour.

Great-flowered Solandra. Fl. March, April. Clt. 1781. Shrub climbing.

2 S. nítida (Zuccagn. cent. in Rœm. coll. p. 128. no. 40.) leaves quite glabrous, shining, tapering into the petioles, crowded, oblong, acuminated, with revolute edges; flowers terminal, drooping, usually solitary, rarely 2-3-together; lateral anthers bicornute. ♄. S. Native country unknown. Portlándia grandiflòra, Hort. batav. Datùra sarmentòsa, *β*, Lam. ill. 2. p. 9. no. 2295. Petioles violaceous, furnished with a few hairs. Calyx 4-cleft; segments unequal, with scarious brown edges. Corolla half a foot long, yellowish white, with 6-7 nerves, brown inside, green outside; tube 6-7-angled; limb 6-7-cleft, with roundish crenately-undulated segments, violaceous outside, at first erect, but at length revolute. Stigma capitate, green. This species differs from *S. grandiflòra* in the leaves being quite glabrous and shining, in the bicornute anthers, and the calyx and corolla being glabrous outside. Stem arborescent, with chinky bark; branches elongated, flexile, divaricate, with deciduous bark.

Shining-leaved Solandra. Fl.? Clt. 1820. Tree or shrub.

3 S. viridiflòra (Sims, bot. mag. 1948.) leaves elliptic-oblong, attenuated at both ends, acuminated, glabrous; flowers terminal, solitary, pedunculate; calyx 5-cleft; the segments lanceolate, acute, and equal; tube of corolla suddenly swelling out into the throat, and again a little contracted; the segments elongated, and revolute. ♄. S. Native of Brazil, about Rio Janeiro. Leaves deciduous. Branches rugged from the elevated cicatrices occasioned by the falling of the leaves. Corolla green, drooping. Genitals much exserted.

Green-flowered Solandra. Fl. May, July. Clt. 1815. Shrub 2 to 3 feet.

4 S. gutta'ta (D. Don, in bot. reg. t. 155.) leaves broad,

elliptic-oblong, acute, downy beneath; flowers terminal, solitary; segments of corolla crispately crenated, spreading; tube about twice the length of the calyx, which is tubular and 3-lobed. ♄. S. Native of Mexico. Tecomaxochitl, Hern. mex. p. 408, with a figure. Shrub erect, branched. Branches rugged from the elevated cicatrices occasioned by the falling of the leaves. Leaves acute, or short-acuminated, 3-6 inches long, and 2-3 broad. Flowers erect, on short peduncles. Lobes of calyx ovate, acute, the third smaller. Corolla large, funnel-shaped, pale yellow, but marked with purple spots in the throat; lobes of limb very broad, roundish. Stamens hardly drawn out beyond the throat of the corolla. Style exserted. Ovarium 4-celled. Stigma capitate.

Spotted-flowered Solandra. Fl. Clt. Shrub 10 to 12 feet.

† *A species not sufficiently known.*

5 S. oppositifòlia (Hort. ex Loud. hort. brit. p. 71.) leaves opposite. ♄. S. Native of Ceylon. Corolla large, white.

Opposite-leaved Solandra. Fl.? Clt. 1820. Shrub 6 to 10 feet.

Cult. The species of *Solándra* are very handsome when in flower; the foliage very fine, and the blossoms large, much like those of *Brugmánsia*. If allowed plenty of space and moisture they grow rapidly, but produce no blossoms: the best way to avoid this is to plant them in loamy soil, and to encourage them to grow rapidly at first by giving plenty of water, and then withhold water altogether till their leaves drop off from drought, and they will then produce plenty of blossoms. Cuttings taken off from the plant, and planted in mould or tan will strike root without further care. The best way to have plants flower when small is to take the cuttings from flowering shoots.

XXIX. ULLO'A (named after Antonia Ulloa, a Spanish naturalist.) Pers. ench. 1. p. 218. Juanullòa, Ruiz. et Pav. fl. per. 2. p. 47. t. 85.

Lin. syst. *Pentándria, Monogýnia.* Calyx large, inflated, ovate, 5-parted; segments concave, lanceolate, acute, coloured, permanent. Corolla tubular, gibbous under the throat, contracted above; limb small, 5-lobed; segments rounded, spreading. Stamens 5; filaments villous at the base. Stigma oblong, somewhat emarginate at apex. Berry ovate, girded by the large calyx, 2-celled, many-seeded. Seeds oblong, reniform.—A parasitical, frutescent, pendent plant, with oblong, acuminated, alternate, thickish leaves; and dichotomous, hanging racemes of scarlet flowers and fruit.

1 U. parasítica (Pers. ench. 1. p. 218.) ♄. S. Native of Peru, in groves. Juanullòa parasítica, Ruiz. et Pav. fl. per. 2. p. 47. t. 185. Stems simple, woody, pendent. Berry size of a cherry. Said to be nearly allied to *Tanæcium parasíticum.*

Parasitic Ulloa. Fl.? Clt. 1824. Shrub parasitical.

Cult. This plant will grow well in decayed wood, or vegetable mould; and may be increased by cuttings.

Tribe IV. FRANCI'SCEÆ (this tribe contains plants agreeing with *Franciscea* in the characters given below.) Limb of corolla plicate in æstivation, 5-lobed, rather unequal. Stamens 4, didynamous, that is, 2 long and 2 short, inclosed, without any rudiment of a fifth. Ovarium girded by a cupulate disk. Capsule 2-celled, 2-valved; valves bipartible at top. Placentas inserted into the dissepiment. Seeds numerous, angular. Embryo straight, terete.

XXX. BRUNFE'LSIA (so named by Plumier, from Otho or Otto Brunfelsius, of Mentz, first a Carthusian monk, and afterwards a physician. He published the first good figures of plants in 1530, and died in 1534.) Plum. gen. 22. Lin. gen. no. 260. Schreb. gen. 1013. Juss. gen. 127. ed. Uster. p. 142. Lam. ill. t. 548.

Lin. syst. *Didynàmia, Angiospérma.* Calyx campanulate, 5-toothed, short. Corolla large, funnel-shaped; with a long tube, and a flat, 5-lobed, obtuse, nearly equal limb. Stamens 4, didynamous, with the rudiment of a fifth; anthers reniform. Stigma capitate. Capsule (berry, Lin.) larger than a cherry, 1-celled, ex Lin. but probably 2-celled, many-seeded; placenta large, central, fleshy.—Shrubs with alternate, entire leaves, and solitary, axillary, or terminal numerous flowers.—"Pericarp baccate outside, 1-celled, 2-valved, but since it opens by a distinct suture from the top to the base, it is rather a capsule than a berry. Seeds many, compressed, convex on one side, angular on the other, wrinkled from dots. Receptacle fastened to the bottom of the capsule, chaffy; palea coadunate, subulate at the tip, separating the seeds," ex Mart. Mill.

1 B. America'na (Lin. spec. 276.) leaves obovate, elliptic, -acuminated, longer than the petioles; corolla with an erect tube and entire segments. ♄. S. Native of the West Indies, in various islands. Swartz, obs. 90. t. 4. f. 2. Curt. bot. mag. 394. Brunfélsia flore albo, fructu croceo molli, Plum. gen. 12. icon. t. 65. Catesbæa, &c. Browne, jam. 141. Leaves glabrous or downy. Axillary flowers solitary: terminal ones numerous. Corollas at first yellow, then white, very sweet-scented. There are broad and narrow-leaved varieties of this species.

American Brunfelsia. Fl. June, July. Clt. 1735. Shrub 4 to 6 feet.

2 B. undula'ta (Swartz, prod. p. 90. fl. ind. occ. 2. p. 1035.) leaves lanceolate-ovate, tapering at both ends; petioles very short; corolla with a curved tube and undulated segments. ♄. S. Native of Jamaica. Ker. bot. reg. 228. Andr. bot. rep. 167. Corolla at first yellow, then white.

Undulated-flowered Brunfelsia. Fl. June, July. Clt. 1780. Shrub 4 to 6 feet.

3 B. grandiflòra (D. Don, in edinb. phil. journ. 1829. july.) leaves elliptic-oblong, acuminated; flowers corymbose, terminal; tube of corolla hardly longer than the limb. ♄. S. Native of Peru, at Uchiza, Tafalla. Branches twiggy. Leaves pale green, 3-6 inches long, and 1½ to 2 inches broad. Teeth of calyx acute. Limb of corolla 2 inches in diameter. Stamens nearly equal.

Great-flowered Brunfelsia. Shrub.

† *A species hardly known.*

4 B. viola'cea (Lodd. bot. cab. 792.) leaves and petioles deeply stained with purple. ♄. S. Native of the West Indies. Corolla of a livid colour.

Violaceous Brunfelsia. Fl. July, Aug. Clt. 1815. Shrub 2 feet.

Cult. The species are elegant free flowering shrubs, and are worth cultivating for the beauty and fragrance of their blossoms. A light rich soil, or one composed of loam and peat, answers them well; and cuttings of them strike root readily if planted in sand, with a hand-glass placed over them, in heat.

XXXI. FRANCI'SCEA (named by Pohl, after Francis I. emperor of Austria, a great patron of botany.) Pohl, bras. 1. p. 1. Sims, bot. mag. 2828.

Lin. syst. *Didynàmia, Angiospérma.* Calyx permanent, inflated, campanulate, 5-toothed; teeth equal. Corolla salver-shaped; limb 5-parted, nearly equal; lobes rounded, repand, with incumbent anthers; tube inflated at the apex, incurved. Style thickened at top; stigma 2-lobed. Capsule ovate, 2-celled, 2-valved; valves indivisible; dissepiment parallel with the valves, membranous, thin, separating at the base from the

parietes of the capsule at maturity.—Erectish, middle-sized shrubs. Leaves alternate, simple, oblong, entire. Peduncles permanent, somewhat geniculated, axillary and terminal, bracteate. Flowers bracteate, usually crowded, cymosely racemose, rarely solitary, violaceous or lilac, somewhat resupinate. Tube of corolla inflated. Receptacle nearly terete, spongy, scrobiculate, adnate to the dissepiment. This genus is said to be nearly allied to *Browállia;* but differs in the calyx being campanulate and inflated, equally 5-toothed, permanent, &c.

1 F. uniflòra (Pohl, bras. 1. p. 1. t. 1.) branches diffuse, spreading; leaves elliptic, acute; bracteas lanceolate, and are, as well as the calyxes, glabrous; flowers solitary. ♄. S. Native of Brazil, among bushes in the province of Rio Janeiro, in the road to Sumidorio and Governo, &c. F. Hopeàna, Hook. bot. mag. 2828. Lodd. bot. cab. 1332.—Piso, bras. p. 85. with a figure.—Margr. bras. p. 69. with same figure. Leaves pale green below. Branches greenish, hoary. Corolla with a whitish tube, and bluish-violet or purple limb.

One-flowered Franciscea. Fl. June, Aug. Clt. 1826. Shrub 1 to 3 feet.

2 F. latifòlia (Pohl, bras. 1. p. 3. t. 2.) branches very short, spreading; leaves broad-elliptic, acutish; bracteas lanceolate, acuminated, and are, as well as the calyxes, quite glabrous; flowers few, subcymose, terminal. ♄. S. Native of Brazil, at Tejuco, and not far from Rio Janeiro. Leaves canescent, green beneath, 6-7 inches long, and 2 to $2\frac{3}{4}$ broad. Corolla violaceous or purple.

Broad-leaved Franciscea. Shrub 2 to 3 feet.

3 F. acumina'ta (Pohl. bras. 1. p. 4. t. 3.) branches erectly spreading; leaves oblong, acuminated, attenuated a little at the base, glabrous; bracteas lanceolate, acuminated, and are, as well as the calyxes, quite glabrous; flowers few, subcymose, terminal. ♄. S. Native of Brazil, in the province of Rio Janeiro, among bushes at Mandioca. Branches greenish-brown. Leaves ciliated when examined by a lens, yellowish-green beneath. Corolla with a bluish-violet limb. Calyx brownish.

Acuminated-leaved Franciscea. Shrub 1 to 2 feet.

4 F. ramosi'ssima (Pohl, bras. 1. p. 5. t. 4.) branches twiggy; leaves lanceolate, attenuated at the base, rough from elevated dots; bracteoles petiolate, oblong, attenuated at the base, hairy; flowers cymose, axillary and terminal. ♄. S. Native of Brazil, in the province of Minas Geraes, among bushes about Villa Ricca; and on Serra Tingua, in the province of Rio Janeiro. Gerárdia Brasiliénsis, Spreng. syst. 2. p. 806. Cordóquia obovàta Montevidénsis, Spreng. syst. 3. p. 699. Epidermus yellowish-brown. Leaves yellowish-green beneath, hairy on the principal nerves. Calyx dark brown, hairy. Corolla with a bluish-violet limb.

Much-branched Franciscea. Shrub 3 to 4 feet.

5 F. confertiflòra (Pohl, bras. 1. p. 6. t. 5.) branches erectish; leaves nearly sessile, oblong, acute, attenuated at the base, rather pilose, ciliated; bracteas oblong; bracteoles oblong, attenuated at the base, and are, as well as the calyxes, clothed with rusty hairs; flowers cymosely crowded, terminal. ♄. S. Native of Brazil, in the province of Rio Janeiro, in shady places on the road to Villa Fanado, and Villa do Principe. Epidermis generally brownish-yellow, and pilose at top. Leaves yellowish-green above, and brownish-green beneath.

Crowded-flowered Franciscea. Shrub 1 to 2 feet.

6 F. divarica'ta (Pohl, bras. 1. p. 6. t. 6.) branches divaricate; leaves on short petioles, oblong-lanceolate, hairy; calyx inflated, clothed with rusty villi; flowers corymbose, terminal. ♄. S. Native of Brazil, in the province of Minas Geraes, among bushes at Rio St. Francisco, and on the road to Joâo Marco. Epidermis whitish-brown. Leaves yellowish, pilose beneath. Calyx yellowish-brown. Corolla bluish-violet. Seeds ovate, angular.

Divaricate Franciscea. Shrub 1 to 2 feet.

7 F. hydrangeæfórmis (Pohl, bras. 1. p. 7. t. 7.) stem a little branched; leaves oblong, acute, cuneiform at the base, quite glabrous; bracteas lanceolate, pilose, ciliated and scale-formed, aggregate; calyx hairy; cymes of flowers terminal, hemispherical, large. ♄. S. Native of Brazil, in the province of Rio Janeiro, among bushes; in shady places at Olana and Sumidorio, and on the way to Rio Parahybuna. This is the most elegant species of the genus, with the aspect of *Hydrángea hortènsia*. Leaves yellowish-green beneath, subverticillately aggregate, broad, a foot long. Racemes corymbose, terminal. Corolla of a beautiful bluish-violet.

Hydrangea-like Franciscea. Shrub 1 to 3 feet.

8 F. macrophy'lla (Cham. et Schlecht. in Linnæa, 2. p. 601.) leaves oblong, acuminated, cuneiform at the base, rugosely veined, downy beneath; bracteas scale-formed, ciliated, and are, as well as the inflated calyxes, clothed with glandular down; tube of corolla twice as long as the calyx; cymes terminal, compound, many-flowered, rather loose. ♄. S. Native of tropical Brazil. Very like *F. hydrangeæfórmis*. Leaves nearly a foot long, and $3\frac{1}{2}$ broad.

Long-leaved Franciscea. Shrub 2 to 3 feet.

9 F. pauciflòra (Cham. et Schlecht. in Linnæa. 2. p. 600.) leaves obovate-oblong, acuminated, cuneated at the base, on short petioles, glabrous; bracteas leaf-formed; bracteoles scale-formed, and are, as well as the calyxes, inflated, loose, and clothed with glandular down; tube of corolla hardly exceeding the calyx; cymes terminal, few-flowered, simple. ♄. S. Native of the South of Brazil, Sello. Leaves $6\frac{1}{2}$ inches long, ciliated with glandular hairs in the young state.

Few-flowered Franciscea. Shrub 2 to 3 feet.

Cult. The species are much more showy than those of *Brunfélsia;* and are more free flowerers; they are also more hardy, but require almost similar treatment.

XXXII. BROWA'LLIA (named by Linnæus, in honour of John Browallius, bishop of Aboa, who defended the sexual system of Linnæus, against Siegesbeck, in a book entitled "Examen epicriseos, &c." Aboa, 1739, and Leden, 1744. 8vo.) Lin. gen. no. 773. Schreb. gen. no. 1036. Gærtn. fruct. t. 53. Juss. gen. 123. ed. Usteri, p. 138. Lam. ill. 535. D. Don, in edinb. phil. journ. july, 1829.

Lin. syst. *Didynàmia, Angiospérma.* Calyx membranous, tubular, 10-ribbed, 5-toothed, more deeply cleft on both sides: teeth obtuse, keeled. Corolla salver-shaped, resupinate from the contortion of the peduncle; tube 15-nerved, ventricose at top; limb oblique, 5-lobed: lobes obtuse, emarginate, plicate in æstivation; upper segment (but more properly the lower one) larger, and 3-nerved; the others 1-nerved. Stamens 4, didynamous, without any rudiment of a fifth; filament flattened, bearded at top. Anthers of the upper filaments reniform: of the lower ones parallel with the filaments, having the upper cell the smallest, and sometimes abortive. Ovarium surrounded at the base by a large, cup-shaped, fleshy disk. Stigma 2-lobed, 4-tubercled, with 2 excavations on the back for the reception of the upper anthers; lobes glutinose, depressed at top. Capsule oblong, 2-celled, 2-valved, many-seeded; valves bipartible; dissepiment contrary. Placentas 2, fleshy, scrobiculate, inserted into the dissepiment. Seeds angular, scrobiculate from depressed dots. Albumen fleshy, white. Embryo terete, straight, with short rounded cotyledons.—Herbs or shrubs, with alternate leaves, and axillary and terminal blue or white flowers.

1 B. viscòsa (H. B. et Kunth, nov. gen. amer. 2. p. 373.)

leaves roundish-ovate; peduncles axillary, 1-flowered; branches, peduncles, and calyxes, clothed with clammy hairs. ⊙. G. Native of New Granada, near Loxa and Gonzanama, at the altitude of 1060 hexapods. Herb diffuse. Leaves obtuse, hairy, 1 to 1½ inch long. Peduncles crowded at the tops of the branches. Calycine segments lanceolate, acute. Limb of corolla violaceous, with obovate, emarginate segments; the largest segment spotted with white at the base; tube inflated at top, whitish.

Clammy Browallia. Pl. 1 to 2 feet.

2 B. demi'ssa (Lin. spec. 879. hort. cliff. 318. t. 17. H. B. et Kunth, nov. gen. 2. p. 373.) leaves ovate-oblong, acuminated, oblique at the base; peduncles axillary, 1-flowered, and are, sa well as the branches, downy; calyx glabrous. ⊙. G. Native of Panama, and other parts of South America; on Mount Avita, between Caraccas and La Venta Grande, Humb. et Bonpl., where it is called *Botanera*. Sims, bot. mag. 1136.—Sabb. hort. rom. 2. t. 100. Dàlea, phil. trans. no. 452. Leaves rather hairy. Calycine segments lanceolate. Corollas of a bright but pale blue colour, sometimes inclining to a purple or red; and often there are flowers of all three colours on the same plant. The segments are, like the rest, obovate, emarginate: the larger one white at the base.

Low Browallia. Fl. June, Sept. Clt. 1735. Pl. ½ to 1 foot.

3 B. ela'ta (Lin. spec. 880.) leaves oval, acuminated; peduncles axillary, one or many-flowered. ⊙. G. Native of Peru. Curt. bot. mag. t. 34. This species is higher than the first, and has stronger stalks, and sends out a great number of branches. The flowers are of a deep blue, and the calyx is beset with glandular hairs. Linnæus observes that the lower branches are almost the length of the stem, and that the floral leaves are almost smooth.

Tall Browallia. Fl. July, Sept. Clt. 1768. Pl. 1½ foot.

4 B. elonga'ta (H. B. et Kunth, nov. gen. amer. 2. p. 372.) leaves ovate, acuminated, rounded at the base; peduncles 1-flowered, axillary; branchlets, peduncles, and calyxes, clothed with hairy pubescence. ⊙. G. Native of New Granada, between the town of Mariquita and the mine of Santa Ana. B. láctea, Hort. Herb much branched. Branches rather angular, downy. Leaves rather hairy. Teeth of calyx lanceolate, erect. Limb of corolla blue, with obovate, emarginate segments: the larger segment spotted with white at the base. Nearly allied to *B. demissa*.

Elongated Browallia. Fl. July, Sept. Clt.? Pl. 1½ foot.

5 B. grandiflòra (Graham, in bot. mag. 3069. but not of bot. reg.) leaves ovate, acute, attenuated into the petioles at the base; peduncles 1-flowered, axillary, racemose at the tops of the branches; branches and adult calyxes glabrous. ⊙. G. Native of Peru, near Yazo, in the valley of Canta. Leaves acuminated. Stem much branched. Calyx and peduncles beset with glandular villi while young, with unequal, spreading, linear segments. Corolla with a greenish-yellow tube, which is clothed with glandular villi, and a white or very pale lilac limb; segments of the limb obovate and emarginate, like the other species.

Great-flowered Browallia. Fl. June, Dec. Clt. 1829. Pl. 1 to 2 feet.

6 B. corda'ta; leaves cordate-ovate, acuminated; peduncles 1-flowered, racemose at the tops of the branches; branches and adult calyxes glabrous. ⊙. G. Native of Peru, near Yazo, in the valley of Canta. B. grandiflòra, Lindl. bot. reg. t. 1284. but not of Graham. Leaves obscure green. Racemes secund, bractless. Limb of corolla pale blue, with obovate, emarginate segments, which are of a livid yellow colour beneath.

Cordate-leaved Browallia. Fl. July, Nov. Clt. 1829. Pl. 1 to 2 feet.

† *A doubtful species.*

7 B. aliena'ta (Lin. syst. 478.) superior leaves opposite; stamens 2, length of corolla. ⊙. G. Native country unknown. Browállia foliis lanceolatis petiolatis longis, caule ramoso, radice annuâ, Mill. icon. t. 68. Miller has omitted this species in the last edition of his dictionary.

Alienated Browallia. Pl. 1 foot?

Cult. The seeds of all the species should be reared in a hot-bed frame; and when the plants are large enough, they may be set in the greenhouse, where they make a showy appearance during the time the greenhouse plants stand out of doors.

Tribe V. ANTHOCE'RCEÆ (this tribe agrees with the genus *Anthocércis* in the characters given below.) Corolla not plicate, regular. Stamens didynamous, with the rudiment of a fifth. Embryo arched. Pericarp capsular or baccate, 2-celled, 2-valved.

XXXIII. ANTHOCE'RCIS (from ανθος, *anthos*, a flower; and κερκις, *kerkis*, a ray; in reference to the radiated corolla.) Labill. nov. holl. 2. p. 19. t. 158. R. Br. prod. p. 448.

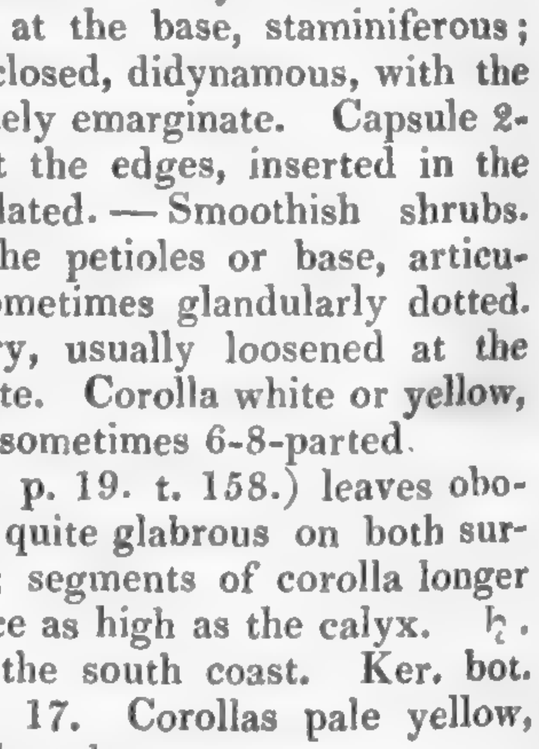
Lin. syst. *Didynàmia, Angiospérma*. Calyx 5-cleft. Corolla campanulate; tube coarctate at the base, staminiferous; limb 5-parted, equal. Stamens inclosed, didynamous, with the rudiment of a fifth. Stigma capitately emarginate. Capsule 2-celled, 2-valved; valves bent in at the edges, inserted in the parallel placenta. Seeds reticulated. — Smoothish shrubs. Leaves alternate, attenuated into the petioles or base, articulated with the branches, thick, sometimes glandularly dotted. Flowers axillary, generally solitary, usually loosened at the points; peduncles minutely bracteate. Corolla white or yellow, showy; tube striated inside; limb sometimes 6-8-parted.

1 littòrea (Labill. nov. holl. 2. p. 19. t. 158.) leaves obovate, dotless, with smooth margins, quite glabrous on both surfaces, as well as on the branchlets; segments of corolla longer than the tube; capsule oblong, twice as high as the calyx. ♄. G. Native of New Holland, on the south coast. Ker. bot. reg. t. 212. Sweet, fl. austral. t. 17. Corollas pale yellow, large, streaked with purple inside the tube.

Sea-shore Anthocercis. Fl. May, Aug. Clt. 1803. Shrub 1 to 2 feet.

2 A. a'lbicans (Cunningh. in Fields' New South Wales, append. 5. p. 335. with a figure. Sweet, fl. austral. t. 16.) leaves oblong, obtuse, densely tomentose on both surfaces, as well as the branches; segments of corolla longer than the tube. ♄. G. Native of New South Wales, frequent upon pine hills in the interior, Cunningham. Flowers fragrant, white, streaked with bluish-purple inside the tube.

FIG. 42.



Whitish-leaved Anthocercis. Fl. April, July. Clt. 1824. Shrub 1½ to 2 feet.

3 A. viscòsa (R. Br. prod. p. 448.) leaves obovate, glandularly dotted, with rather scabrous margins; young leaves and branches clothed with fine down; capsule ovate, equal in length to the calyx. ♄. G. Native of New Holland, on the south coast. Corollas large, white.

§ 1. *Anthocercis.* Fl. May, June. Clt. 1822. Shrub 5 feet.

Cult. This is a genus of elegant early flowering shrubs, worth cultivating in every collection. A light rich soil, or a mixture of sand, loam, and peat, suits them very well. Cuttings strike root readily if planted in sand, with a bell-glass placed over them.

XXXIV. DUBOI'SIA (named after Louis Dubois, author of "Methode eprouvée avec laquelle on peut parvenir facilement a connaître les plantes des environs d'Orleans," 1 vol. 8vo. Orleans, 1803; and of "Du Pommier du Poirier et du Cormier," 2 parts, 12mo. Paris, 1804.) R. Br. prod. 448.

Lin. syst. *Didynàmia, Angiospérma.* Calyx bilabiate, short, campanulately funnel-shaped; limb 5-parted, nearly equal. Stamens inserted into the bottom of the corolla, inclosed, didynamous, with the rudiment of a fifth. Stigma capitately emarginate. Berry 2-celled, many-seeded. Seeds subreniform.—A small glabrous tree, with the habit of *Myóporum.* Leaves alternate, articulated with the branches, entire. Panicles axillary, furnished with deciduous bracteas at the divisions. Flowers white, like those of *Myóporum.* Tube of corolla striated inside. Berry small, oval, black.

1 D. myoporoi'des (R. Br. prod. p. 448.) ♄. G. Native of New South Wales, about Port Jackson.

Myoporum-like Duboisia. Shrub.

Cult. For culture and propagation see *Anthocércis* above.

Tribe VI. NOLANIE'Æ (this tribe contains plants agreeing with *Nolàna* in the characters given below,) Corolla plicate in æstivation, 5-lobed. Stamens 5, adnate to the tube of the corolla. Ovaria 1 to 5, or more, crowded, seated on a fleshy annular disk. Stigma capitate. Drupe solitary, or 5 together, containing each a 2-4-celled, bony putamen. Embryo filiform, gyrate, sometimes peripheric.

XXXV. NOLA'NA (so named by Linnæus, from *nola,* a little bell, on account of the bell-shaped form of the corolla.) Lin. gen. 193. Schreb. gen. no. 254. Gærtn. fruct. 2. p. 242. t. 132. Juss. gen. 132. ed. Usteri, p. 147. D. Don, in Sweet, fl. gard. n. s. t. 305.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft. Corolla campanulate, 5-lobed, 5-plicate. Stamens 5, adnate to the tube of the corolla, nearly equal. Anthers 2-celled, dehiscing lengthwise. Ovaria 5 or more, crowded, seated on a fleshy annular disk. Stigma capitate. Drupes usually 5 at maturity, containing each a 3-4-celled, bony putamen, marked by 3-5 grooves, and 3-5 little holes underneath. Seeds roundish, with a membranous testa. Albumen fleshy, copious. Embryo filiform, gyrate, somewhat perepheric.—Herbs, natives of Peru and Chili, usually annual. Leaves alternate, quite entire. Flowers solitary, pedunculate, showy blue, alar, or axillary.

1 N. atriplicifòlia (Hortul. ex D. Don, in Sweet's fl. gard. n. s. t. 305.) stems procumbent, rather villous; calyx campanulate, with ovate-lanceolate, acute, connivent segments; leaves spatulate: radical ones large. ⊙. H. Native of Peru. N. grandiflòra, Lehm. Flowers large, colour of those of *Convólvulus tricolor;* limb blue; throat white, yellow inside. The radical leaves are large, and greatly resemble those of spinach. It comes nearest to *N. spatulàta,* and *N. coronàta,* Ruiz. et Pav.

Atriplex-leaved Nolana. Fl. June, Sept. Clt. 1834. Pl. procumbent.

2 N. spatula'ta (Ruiz. et Pav. fl. per. 2. p. 7. t. 113. f. a.) stem erect; leaves cordately triangular; calycine segments spatulate. ⊙. H. Native of Peru, on hills. The whole plant is downy. Branches angular towards the top. Leaves petiolate, alternate, twin, fleshy, obliquely obtuse, subsinuated. Calyx pentagonal, hispid. Corollas large, whitish-purple, villous inside the tube. Carpels or drupes 4.

Spatulate-leaved Nolana. Pl. 1 foot.

3 N. corona'ta (Ruiz. et Pav. fl. per. 2. p. 6. t. 112. f. b.) stems prostrate; leaves ovate-cordate, rather oblique; calycine segments subcordate; corolla with a villous throat. ⊙. H. Native of Peru, on hills, in arid sandy places. Root fusiform. Stems terete, much branched, rather villous. Leaves on long petioles, shining, and rather villous on both surfaces. Peduncles generally longer than the leaves. Corolla 3 times larger than the calyx, with a white bottom and blue border. Drupes elongated, filiform.

Crowned-flowered Nolana. Pl. prostrate.

4 N. prostra'ta (Lin. fil. dec. 1. t. 2.) stems prostrate; leaves ovate-oblong; calyx pyramidal, with triangularly sagittate segments, furnished with spur-like processes at the base. ⊙. H. Native of Peru, in sandy places near the sea. Ruiz. et Pav. fl. per. 2. p. 7. Curt. bot. mag. 731. N. prostràta gallinàcea, Pers. ench. 1. p. 168. A'tropa, Gouan, hort. monsp. 82. with a figure. Walkèria, Ehret, phil. trans. 1763. p. 130. t. 10. Zwingèra, Act. helv. 5. p. 267. t. 1. Neudórfia, Adans. p. 219. Tegànium procúmbens, Schmidel, icon. 67. t. 18. Leaves twin, rhomb-ovate, entire. Corolla pale blue. Drupes 2-4-celled.

Prostrate Nolana. Fl. July, Sept. Clt. 1761. Pl. prostrate.

5 N. paradóxa (Lindl. bot. reg. 865. but not of Hook.) stems prostrate, hairy; leaves ovate, obtuse, pilose; segments of calyx triangular; corolla campanulately funnel-shaped; drupes cumulated, 1-seeded. ⊙. H. Native of Chili, on the sea shore, about Conception. Corollas blue.

Paradoxical Nolana. Fl. Aug. Clt. 1825. Pl. prostrate.

6 N. tene'lla (Lindl. hort. trans. 7. p. 252.) clothed with viscid down; stems filiform; petioles ciliated; leaves ovate, obtuse at both ends; calyx campanulate, 2-lobed, 5-angled, one of the lobes emarginate, the other tridentate; ovarium 5-lobed. ⊙. H. Native of Chili. N. paradóxa, Hook. bot. mag. t. 2604. but not of Lindl. Peduncles hairy, filiform. Corolla pale blue, with a paler eye. Stamens villous, inclosed. This species differs from *N. prostràta* in the want of spur-like processes to the calyx.

FIG. 43.

Slender Nolana. Fl. July, Sept. Clt. 1824. Pl. prostrate.

7 N. infla'ta (Ruiz. et Pav. fl. per. 2. p. 7. t. 112. f. a.) stem prostrate; radical leaves on long petioles, ovate-lanceolate; calyx inflated, ovate, striated. ⊙. H. Native of Peru, on sandy hills about Cumana. Stems purple, angular, branched. Leaves downy, sinuated: radical ones entire, rarely toothed, 4-5 inches long, and 3 broad; lower stem leaves solitary, subpetiolate, and rather oblique at the base: upper cauline ones twin, hardly petiolate, ovate, cordate, quite entire. Panicle terminal, leafy; peduncles longer than the leaves. Corolla whitish-violet, 3 times longer than the calyx. Anthers blue. Drupes 4.

Inflated-calyxed Nolana. Pl. prostrate.

8 N. revolu'ta (Ruiz. et Pav. fl. per. 2. p. 8. t. 113. f. b.)

stems procumbent; leaves crowded, linear, with revolute margins; calyx ventricose, ovate, with lanceolate segments. ⊙. H. Native of Peru, in sandy places. Stems white, angular. Leaves sessile, twin, unequal in size, white beneath, obtuse. Peduncles very short. Corolla bluish-violet, thrice as long as the calyx.

Revolute-leaved Nolana. Pl. procumbent.

Cult. All the species of *Nolàna* are showy when in blossom, much like those of some trailing species of *Convólvulus*, and are, therefore, well adapted for decorating flower borders. The seeds should be sown on a gentle hot-bed in spring; and the plants, when of sufficient size, or about the middle of May, should be finally transplanted to the open ground, where they will flower and ripen seed; or the seeds may be sown at once in the open border, in a warm sheltered situation.

XXXVI. TRIGUE'RA (so named by Cavanilles after D. Triqueros, a Spanish botanist, first discoverer of the plant.) Cav. diss. 2. t. A. Schreb. gen. no. 282. Juss. gen. p. 125. ed. Usteri, p. 140. Lam. ill. t. 114.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft to the middle; segments unequal, acute, permanent. Corolla campanulate, irregular; throat dilated into a short, ventricose, subbilabiate, plicate limb, which is longer than the calyx; segments unequal: 2 superior ones sub-reflexed. Stamens 5; filaments very short, joined at the base by a 5-toothed, epipetalous membrane, which surrounds the ovarium. Anthers sagittate, conniving into a cone, dehiscing by 2 pores at the apex, ex Juss. Stigma capitate. Drupe small, globose, half covered by the calyx, furrowed, 4-celled; cells 2-seeded. Seeds ovate, compressed, usually only one in each cell coming to maturity.—Annual herbs, with extra-axillary, 2-flowered peduncles.

1 T. ambrosi'aca (Cav. diss. 2. append. 2. t. A.) stem furrowed, winged: superior leaves obovate, toothed, or serrated, downy, decurrent. ⊙. H. Native of Spain, in Andalusia, in gravelly places about Cordova. Lam. ill. t. 114. T. baccàta, Gmel. syst. p. 338. Verbáscum Osbéckii, Lin. spec. 255. —Buxb. cent. 5. t. 17. f. 52.—Tourn. itin. 2. p. 83. icone. Stem hardly branched. Radical leaves obovate, entire. Peduncles twin, or bifurcate. Corolla like that of *Hyocyàmus*, purplish-violet; segments of the limb roundish, crenated. Drupe dry. Cotyledons of *Datùra*, ex Poir. The plant has a strong scent of musk.

Ambrosiacal Triquera. Pl. 1 foot.

2 T. inodòra (Cav. diss. 2. append. 3.) leaves ovate-lanceolate, quite entire, glabrous, hardly decurrent. ⊙. H. Native of Spain, along with the preceding. The whole plant is glabrous. The flowers are prettier than those of the preceding; the tube of the corolla is shorter; the throat and rays pale violet; the limb cream-coloured; the lobes neither acuminated nor emarginate; the urceolus is larger, and almost wholly hides the ovarium.

Scentless Triquera. Pl. ½ to ¾ foot.

Cult. For culture and propagation see *Nolàna* above.

XXXVII. CRABO'WSKIA (named in honour of H. Crabowski, M.D., one of the editors of Flora Selesiaca.) Schlecht, in Linnæa, 7. p. 72. Lýcium species, Lin. Ehrètia species, Lher.

Lin. syst. *Pentándria, Monogýnia.* Calyx sub-campanulate, regularly 5-toothed, valvular in æstivation. Corolla with a short, funnel-shaped tube, and a 5-parted limb; segments of the limb spreading, or reflexed, 4 of which are convolute in æstivation, the fifth external, with the margins covering the edges of those near it. Genitals exserted. Stamens 5, equal; filaments free from a little above the base of the tube, densely villous in the middle; the villi decreasing toward the base. Style terete; stigma sub-capitate, or bifid. Ovarium Pl. cells 1-ovulate.? Drupe propped by the permanent calyx, bose, containing 2 2-celled, 2-seeded, woody putamens. Embryo hamately curved, cylindrical.—A shrub, with the habit of the genuine species of *Lýcium*, much branched, furnished with axillary spines. Leaves scattered, quite entire. Flowers from fascicles of leaves, or evolute branchlets, or sub-corymbose from the tops of the branchlets, hence they appear as if they were disposed in terminal panicles.

1 C. borhaaviæfòlia (Schlecht, in Linnæa, 7. p. 72.) ♄. G. Native of the South of Brazil, in woods, where it has been collected by Sello, but has been introduced from Peru into the gardens of this country. Lýcium borhaaviæfòlium, Lin. suppl. p. 150. Lam. dict. 3. p. 510. Ehrètia halimifòlia, Lher. stirp. 1. p. 45. t. 83. Duham. arbr. 1. p. 306. no. 5. Lýcium heterophýllum, Murr. comm. gœtt. 1783. p. 6. t. 21. Leaves coriaceous, glaucescent, with a saltish, bitterish taste. Corolla white, having the throat veined with green. Genitals white. Stigma green. Nuts form of those of *Coffèa Arábica*, convex on one side, marked by a slender furrow in the middle, obtuse at top, and perforated by 2 roundish holes at the base; hence it is tridentate, the first tooth from the middle of the back, the other 2 from the sides, sometimes, but only by abortion, 1-celled. Albumen copious, fleshy.

Borhaavia-leaved Crabowskia. Fl. April, May. Clt. 1780. Shrub 6 to 10 feet.

Cult. This singular shrub is of the most easy culture and propagation. A light rich earth suits it best; and cuttings strike root readily under a hand-glass.

Tribe VII. CESTRI'NEÆ (this tribe contains plants agreeing with the genus Céstrum in the characters given below.) Limb of corolla plicate, valvate, or induplicate in æstivation. Calyx 5-toothed. Corolla funnel-shaped, 5-lobed, regular; tube elongated; limb usually spreading. Stamens 5; anthers dehiscing lengthwise. Ovarium seated on a cupulate disk. Pericarp capsular or baccate. Placentas adnate to the dissepiment. Embryo nearly straight, with a cylindrical radicle, and roundish leafy cotyledons.

§ 1. *Pericarp baccate.*

XXXVIII. CE'STRUM (from Κεστρον, *Kestron*, the Greek name of betony, but for what reason applied to this genus is unknown to us.) Lin. gen. no. 261. Schreb. gen. no. 342. Juss. gen. p. 126. ed. Usteri, p. 141. H. B. et Kunth, nov. gen. 3. p. 56. Gærtn. fruct. 1. p. 378. t. 77. Lam. ill. t. 112.

Lin. syst. *Pentándria, Monogýnia.* Calyx tubular, subcampanulate, 5-toothed, almost regular, valvate in æstivation. Corolla with an elongated tube, widening gradually to the top; limb 5-parted, subplicate, spreading, or revolute, regular, conduplicate in æstivation. Genitals inclosed; filaments naked, or furnished with a small tooth, or villi, or down near the base, or where the parts are adnate to the corolla. Anthers nearly globose, dehiscing lengthwise. Ovarium 2-celled, few-ovulate. Stigma subcapitate, concave, or somewhat 2-lobed. Berry girded by the permanent calyx, 2-celled, or only 1-celled from the dissepiment having vanished, ex Gærtn. few-seeded; placentas double, free, central. Seeds 3-sided. Embryo straightish, with a cylindrical radicle, and roundish foliaceous cotyledons.—Unarmed shrubs. Leaves and branches scattered, the former quite entire, and usually furnished with spurious bracteas, or small leaves in their axils. Flowers racemose; racemes bracteate, axillary, elongated, or short, disposed in corymbs, spikes, or fascicles. Corollas never blue, nor red, usually sweet-scented, having the sides of the segments generally tomentose. Berries black, or blackish blue. The leaves exhale a fetid, nauseous smell when bruised.

§ 1. *Filaments toothless and naked, and sometimes villous at their insertion.*

* *Flowers solitary, or aggregate, sessile.*

1 C. buxifòlium (H. B. et Kunth, nov. gen. amer. 3. p. 57.) leaves approximate, elliptic, bluntish, rather cordate, glabrous, shining; axillary flowers solitary: terminal ones crowded, sessile; filaments naked and toothless. ♄. S. Native of New Granada, near the monastery of Mont Serrat, at the altitude of 650 hexapods. Branchlets clothed with fuscescent tomentum. Leaves 7-8 lines long. Corollas white.

Box-leaved Bastard Jasmine. Shrub.

2 C. Mariquite'nse (H. B. et Kunth, l. c.) leaves oblong, acute, membranous, glabrous; axillary flowers solitary: terminal ones crowded, nearly sessile; segments of corolla ovate, acute; filaments naked and toothless. ♄. S. Native of New Granada, near Santa Ana and Mariquita, at the altitude of 550 hexapods. C. Bogoténse, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 807. Branches downy. Leaves 2-8 lines long. Corollas white. Berry ovate-elliptic, size of a pea.

Mariquita Bastard Jasmine. Shrub.

3 C. pendulìnum (Jacq. schœnbr. 3. p. 42. t. 327.) branches smoothish, leaves ovate-oblong, sub-acuminated, rather hairy; flowers crowded at the tops of the branches, almost sessile; segments of corolla oblong, obtuse, with reflexed edges; filaments naked and toothless. ♄. S. Native of New Granada, near Turbaco and Mahates; and of Caraccas. H. B. et Kunth, nov. gen. 3. p. 57. Branches rather downy. Leaves 2 inches long. Corolla greenish white. Berry elliptic, size of those of *Córnus álba*, blue. The branches are said to be pendulous.

Pendulous-branched Bastard Jasmine. Fl. June, July. Clt. 1824. Shrub 4 to 8 feet.

4 C. pauciflòrum (Nees, et Mart. in act. bonn. 11. p. 79.) leaves oblong-lanceolate, acute, downy beneath; flowers axillary, solitary, sessile; filaments naked, toothless. ♄. S. Native of Brazil, at the river Ilheos. Young branches muricated, but glabrous in the adult state. Leaves 3-4 inches long; petioles marginate, rather scabrous. Each flower is furnished with a lateral, subulate bracteole. Segments of calyx and corolla narrow, linear-lanceolate, keeled. Corolla yellowish, 4-5 lines long. Berry 2-celled, 4-seeded. *C. Mariquiténsis* differs from this species in the leaves being smaller and glabrous, in the segments of the corolla being broader, glabrous, and ovate, and it differs from all other species in the axillary, solitary flowers.

Few-flowered Bastard Jasmine. Shrub.

5 C. corymbòsum (Schlecht. in Linnæa, 7. p. 57.) glabrous; leaves elliptic, or obovate-lanceolate, cuneated at the base, rather coriaceous, shining; corymbs terminal, sessile; calycine teeth triangular, bearded at the tip; segments of corolla acute, very short; filaments villous at the adnate part; berries globose. ♄. S. Native of Brazil, Sello. Branchlets clothed with dirty, rusty, curled down. Leaves 2-3 inches long. Berry size of a large pea.

Corymbose-flowered Bastard Jasmine. Shrub.

6 C. vespertìnum (Lin. syst. 227.) glabrous; leaves elliptic; flowers aggregate, sessile, terminal, and axillary; filaments naked, toothless. ♄. S. Native of the West Indies. Jacq. schœnbr. 3. p. 43. t. 328. Lher. stirp. 1. p. 72. Murr. nov. comm. gœtt. 5. p. 41. t. 8. C. confértum, Mill. dict. no. 5. C. Jamaicénse, Lam. dict. 1. p. 687. C. ramosíssimum, Hort. patav. Jasmìnum, Sloane, hist. 2. p. 96. t. 204. f. 2.? Plum. ed. Burm. p. 150. t. 157. f. 1. Ixòra alternifòlia, Jacq. amer. pict. 16. t. 177. f. 8. Branches tomentose. Corolla greenish white, with narrow, acute segments; tube long, filiform. Berry blue. The flowers are disposed in short, crowded spikes.

Evening Bastard Jasmine. Fl. May, July. Clt. 1759. Shrub 10 to 12 feet.

7 C.? ròseum (H. B. et Kunth, l. c. p. 59. t. 197.) leaves oblong, bluntish, clothed with soft down on both surfaces; peduncles axillary and terminal, ? 4-6-flowered; flowers sessile, crowded into involucrated heads; calyx tubular, 5-cleft, downy; segments of the corolla ovate, narrow-acuminated; filaments naked, toothless. ♄. S. Native of Mexico, in frigid places, near Real del Moran and Hacienda de Regla, at the altitude of 1200 hexapods. Young branches clothed with villous down. Leaves 2 to 2½ inches long. Calycine segments lanceolate, acute, unequal, reflexed at top. Corolla glabrous, rose-coloured. Segments of corolla reflexed. Berry unknown.

Rose-coloured-flowered Bastard Jasmine. Shrub 6 feet.

** *Flowers spicate, or racemose. Spikes and racemes axillary and terminal.*

8 C. calyci'num (Willd. rel. ex Rœm. et Schultes, syst. 4. p. 809. H. B. et Kunth, l. c. p. 58.) branches and under sides of leaves clothed with canescent, stellate tomentum; leaves ovate-elliptic, glabrous and shining above, sub-acuminated, stiffish; peduncles axillary and terminal, many-flowered, short, spicate; flowers sessile; calyx elongated, 5-cleft; corollas tomentose; filaments naked, toothless. ♄. S. Native of Peru, near Gonzanama; and of Brazil, Sello. Leaves 2-3 inches long. Calycine segments ovate-lanceolate, acuminated. Corolla pale green. Stamens inserted at the top of the tube, glabrous. Habit of *Séssea*. Very like *C. stipulàtum*, Ruiz. et Pav.

Large-calyxed Bastard Jasmine. Shrub 10 feet.

9 C. petiola're (H. B. et Kunth, l. c.) branches and the nerves on the under sides of the leaves clothed with powdery tomentum; leaves on long petioles, glabrous above, elliptic-oblong, sub-acuminated, costately veined; peduncles axillary and terminal, few-flowered, very short, spicately approximate; flowers sessile; filaments naked, toothless. ? ♄. S. Native of Peru, in shady places between Ayavaca and Yanta, at the altitude of 800 hexapods. C. venòsum, Willd. herb. no. 4438. ex Rœm. et Schultes, syst. 4. p. 807. Séssea petiolàris, Spreng. syst. 1. p. 584. Branches glabrous: floriferous ones clothed with fuscescent tomentum. Leaves 5-7 inches long, and 2-3 broad. Petioles of the upper leaves biauriculate at the base; auricles lunate. Peduncles spicately approximate at the tops of the branches, tomentose. Teeth of calyx short, acute.

Petiolate-leaved Bastard Jasmine. Shrub.

10 C. conglomera'tum (Ruiz. et Pav. fl. per. 2. p. 29. t. 156. f. a. H. B. et Kunth, l. c. p. 60.) leaves oblong-lanceolate, acute, reticulately veined, stiff, glabrous, having the veins beneath prominent; spikes axillary, short, sessile; calycine teeth ovate, acute; filaments naked, toothless. ♄. S. Native on the western declivities of the Andes of Peru, among the debris of rocks. C. reticulàtum, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 808. Branches subtrigonal. Leaves 3-4 inches long. Spikes approximate at the tops of the branches. Corolla greenish yellow, with ovate, acute segments. The plant of Ruiz. et Pav. is probably the same as that of H. B. et Kunth, l. c.

Conglomerate-flowered Bastard Jasmine. Shrub.

11 C. affi'ne (H. B. et Kunth, l. c.) leaves lanceolate, or lanceolate-oblong, acuminated, membranous, glabrous; spikes axillary, short, sessile, approximate; flowers sessile; segments of corolla ovate, acute; filaments naked, glabrous. ♄. S. Native of Peru, on Mount Tinguragua: also near Ayavaca. C. Peruviànum, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 807. Branches trigonal, smooth. Leaves 5 inches long, and 1½ inch broad. Spikes approximate at the tops of the branches. Corolla whitish green, glabrous. Teeth of calyx

ovate, acute, with pilose edges. There is also a variety of this having hexamerous, hexandrous flowers. Very nearly allied to *C. Párqui* and *C. conglomeràtum*.

Allied Bastard Jasmine. Shrub 10 to 12 feet.

12 C. DIU'RNUM (Lin. spec. 277. Lher. stirp. 1. p. 74.) leaves oblong, acute, membranous, glabrous; spikes axillary, on long peduncles; flowers sessile, approximate; segments of corolla ovate, obtuse, reflexed; filaments naked, toothless. ♄. S. Native of Cuba, near the Havannah. Jasminòides, Dill. elth. 186. t. 154. f. 186. Leaves 3 inches long. Flowers sweet-scented, small, white. Teeth of calyx acute, a little ciliated.

Day-smelling Bastard Jasmine. Fl. Nov. Clt. 1732. Shrub 10 to 12 feet.

13 C. ODONTOSPE'RMUM (Jacq. schœnbr. 3. p. 44. t. 331.) glabrous; leaves oblong, acute, rather coriaceous; racemes short, axillary and terminal; flowers nearly sessile; segments of corolla lanceolate, acute, revolute; filaments naked, toothless. ♄. S. Native country unknown. Nearly allied to *C. diúrnum*, but the flowers are only sweet-scented at night, not in the day time. Seeds small, compressed, marked by a short tooth at the side. Leaves 3-4 inches long. Corolla white; tube cylindrical, with the mouth hardly dilated. Berry blackish, size of a small pea.

Tooth-seeded Bastard Jasmine. Fl. July, Aug. Clt. 1793. Shrub 6 feet.

14 C. FASTIGIA'TUM (Jacq. schœnbr. 3. p. 44. t. 330.) leaves ovate-oblong, acute, coriaceous, glabrous, shining above; peduncles elongated, axillary, spiked at top, equal in length to the leaves; corolline segments ovate, obtuse, reflexed, 5 or 6; filaments naked, toothless. ♄. S. Native country unknown. Leaves pale beneath. Spurious stipulas small, obtuse. Flowers white, sessile, sub-fastigiate on the tops of the peduncles, sweet-scented both by day and night. Berry roundish, size of a pea, blackish.

Fastigiate-flowered Bastard Jasmine. Fl. Nov. Clt.? Shrub 4 to 6 feet.

15 C. FŒTIDÍSSIMUM (Jacq. schœnbr. 3. p. 43. t. 329.) glabrous; leaves ovate and lanceolate, acute, petiolate; peduncles axillary and terminal, usually 3-6-flowered, racemose; flowers pedicellate, or sessile; teeth of calyx slender; segments of corolla short, ovate, emarginate; filaments bearded at the base, toothless. ♄. S. Native of the West Indies. Stem rough from dots, much branched. Leaves 2-4 inches long, very fetid. Flowers sweet-scented at night. Corolla yellowish. Berry oblong-cylindrical, black, containing 2 oblong seeds.

Very-fetid Bastard Jasmine. Fl. May, Aug. Clt.? Shrub 10 feet.

16 C. TENUIFLÒRUM (H. B. et Kunth, l. c. p. 61.) leaves ovate, acuminated, membranous, rather tomentose on the veins beneath; spikes axillary, very short, sessile, 8-12-flowered; flowers sessile; corolla with a very slender tube, and lanceolate, acuminated segments, having the edges revolute; filaments naked, toothless. ♄. S. Native of the Orinoco, on the declivities of Mount Duida, near Esmeralda; and of Para, in Brazil. C. floribúndum, Willd. herb. ex Rœm. et Schultes, syst. 4. p. 807. C. ovàtum, Willd. rel. l. c. A much branched, suffruticose shrub. Branches terete, clothed with powdery tomentum. Leaves about 4 inches long. Petioles, branches, and rachis of spikes tomentose. Corollas sweet-scented, white, glabrous. Calyx glabrous, irregularly 4-5-toothed. Filaments pilose at the base.

Slender-flowered Bastard Jasmine. Shrub.

17 C. TINCTÒRIUM (Jacq. schœnbr. 3. p. 45. t. 332.) leaves ovate-lanceolate, glabrous, shining; racemes axillary and terminal; flowers on short pedicels; segments of corolla lanceolate, acute, at length reflexed, but at first spreading; filaments naked, toothless, adhering the whole length of the tube of the corolla. ♄. S. Native about Caraccas. Leaves coriaceous, 3 inches long. Corollas white, sweet-scented. Berry deep violet, roundish.

Dyer's Bastard Jasmine. Fl. April, June. Clt. 1823. Shrub 4 feet.

18 C. LATIFÒLIUM (Lam. ill. 2. p. 5. no. 2275. Vahl, eclog. p. 25.) leaves elliptic, acute, glabrous above, clothed with powdery villi beneath; racemes axillary, very short; filaments toothless. ♄. S. Native of the Island of Trinidad. Petioles and branches clothed with powdery villi, as well as the peduncles, pedicels, and calyxes. Corolla with a filiform tube, and lanceolate, acute segments. Stigma capitate. Vahl says this species differs from *C. hírtum* in the leaves not being cordate at the base, and in the segments of the corolla being acute, not obtuse, and in the stigma being capitate, not bifid.

Broad-leaved Bastard Jasmine. Fl. June, July. Clt. 1818. Shrub 6 to 12 feet.

19 C. LÆVIGA'TUM (Schlecht. in Linnæa, 7. p. 58.) glabrous; leaves elliptic, acuminated, rather papery, and rather opaque, petiolate; racemes subspicate, axillary, much shorter than the leaves, but sometimes these racemes are reduced to axillary fascicles; calyx nearly glabrous, ciliated on the margin, with very short, or no teeth; corolla glabrous, 6 times longer than the calyx; segments of the limb obtuse; filaments inserted in the upper part of the tube, rather pilose in the middle of the tube; berry ovoid. ♄. S. Native of Brazil, near Rio Janeiro and elsewhere. Céstrum racemòsum, Ruiz. et Pav.? Leaves 4-6 inches long. Spurious stipulas sometimes present. Corolla an inch long. Hairs on the filaments retrograde.

Var. α, *evolùtum* (Schlecht. l. c.) leaves larger, on longer petioles; and the racemes axillary, and on longer peduncles than in var. β.

Var. β, *paupérculum* (Schlecht. l. c.) leaves smaller, on shorter petioles; racemes short; flowers sometimes sessile in the axils of the leaves.

Smooth Bastard Jasmine. Shrub.

20 C. AMI'CTUM (Schlecht. in Linnæa, 7. p. 64.) quite glabrous; leaves lanceolate, acute at both ends, shining, petiolate; racemes subspicate, short, bracteate; calyx glabrous, with acute teeth, which are ciliated at top; corolla with a wide, glabrous throat, 6 times longer than the calyx; and the segments of the limb are ovate, acutish, with tomentose sides; filaments inserted in the upper part of the tube, furnished with fascicles of retrograde hairs at their insertion. ♄. S. Native of Brazil, Sello. Spurious stipulas small, reniform. This is distinguished from *C. bracteàtum* in the smoothness of the parts. Corollas greenish yellow, an inch long. Leaves almost 5 inches long.

Decked Bastard Jasmine. Shrub.

21 C. BRACTEA'TUM (Link, et Otto, abbild. 1. p. 11. t. 6. Graham, in bot. mag. t. 2974. Schlecht, in Linnæa, 7. p. 64.) leaves lanceolate, undulated, downy; flowers fascicled, axillary and terminal, pedicellate; false stipulas obliquely cordate, reniform; bracteas spatulate; filaments bearded at the base. ♄. S. Native of Brazil, about Rio Janeiro and elsewhere. Length of racemes variable, but hardly ever exceeding the leaves. Nearly allied to *C. petiolàre*. Branches covered with dense, greenish tomentum. Peduncles an inch long; pedicels short. Corolla salver-shaped, pale yellow; tube an inch long; segments ovate, acute.

Bracteate-flowered Bastard Jasmine. Fl. June, July. Clt. 1818. Shrub 8 to 10 feet.

22 C. SCHLECHTENDA'HLII; glabrous; leaves elliptic, acuminated at both ends, acute at apex, rather coriaceous, opaque, on short petioles; racemes axillary, sub-spicate; calyx gla-

brous, with short, obtuse teeth, which are densely ciliated on the margins; corollas glabrous outside, 6 times longer than the calyx; segments of the limb reflexed, triangular, acute; filaments inserted in the middle of the tube, where they are also villous; tube of corolla marked by a villous ring inside at the base. ♄. S. Native of Brazil, Sello. C. multiflòrum, Schlecht. in Linnæa, 8. p. 59. but not of Rœm. et Schultes. Leaves $3\frac{1}{2}$ to 5 inches long. This species differs from *C. lævigàtum*, in the shorter corolla, in the flowers being more copious, and in the leaves being coriaceous, &c.

Many-flowered Bastard Jasmine. Shrub.

* * * *Racemes compound, or panicled; or the peduncles are racemosely panicled.*

23 C. pa'llidum (Lam. dict. 1. p. 688.) glabrous; leaves ovate, acute; racemes compound, axillary; filaments toothless?; berry obovate. ♄. S. Native of Jamaica. C. venenàtum, Mill. dict. no. 6.—Plukn. alm. 35. t. 64. f. 5.—Sloane, hist. 2. p. 96. t. 204. Flowers small, like those of *C. diúrnum*, pale yellow. Leaves like those of *C. laurifòlium*, and the fruit like that of *C. vespertìnum*. Leaves $1\frac{1}{2}$ inch long, dark green. Racemes dense, shorter than the leaves. Segments of corolla short, bluntish. Berry violaceous, or dark blue, poisonous, ex Sloane.

Pale-flowered Bastard Jasmine. Shrub 7 to 8 feet.

24 C. panicula'tum (H. B. et Kunth, l. c. p. 62. Willd. rel. ex Rœm. et Schultes, syst. 4. p. 807.) twining; leaves twin, ovate-oblong, acute, glabrous; panicles terminal, simple; branches divaricate; flowers pedicellate; tube of corolla very slender; segments linear-lanceolate, acuminated; filaments naked, toothless. ♄. ◡. S. Native in humid places, on the banks of the river Guayre, near Caraccas. Branches triangular, glabrous. Leaves sometimes solitary, 3-4 inches long, and 2 broad. Flowers sweet-scented. Teeth of calyx ovate, acute, ciliated. Corolla greenish white.

Panicled-flowered Bastard Jasmine. Shrub twining.

25 C. sca'ndens (Vahl, eclog. 1. p. 24. Willd. spec. 1. p. 1055.) branches scandent; leaves ovate, attenuated, glabrous; racemes axillary, rather compound; filaments naked, toothless. ♄. ◡. S. Native of St. Martha, Rohr. Branches terete, glabrous. Leaves petiolate, remote, solitary. Spurious stipulas none. Segments of the limb subulate.

Climbing Bastard Jasmine. Shrub climbing.

26 C. racemòsum (Ruiz, et Pav. fl. per. 2. p. 29. t. 154. f. b.) leaves lanceolate-ovate, acute, glabrous; racemes short, compound, solitary, or by threes; the middle one very long; filaments toothless.? ♄. S. Native of Peru, in groves. Trunk glabrous, $1\frac{1}{2}$ foot high; branches elongated. Petioles twisted a little. Calyx small. Berry violaceous, globose, containing 4 oblong brown seeds.

Racemose-flowered Bastard Jasmine. Shrub.

27 C. longiflòrum (Ruiz, et Pav. fl. per. 2. p. 28. t. 154. f. a.) leaves ovate-oblong, acute, shining and glabrous above, but woolly beneath while young; peduncles terminal, paniculately racemose; corolla with a very long, curved tube; filaments toothless.? ♄. S. Native of Peru, in groves. Branches downy. Branches of panicle bearing 4-6 pedicellate flowers. Bracteas solitary, lanceolate. Corolla $1\frac{1}{2}$ inch long, purplish; margins of limb woolly; tube glabrous. Berry rather large, ovate, obscure, purple, containing many small, angular seeds.

Long-flowered Bastard Jasmine. Shrub.

28 C. strigilla'tum (Ruiz. et Pav. fl. per. 2. p. 29. t. 156.) clothed with short strigose tomentum; leaves cordate, acute; peduncles twin, racemosely panicled, the one shorter than the other; filaments naked, toothless. ♄. S. Native of Peru, in groves. Leaves pendulous, glabrous above. Flowers almost sessile, furnished each with 3 small bracteas. Corolla white, with a long, incurved tube, very like *Jasmine*. Berry truncate, ovate, obscure violet.

Strigillate Bastard Jasmine. Shrub 10 to 12 feet.

* * * * *Peduncles corymbose, axillary, or terminal.*

29 C. thyrsoi'deum (H. B. et Kunth, l. c. p. 63.) leaves ovate-oblong, acute, glabrous above, but clothed with fine down beneath; panicles terminal, corymbose, much-branched, leafy; flowers sessile; tube of corolla scarcely exceeding the calyx; segments of corolla ovate, acute, with inflexed edges; filaments naked, toothless. ♄. G. Native of Mexico, in the high plains near the town of Chalco, at the altitude of 1170 hexapods. Branches trigonal, canescent from powdery down. Leaves 3-4 inches long, running into the petioles at the base. Teeth of calyx short, ovate, acute, unequal. Corolla white. Said to be nearly allied to *C. Párqui*.

Thyrsoid-flowered Bastard Jasmine. Shrub.

30 C. auricula'tum (Lher. stirp. 1. p. 71. t. 35. Ruiz. et Pav. fl. per. 2. p. 28. t. 155. f. a. H. B. et Kunth, nov. gen. 3. p. 63.) leaves oblong, acuminated, glabrous; petioles biauriculate; corymbs axillary and terminal, approximate; corolla downy, with a very slender tube, and ovate-oblong, acute segments, having inflexed edges; filaments naked, toothless. ♄. S. Native of Peru, in temperate places between Loxa and Malacates, at the altitude of 1040 hexapods; and about Lima, where it is used by the natives externally to cleanse foul ulcers, and internally in the venereal disease; they also look upon it as a pectoral; but it seems to be a plant of suspicious character, on account of its belonging to *Solanàceæ*. Céstrum Hediúnda, Lam. dict. 1. p. 687. Rœm. et Schultes, syst. 4. p. 551. C. auriculàtum affìne, Pers. ench. 1. p. 230. Hediúnda Jasminiàno flòre, Feuill. per. 2. p. 25. t. 20. f. 2. Branches terete, glabrous. Leaves 4 inches long. Calyx, peduncles, and pedicels downy. Corolla white.

Auricled-leaved Bastard Jasmine. Fl. June, July. Clt. 1774. Shrub 10 to 12 feet.

31 C. multiflòrum (Rœm. et Schultes, syst. 4. p. 553.) leaves ovate-lanceolate, acute, glabrous; corymbs axillary, pedunculate, one-half shorter than the leaves; filaments toothless. ♄. S. Native country unknown. Branches quite smooth, green. Leaves rather membranous, $2\frac{1}{2}$ inches long. Peduncles downy; pedicels glabrous. Segments of corolla erect, acute, rather connivent.

Many-flowered Bastard Jasmine. Shrub.

§ 2. *Filaments furnished each with a sessile gland at the base.*

32 C. tomentòsum (Lin. suppl. p. 150. Ait. hort. kew. ed. 2d. vol. 2. p. 3.) leaves ovate-oblong, acuminated, smoothish above, but clothed with pilose down beneath, and canescent; peduncles axillary, short, 4-6-flowered, approximating in the manner of a spike; flowers sessile; calyx tubular, 5-cleft, and is, as well as the branches, villously tomentose; filaments furnished each with a gland. ♄. S. Native of Peru, between Vinayaca and the town of Loxa, at the altitude of 1060 hexapods. C. Granadénse, Willd. rel. ex Rœm. et Schultes, syst. 4. p. 807. Branches terete, villously tomentose, hoary, as well as the peduncles. Leaves membranous, green above, glabrous, and rather scabrous, about 5 inches long, and 2 broad. Segments of corolla lanceolate, oblong, acute, nearly equal. Corolla glabrous, greenish; segments ovate, acute, with reflexed edges. Stigma capitately peltate. Berry oval, bisulcate at top, 2-4-celled, many-seeded, small, almost covered by the permanent calyx.

Tomentose Bastard Jasmine. Fl. June, July. Clt. 1790. Tree 12 to 18 feet.

33 C. Pa'rqui (Lher. stirp. 1. p. 73. t. 36.) leaves lanceolate, glabrous, attenuated at both ends, acute, or bluntish, subundulated; peduncles terminal, corymbose; filaments villous at the base, and furnished with a tooth. ♄. G. Native of Chili, and the South of Brazil. Schmidt, oestr. baumz. 3. p. 138. t. 15. Sims, bot. mag. 1770. C. Jamaicénse, β, Lam. dict. 1. p. 688. C. virgàtum, Ruiz. et Pav. fl. per. 2. p. 27. Párqui, Feuill. per. 2. p. 72. t. 32. f. 1. Leaves 3-5 inches long, attenuated at both ends, glabrous. False stipulas narrow. Flowers whitish yellow, very fragrant at night. Berry black, nearly globose. "Peduncles and calyxes sometimes tomentose, but also sometimes truly naked, except the orifice of the calyxes. Corolline segments usually reflexed and tomentose on the edges." Schlecht, in Linnæa, 7. p. 56.

Parqui Bastard Jasmine. Fl. June, July. Clt. 1787. Shrub 6 to 8 feet.

§ 3. *Filaments furnished each with a tooth or toothlet at their insertion.*

34 C. salicifòlium (Jacq. schœnbr. 3. p. 42. t. 326.) leaves lanceolate, acuminated, glabrous; racemes axillary, much shorter than the leaves; flowers pedicellate; filaments furnished each with a toothlet at the base. ♄. S. Native of America, in frigid places near La Venta Grande, between Caraccas and the port of La Guayra, at the altitude of 760 hexapods. Branches terete, glabrous. Leaves membranous, 5 inches long, and 1 broad. Racemes glabrous. Berry ovate-oblong, size of a berbery, girded by the calyx at the base. Calyx 5-toothed. Corolla greenish white, with a slender tube, and spreading, lanceolate, acutish segments. Filaments free only at top.

Willow-leaved Bastard Jasmin. Fl. April, June. Clt.? Shrub.

35 C. eua'nthes (Schlecht. in Linnæa, 7. p. 60.) glabrous; leaves elliptic, or oblong, attenuated at the base, acutish at the apex, shining, rather coriaceous, petiolate; racemes axillary, rather compound, leafy at the base; calyx puberulous, with short, obtuse teeth, which are tomentose at apex; corollas glabrous, 6 times longer than the calyx; segments of the limb oblong, bluntish; filaments inserted a little above the base of the tube, glabrous, rather denticulated. ♄. S. Native of the South of Brazil, Sello. Leaves 3-4 inches long. Margins of the segments of the corolla tomentose. Habit of *C. multiflòrum*, but differs from it in the racemes being sub-compound and leafy at the base, and in the filaments being glabrous and sub-denticulated.

Well-flowered Bastard Jasmine. Shrub.

36 C. hirsu'tum (Jacq. schœnbr. 3. p. 41. t. 324.) leaves oblong, acute, downy above, and tomentose beneath; spikes axillary, longer than the petioles; flowers sessile; filaments furnished with a little toothlet at the base. ♄. S. Native country unknown. Branches and calyx beset with white hairs. Leaves acute at both ends, 3-5 inches long. False stipulas falcate. Flowers fascicled in small, axillary corymbs. Calyx 5-toothed. Corolla with a glabrous, green tube, and spreading, lanceolate, acute, yellowish segments. Stigma capitate. Filaments bearded at the base.

Hairy Bastard Jasmine. Shrub 8 feet.

37 C. alaternoi'des (Hort. par. ex Poir. suppl. 2. p. 183. Hamilt. prod. p. 25. Rœm. et Schultes, syst. 4. p. 555.) leaves ovate-roundish, obtuse, or subelliptic undulated, coriaceous, shining, and glabrous above, and cinereous beneath, undulated; flowers fascicled, sessile, axillary, lateral, and terminal; filaments tooth-letted at the base. ♄. S. Native of the Antilles and Trinidad. Hook. bot. mag. 2929. Said to be nearly allied to *C. macrophýllum* by Hamilt. l. c. and the leaves size and shape of those of *Rhámnus alatérnus*. Branches terete, cinereous. Leaves 1½ inch long. Corymbs shorter than the leaves. Corolla greenish yellow; segments of the limb straight, acutish.

Alaternus-like Bastard Jasmine. Fl. Feb. April. Clt. 1824. Shrub 6 feet.

38 C. exstipula'tum (Ledeb. in Schrad. nov. journ. 4. p. 65.) leaves acuminated, villous; spikes terminal; filaments each furnished with a toothlet at the base. ♄. S. Native country unknown. False stipulas none. Habit of *C. auriculàtum*.

Exstipulate-leaved Bastard Jasmine. Shrub.

39 C. undula'tum (Ruiz. et Pav. fl. per. 2. p. 28. t. 155.) leaves ovate, acute, undulated, glabrous; peduncles axillary and terminal, few-flowered; filaments each furnished with a tooth at the base. ♄. S. Native of Peru, in waste places at the town of Huanaco. Trunk granular. Peduncles generally 8-flowered. Corolla yellow; limb downy outside. Anthers tetragonal. Berry violaceous, 2-celled, about 6-seeded. Seeds angular, truncate.

Undulated-leaved Bastard Jasmine. Fl.? Clt. 1825. Tree 15 feet.

40 C. suberòsum (Jacq. schœnbr. 4. p. 26. t. 452.) leaves oblong, acute, glabrous; racemes axillary and terminal, compound; flowers sessile, or nearly so, aggregate; filaments each furnished with a bifid tooth at the base. ♄. S. Native country unknown. Trunk cinereous, corky. Leaves 3-4 inches long. Corollas pale yellow, sweet-scented. Stigma capitate, umbilicate.

Corky-barked Bastard Jasmine. Fl. June, July. Clt. 1815. Shrub 5 to 6 feet.

41 C. hi'rtum (Swartz, prod. p. 49. fl. ind. occ. 1. p. 478.) leaves subcordate, acute, glabrous above, but hairy beneath, as well as the branches; spikes axillary, short, subracemose, 4-6-flowered; filaments each furnished with a toothlet at the base? ♄. S. Native of Jamaica, in woods. Bracteas none. Corolla with a long slender tube, and ovate, obtuse, connivent segments, without any toothlets between. Berry black, ovate, downy, 2-seeded. Calyx 5-toothed. Said to be nearly allied to *C. noctúrnum*; but is distinguished from it in the larger, broader, wrinkled leaves, and by the spicate crowded flowers.

Hairy Bastard Jasmine. Fl. June, July. Clt. 1800. Shrub 6 to 9 feet.

42 C. noctu'rnum (Lher. stirp. 1. p. 70.) leaves ovate, or ovate-lanceolate, acute, glabrous; peduncles subracemose, axillary, about equal in length to the leaves; filaments each furnished with a tooth at the base. ♄. S. Native of Jamaica, and Chili; and Mexico, near Jalapa, Schiede. Lam. dict. 1. p. 687. Jasminoìdes foliis pishaminis, flore virescente, noctu odoratissimo, Dill. elth. p. 183. t. 153. f. 185.—Plukn. alm. t. 64. f. 3.? Bark of trunk grey, corky at base. Branches terete, glabrous, dotted, green or greyish-brown. Leaves very like those of the orange. Corolla glabrous, greenish-yellow, with a slender, curved tube, and bluntish, rather irregular segments. Berry nearly globose, size of a pea, white, ex Lam.

Night-smelling Bastard Jasmine. Fl. Nov. Clt. 1732. Shrub 6 to 9 feet.

43 C. macrophy'llum (Vent. choix. t. 18.) leaves ovate-oblong, acuminated, quite glabrous; flowers fascicled, sessile; filaments each furnished with a toothlet at the base. ♄. S. Native of the Antilles, Porto Ricco, Riedle. Pers. ench. 1. p. 230. Poir. suppl. 2. p. 183. This is nearly allied to *C. laurifòlium*, and is probably a variety of it; the leaves are, however, much larger, and less approximate, hardly coriaceous. The flowers are cream-coloured at the time of expansion, but at length pale yellow, or rusty, rising above the articulations of the petioles. Bracteas linear, clothed with rusty tomentum, deciduous.

Long-leaved Bastard Jasmine. Fl. May, Aug. Clt. 1812. Shrub 6 to 7 feet.

44 C. VESTIOI'DES (Schlecht, in Linnæa, 7. p. 65.) branches downy; leaves oblong, nearly sessile, much attenuated at the base, bluntish at apex, rather coriaceous, glabrous above, and puberulous beneath; racemes terminal, leafy; calyx glabrous, with short, broad, subbarbately mucronulate teeth; corollas glabrous, 3-4 times longer than the calyx: segments of the limb ovate, bluntish; filaments furnished each with a villous tooth at their insertion, villous upwards to the middle of the tube. ♄. S. Native of Brazil, Sello. This is an elegant and showy species.

Vestia-like Bastard Jasmine. Shrub.

45 C. HIRTE'LLUM (Schlecht, in Linnæa, 4. p. 62.) branchlets hairy; leaves acute, and attenuated at the base, acuminated at the apex, membranous, shining, petiolate, downy on the primary nerves while young, but at length glabrous; racemes short, axillary, subspicate; calyx hairy, with elongated, triangular, very acute teeth, having the edges ciliated; corolla glabrous outside, 8 times longer than the calyx: segments of the limb narrow, acutish; filaments inserted in the superior part of the tube, glabrous, each furnished with an emarginate or 2-lobed toothlet. ♄. S. Native of Mexico, in the province of Jalapa, near the Hacienda de La Laguna. Corolla slender, greenish-white. Habit of *C. dumetòrum*.

Hairy Bastard Jasmine. Shrub.

46 C. DUMETÒRUM (Schlecht, in Linnæa, 7. p. 61.) branches glabrous; leaves elliptic, acuminated, acute at the base, and rather unequal, opaque, downy beneath, usually bearded at the axils, petiolate; racemes axillary and terminal, usually twin; calyx villous, with acute, rather unequal segments, which are tomentose at top; corollas glabrous outside, 3 times longer than the calyx; segments of the limb acute; filaments inserted in the upper part of the tube, glabrous, furnished each with a toothlet; lower part of tube clothed with retrograde down. ♄. S. Native of Mexico, among bushes near Vera Cruz and San Pablo, Schiede and Deppe. Tube of corolla slender. Leaves 4-5 inches long. Fruit ovoid, conical, glabrous.

Bush Bastard Jasmine. Shrub.

47 C. LAURIFÒLIUM (Lher. stirp. 1. p. 69. t. 34.) glabrous; leaves coriaceous, shining, ovate or elliptic, obtuse; flowers fascicled, pedicellate, on common peduncles, which are shorter than the petioles; filaments each furnished with a toothlet at the base, Lam., or naked, ex Willd. enum. 1. p. 245. ♄. S. Native of South America. Smith, spicil. 2. t. 2. C. venenàtum, Lam. dict. 1. p. 688. no. 5. exclusive of the syn. of Burm. and country. Laurèola latifòlia floribus albicantibus odoratis, Plukn. phyt. t. 95. f. 1. ex Willd.; but according to Lam. it refers to *C. diúrnum*. Leaves dark green, 1½ inch long; petioles rufescent. Flowers yellowish, in axillary, subsessile fascicles at the tops of the branches; segments ovate, bluntish, spreading.

Laurel-leaved Bastard Jasmine. Fl. May, Aug. Clt. 1691. Shrub 6 to 9 feet.

† *Species hardly known.*

48 C. FŒ'TIDUM (Medic. act. palat. 4. phys. p. 192.) corymbs sessile, leafy, terminating the branches. ♄. S. Perhaps the same as *C. vespertìnum*.

Fetid Bastard Jasmine. Shrub.

49 C. NERVÒSUM (Mill. dict. no. 3.) leaves lanceolate, opposite, with transverse nerves; peduncles branched. ♄. S. Native of Carthagena. Jasminoìdes Americànum lauri folio, flore albo odorato, Houst. mss. Leaves 4 inches long, smooth, pale green. Peduncles axillary, 4-5-flowered. Corolla inflated in the middle of the tube, and coarctate above; segments broad-flat, spreading, white, scentless.

Nerved-leaved Bastard Jasmine. Shrub 5 to 6 feet.

50 C. SPICA'TUM (Mill. dict. no. 4.) leaves ovate-lanceolate; flowers spicate, alar, and terminal. ♄. S. Native of Carthagena. Leaves 2½ inches long, and 1½ broad. Flowers inodorous. Berry globose, purplish, size of a pea; pulp grateful to the taste. Seeds flat.

Spicate-flowered Bastard Jasmine. Shrub 10 to 12 feet.

51 C. MUTI'SII (Willd. rel. ex Rœm. et Schultes, syst. 4. p. 807.) leaves oblong, acuminated at both ends; peduncles many-flowered, lateral, aggregate. ♄. S. Native of America, on Mount Quindiu. Humb. et Bonpl.

Mutis's Bastard Jasmine. Shrub.

52 C. PARVIFÒLIUM (Willd. rel. ex Rœm. et Schultes, l. c. p. 808.) leaves elliptic, subundulated, glabrous, coriaceous, shining above; flowers aggregate, sessile, nearly terminal. ♄. S. Native country unknown.

Small-leaved Bastard Jasmine. Shrub.

53 C. PAUCIFLÒRUM (Willd. rel. ex Rœm. et Schultes, syst. 4. p. 808.) leaves oblong-ovate, downy; heads terminal, few-flowered. ♄. S. Native country unknown.

Few-flowered Bastard Jasmine. Shrub.

54 C. AUGUSTIFÒLIUM (Lodd. bot. cab. 618.) ♄. S. Native of the West Indies. Flowers white. This species is hardly known, and may be synonymous with some other species.

Narrow-leaved Bastard Jasmine. Fl. June, July. Clt. 1820. Shrub 6 feet.

Cult. These are shrubs of the most easy culture; they grow well in any rich light soil; and are readily increased by cuttings, under a hand-glass, in heat.

XXXVIII(a). ACOKANTHE'RA (from *ακωκη, acoce*, a mucrone; and *ανθηρα, anthera*, an anther; anthers mucronate.) Lýcium species, Thunberg.

LIN. SYST. *Pentándria, Monogýnia.* Calyx divided even to the base into 5 segments. Corolla with a villous throat. Anthers terminated by a mucrone. Stigma elongated, papilliform, pilose. Ovarium 2-celled; cells 1-ovulate.—Shrubs, natives of the Cape of Good Hope. Leaves nearly opposite, as in *Apocýneæ*. Branches terminated by a spine, as in *Lýcium*. Flowers in axillary, sessile fascicles, rarely solitary.

1 A. VENENA'TA; leaves lanceolate-oblong, coriaceous; corymbs sessile, axillary, usually 8-flowered? ♄. G. Native of the Cape of Good Hope. Céstrum venenàtum, Thunb. prod. 1. p. 36. fl. cap. 1. p. 193. Céstrum citrifòlium, Retz. phyt. bl. 1. p. 36. Leaves shining, glabrous. Bracteas subulate. Corolla yellowish. Segments of corolla convolute, subulate, erect, tipped with brown, expanding in the afternoon. C. fasciculàris, Hort. berol?

Poisonous Aconanthera. Fl. Feb. April. Clt. 1787. Shrub 6 to 7 feet.

2 A. LAMA'RKII; leaves lanceolate, nerved, rather coriaceous; flowers in axillary sessile fascicles. ♄. G. Native of Africa, Sonnerat. Céstrum oppositifòlium, Lam. ill. 2. no. 2279. t. 112. f. 2. Poir. suppl. 2. p. 182. Branches terete, striated. Leaves nearly sessile, 2 inches and more long. Corolla small, with a slender tube, and short segments.

Lamark's Aconanthera. Shrub.

3 A. LYCIOI'DES; leaves elliptic, obtuse, narrowed at the base, in fascicles; flowers axillary, solitary, almost sessile. ♄. G. Native of the Cape of Good Hope. Céstrum lycioìdes, Lichtenst. spicil. fl. cap. mss. ex Rœm. et Schultes, syst. 4. p. 558. Branches obsoletely tubercular, when young glabrous and leafy. Calyx 5-cleft; segments erect, linear, acute, hardly attaining the height of the middle of the corolla. Corollas white; tube an inch long; segments of the limb acute, revolute. Anthers incumbent, exserted. Stigma capitate.

Box-Thorn-like Aconanthera. Fl. June, Sept. Clt. 1824. Shrub 5 to 6 feet.

4 A. pube'scens; leaves oblong-lanceolate, obtuse, attenuated at the base in fascicles, pubescent; flowers axillary, solitary, nearly sessile. ♄. G. Native of the Cape of Good Hope. Céstrum pubéscens, Licht. l. c. Stature of the preceding; but the branches are more rigid; the branchlets short, and pungent at top, or leafy. Spines as those of some species of *Lycium*. Flowers size, colour, and shape of those of *A. lycioìdes;* but the calyx is downy, and more deeply divided.

Downy Aconanthera. Shrub 5 to 6 feet.

Cult. For culture and propagation see *Crabówskia*, p. 481.

XXXIX. DUNA'LIA. (named in honour of Michael Felix Dunal, M.D. professor of botany at Montpelier; author of "Histoire Naturelle, Medicale, et Economique des Solanum, et des genres qui ont été confondus avec eux." Paris, 1813; and several other works.) H. B. et Kunth, nov. gen. 3. p. 55. t. 194.

Lin. syst. *Pentándria, Monogýnia.* Calyx urceolate, 5-toothed. Corolla funnel-shaped; tube elongated, nearly cylindrical; limb 5-cleft, plicate. Stamens 5, inclosed; filaments tripartite; lateral segments capillary: middle one antheriferous. Anthers dehiscing lengthwise. Style exserted; stigma capitate, emarginate. Berry globose, 2-celled, propped by the permanent calyx; placentas adnate to the dissepiment. Seeds many, lenticular, reniform, compressed, smooth.—A shrub, with alternate, solitary, nearly entire leaves, floccosely tomentose from stellate down. Umbels extra-axillary, sessile. Corolla whitish.

1 D. solana'cea (H. B. et Kunth, l. c. p. 56. t. 194.) ♄. S. Native of New Granada, in shady places near Fusagasuga, at Hato del Quemado, at the altitude of 800 hexapods. Habit of *Witheríngia;* but the structure of the flowers is that of *Céstrum;* distinguished from all the other genera of the present order by the tripartite filaments. Branches glabrous. Leaves petiolate, ovate-oblong, acuminated, rounded and unequal at the base, glabrous and green above, nearly 10 inches long.

Solanaceous Dunalia. Shrub.

Cult. For culture and propagation see *Céstrum*, p. 485.

XL. MEYE'NIA (meaning unknown to us.) Schlecht, in Linnæa, 8. p. 251.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, almost regular, 5-toothed, permanent, valvular in æstivation. Corolla clavately tubular; limb 5-toothed, contracted, erect, conduplicate in æstivation. Genitals inclosed. Stamens 5, regular; filaments free from the middle of the tube, naked; anthers oval-roundish, fixed by the back, 2-celled; cells near each other. Ovarium girded by a fleshy ring? Stigma sub-bilobed, subcapitate. Berry propped by the permanent spreading calyx, which is sometimes cleft lengthwise, 2-celled. Some of the seeds irregularly oval. Embryo straight, with roundish, foliaceous, flat cotyledons in the centre of the albumen, having the radicle pointing to the hilum.—Shrubs, natives of Mexico. Leaves alternate, quite entire, beset with articulated hairs. Flowers red, irregularly cymose.

1 M. fasciula'ta (Schlecht, l. c.) shrub clothed with tomentose down; flowers cymosely fascicled. ♄. S. Native of Mexico, near Chiconquiaco. Leaves petiolate, broad, ovate, acute, very variable in size, usually 3-4 inches long, and 1½ to 2 broad. Flowers scarlet, forming fascicles or racemes at the tops of the branches. Berry cuneated at the base. Seeds variable in shape from position and compression, wrinkled longitudinally.

Fascicled-flowered Meyenia. Shrub.

2 M. corymbòsa (Schlecht, l. c. p. 252.) glabrous; flowers disposed in elongated corymbs. ♄. S. Native along with the preceding, which it is very like; but differing in being glabrous. Leaves variable, the largest one 5 inches long, and 2 broad, but generally smaller. Calycine segments nearly subulate. Corolla red or scarlet.

Corymbose-flowered Meyenia. Shrub.

Cult. For culture and propagation see *Céstrum* above.

XLI. DA'RTUS (from δαρτος, *dartos*, excoriated; bark of fruit deciduous.) Lour. coch. p. 124. ed. Willd. 1. p. 152. Rœm. et Schultes, syst. 4. p. 55.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft; segments ovate, membranous. Corolla with a subglobose tube, which is longer than the calyx, and a 5-cleft limb; segments ovate, spreading. Filaments inserted into the middle of the tube, inclosed. Style very short; stigma 5-lobed. Berry small, round, excoriated, diaphanous, 1-celled, many-seeded. Seeds small, unequal.—A shrub, with alternate, serrated, large leaves; and small, axillary, oblong racemes of white flowers. Root reddish, rather aromatic.

1 D. perla'rius (Lour. l. c.) ♄. G. Native of Cochinchina, in shady places on the banks of rivers. Perlàrius alter, Rumph. amb. lib. 6. cap. 62. p. 122. t. 57. Branches ascending. Leaves oblong-ovate, soft from tomentum beneath, with oblique ribs; petioles rufous.

Pearl-berried Dartus. Shrub 6 feet.

Cult. For culture and propagation see *Céstrum*, p. 486.

§ 2. *Pericarp capsular.*

XLII. VE'STIA (named after Dr. Vest, of Clagenfurth.) Willd. enum. 1. p. 208. D. Don, in edinb. phil. journ. 1823. Schlecht, in Linnæa, 7. p. 53.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, regular, 5-toothed, permanent, valvular in æstivation. Corolla tubular; limb 5-parted, regular, conduplicate in æstivation. Genitals exserted: filaments free from the middle of the tube, villous under the place of insertion, the rest glabrous, variously curved before the expansion of the flowers; anthers oval, dehiscing lengthwise. Ovarium girded by a fleshy, glabrous, 5-tubercled ring, 2-celled, many-ovulate; ovula fixed to a thick central placenta. Stigma capitate? hardly bifid. Capsule girded by the calyx, and hardly larger than it, cylindrical, very blunt, marked lengthwise by 4 smooth furrows, which are disposed crosswise, 2-celled, 2-valved; valves at length bifid; placentas 2, adnate to the middle of the dissepiment, semi-globose. Seeds numerous.—A deciduous, erect, glabrous, fetid shrub, with ovate-lanceolate, entire leaves. Peduncles solitary, 2-3-flowered, terminal, and from the axils of the upper leaves, drooping. Corolla tubular, yellow, with a villous throat.

1 V. lycioi'des (Willd. l. c.) ♄. H. Native of Chili, about Conception, and elsewhere. Cántua ligustrifòlia, Juss. ann. mus. 3. p. 118. Cántua fœ'tida, Pers. ench. 1. p. 187. Periphrágmos fœ'tidus, Ruiz. et Pav. fl. per. 2. p. 17. t. 132. Céstrum vespertìnum, Hort. valent. Calyx violaceous. Capsule pendulous, 2-3-celled.

Box-Thorn-like Vestia. Fl. June. Clt. 1815. Shrub 3 to 6 feet.

Cult. Véstia is a very pretty hardy shrub, growing freely in summer, but requiring a little protection in winter, if severe. It is readily propagated by cut-

FIG. 44.

tings, under a hand-glass, or by seeds, which ripen in plenty in this country.

XLIII. SE'SSEA (named in honour of Martin Sesse, formerly director of the botanic garden of Mexico.) Ruiz. et Pav. fl. per. 2. p. 9. t. 115. f. b. and t. 116.

LIN. SYST. *Pentándria, Monogýnia.* Calyx tubular, pentagonal, 5-toothed; teeth ovate. Corolla funnel-shaped; tube twice as long as the calyx, with a globose orifice, and plicate limb; segments straight, ovate, with convolute margins. Filaments curved at the base, villous. Stigma 2-lobed; lobes unequal. Capsule cylindrical, a little arched, twice as long as the calyx, 2-celled, 2-valved; valves bifid. Seeds numerous, imbricate, oblong, compressed, with membranous edges.—Branched, fetid shrubs, natives of Peru, with the habit of *Céstrum*. Leaves alternate, entire. Racemes axillary and terminal; pedicels corymbose. Corollas yellow.

1 S. STIPULA'TA (Ruiz. et Pav. fl. per. 2. p. 9. t. 115. fig. b.) leaves lanceolate and cordate; false stipulas large, ovate, obtuse, deciduous; racemes axillary and terminal; pedicels corymbose. ♄. G. Native of Peru, on the mountains. Leaves petiolate: superior ones narrower, ovate, acuminated, 3-5 inches long, and 1-2 broad, glabrous above, and clothed with white tomentum beneath. Racemes and calyxes woolly. Corolla villous, yellow, twice as long as the calyx.

Stipulate Sessea. Shrub 5 to 6 feet.

2 S. DEPE'NDENS (Ruiz. et Pav. fl. per. 2. p. 9. t. 116.) leaves cordate-oblong; false stipulas wanting; racemes very long, pendulous; pedicels usually 3-flowered. ♄. G. Native of Peru, on the banks of rivers. Branches pendent. Leaves like those of the preceding, but powdery beneath, 3-4 inches long, and 2 broad. Calyx powdery. Corolla yellowish, twice as long as the calyx.

Hanging-branched Sessea. Tree 25 to 30 feet.

Cult. For culture and propagation see *Céstrum*, p. 486.

XLIV. FABIA'NA (named in honour of Francisco Fabiano, of Valencia in Spain, a promoter of botany.) Ruiz. et Pav. fl. per. 2. p. 12. t. 122. f. b. Hook. et Arn. in Beech. voy. pt. bot. p. 35.

LIN. SYST. *Pentándria, Monogýnia.* Calyx tubular, 5-angled, 5-toothed, permanent. Corolla funnel-shaped, with a very long tube, and a short, 5-cleft, plicate, revolute limb. Stamens 5, 2 longer than the other 3. Stigma capitate, emarginate. Capsule ovate, 2-valved, many-seeded. Seeds wrinkled, dotted.—Shrubs, with a habit like *Támarix*. Leaves scattered, or in fascicles, ovate or linear. Flowers terminal, solitary, pedunculate.

1 F. IMBRICA'TA (Ruiz. et Pav. l. c.) leaves small, ovate, sessile, concave, scale-formed, imbricate; flowers terminal, solitary; segments of the limb of corolla short, obtuse, reflexed. ♄. F. Native of Chili, in fields. Pers. ench. 1. p. 176. Poir. suppl. 2. p. 625. Shrub much branched. Corolla lilac, about an inch long.

Imbricate-leaved Fabiana. Shrub.

2 F. LANUGINÒSA (Hook. et Arn. in Beech. voy. pt. bot. p. 35.) branches woolly from white tomentum; leaves linear, in fascicles, very blunt, fleshy, spreading; calyx woolly; segments of the limb of corolla oblong, reflexed. ♄. F. Native of Chili, at Coquimbo. Flowers axillary, pedunculate, hardly the length of the leaves. Calyx tubular, 5-cleft, with unequal, linear, obtuse segments. Corolla glabrous. Stigma oblong, capitate.

Woolly Fabiana. Shrub.

3 F. VISCÒSA (Hook. et Arn. in Beech. voy. pt. bot. p. 36.) clothed with clammy down; leaves scattered, narrow-linear, spreading, obtuse, channelled on the back; peduncles terminal; fruit-bearing ones erect. ♄. F. Native of Chili, near Barasca, where it is called Pichanilla. This comes very near *F. thymifòlia*, St. Hil. Capsule 2-valved; margins of the valves bent in so as to form 2 cells, and bifid at apex. Receptacle central, becoming free from the dissepiment, and split through the middle, entire at the summit.

Clammy Fabiana. Shrub.

4 F. THYMIFÒLIA (St. Hil. in mem. mus. 12. p. 317. t. 9.) plant hairy and clammy; leaves small, linear, nerveless, scattered, bluntish; peduncles subaxillary, at first erect, but at length bent. ♄. S. Native of Brazil in the province of Rio Grande do Sul. Corolla yellow at bottom, and dirty purple above.

Thyme-leaved Fabiana. Shrub ½ to 1 foot.

Cult. These are very singular shrubs; they will grow in any light rich earth. They are rather hardy, and may be grown in the open air during summer; and they probably would stand our winters if protected by a mat, or the haulm of herbaceous plants, during frosts; and they will be readily propagated by cuttings, under a hand-glass, or by seed.

XLV. LAURE'RIA (meaning unknown to us.) Schlecht, in Linnæa, 8. p. 513.

LIN. SYST. *Pentándria, Monogýnia.* Calyx 5-parted, alately pentagonal, permanent. Corolla tubular, with a short, 5-lobed, straight limb. Stamens 5, inclosed, villous at their insertion; anthers linear, fixed by the base. Stigma bilamellate. Capsule 2-celled, 2-valved? Seeds numerous, full of impressed dots, fixed to short lamelliform processes or placentas, which are attached to the dissepiment. Embryo cylindrical, curved.—A shrub, with alternate leaves, beset with stellate hairs. Flowers lateral, solitary.

1 L. MEXICA'NA (Schlecht, l. c.) ♄. G. Native of Mexico, at the Hacienda de La Laguna. Leaves ovate or broad-lanceolate, 4-6 inches long, and 2-3 broad.

Mexican Laureria. Shrub 6 feet.

Cult. For culture and propagation see *Céstrum*, p. 486.

XLVI. LAMA'RKIA (named in honour of Jean Baptist Monet de la Mark, author of "Flore Française." 3 vols. Paris, 1778. "Encyclopédie Méthodique Botanique." 4 vols. 4to. Paris, 1783—1796, (but vol. 5 to 8 of this work is by Poiret, Paris, 1804—1808. He is author of many other works on botany, and other branches of natural history.) Rœm. et Schultes, syst. 4. p. 28. Márkea, Richard. in act. soc. hist. nat. par. 107.

LIN. SYST. *Pentándria, Monogýnia.* Calyx long, tubular, pentagonally prismatic, semiquinquefid. Corolla nearly funnel-shaped; limb spreading, equally and bluntly 5-parted. Stamens equal, length of tube. Capsule oblong, terete, coarctate at top, many-seeded.—A glabrous shrub, with oblong-obovate, acuminated, shining leaves, which are bluntly rounded at the base. Corollas scarlet.

1 L. COCCI'NEA (Richard. l. c. under Márkea. Poir. suppl. 3. p. 293.) ♄. S. Native of Cayenne.

Scarlet-flowered Lamarkia. Shrub.

Cult. For culture and propagation see *Céstrum*, p. 486.

† *Addenda to Order Solanaceæ.*

1 SOLA'NUM QUERCIFÒLIUM (Schum. pl. guin. p. 121.) suffruticose, unarmed; leaves twin, ovate, somewhat repand, clothed with stellate down; racemes simple, infra-foliaceous, distich. ♄. S. Native of Guinea. Stem 2 feet. Leaves 4-8 inches. Corolla white, size of those of *S. dulcamàra*; segments ovate-lanceolate. Berry tomentose, 2-4-celled, size of a plum.

Oak-leaved Nightshade. Shrub.

2 Sola'num di'stichum (Schum. pl. guin. p. 122.) shrubby, unarmed, tomentose; leaves ovate, subrepand; racemes simple, infra-foliaceous, distich. ♄. S. Native of Guinea, at Aquapim. Leaves twin: tomentum stellate. Corollas size of those of *S. nìgrum*, white. Fruit size of bilberries, globose, glabrous, scarlet.

Distich-racemed Nightshade. Shrub 6 feet.

3 Sola'num A'tropo (Schum. pl. guin. p. 124.) sub-herbaceous, unarmed; leaves obovate, cuneated, angularly-repand, acutish, glabrous; peduncles opposite the leaves, usually twin, 1-flowered. ⊙.? S. Native of Guinea. Stem branched, glabrous. Corollas pale blue, size of those of *S. tuberòsum;* limb entire, plicate, having the angles ending each in a subulate point. Berry size of an apple, dirty yellow. Leaves 3-6 inches long. *A'tropo* is the vernacular name of the plant. Allied to *S. Melongèna*.

Atropo Nightshade. Pl. 2 feet?

4 Sola'num edu'le (Schum. pl. guin. p. 125.) sub-herbaceous, unarmed; leaves ovate, repandly-toothed, oblique, clothed with stellate tomentum; peduncles twin; calyx rather prickly. ⊙.? S. Native of Guinea. Stem beset with adpressed, stellate hairs. Racemes usually opposite the leaves. Corollas pale violet, size of those of *S. tuberòsum;* limb of 5 acuminated angles. Berry size of an apple, nearly globose, yellow. Nearly allied to *S. Melongèna* and *S. insànum*.

Edible Nightshade. Pl. 2 feet.

5 Sola'num dasyphy'llum (Schum. pl. guin. p. 126.) sub-herbaceous, rather prickly; leaves broad-cuneated, angularly-lobed, hairy, and are, as well as the calyxes, prickly; racemes opposite the leaves, few-flowered. ⊙. S. Native of Guinea, where it is called by the natives *Atropo-Bah*. Leaves nearly sessile, almost a foot long. Prickles subulate, straight. Corollas rotate, blue, villous outside, size of those of *S. tuberòsum;* limb acutely 5-angled. Berry nearly globose, size of an apple. Allied to *S. Melongèna*.

Thick-leaved Nightshade. Pl. 2 feet.

6 Sola'num runcina'tum (Ruiz. et Pav. fl. per. 2. p. 36. D. Don, in Sweet, fl. gard. n. s. t. 177.) unarmed; leaves pinnatifid, smoothish; panicles cymose; stigma clavate; calycine segments ligulate, recurved; stems herbaceous, diffuse. ♃. H. Native of Peru.—Feuill. per. 1. p. 722. t. 15. Corolla violaceous, 5-lobed. Perhaps the same as *S. pinnàtum*, Cav.

Runcinate-leaved Nightshade. Fl. Sept. Oct. Clt. 1832. Pl. diffuse.

Order CLXX. VERBA'SCINÆ (this order contains plants agreeing with the genus *Verbáscum* in important characters.) Nees ab Esenbeck, in Lin. trans. 17. p. 78. Solàneæ genera, Juss. gen. p. 123. edit. Usteri. p. 139. Scrophularíneæ, tribe A. Verbásceæ, Bartl. and Rchb.—See R. Br. prod. p. 444.

Corolla rotate, with a flat, 5-cleft, unequal limb, or ventricose, with a bilabiate limb. Stamens 5, of different forms; of these the upper one is sometimes sterile or wanting. Anthers 1-celled, adnate to a hatchet-shaped connective. Carpels 2, joined into a capsule, which opens from the apex. Endocarp changing into a bipartible dissepiment. Placenta marginal, combined into a central column, which is free from the margins, and constituting the axis of the dissepiment, and which is rather prominent in the hollow of both carpels. Seeds many, reniform, albuminose. Embryo a little arched, central.—Perennial or biennial herbs, of a mucilaginous substance. Leaves alternate, usually decurrent or opposite, on a straight or twiggy stem. Flowers disposed in terminal, usually elongated racemes or spikes, propped by the decreasing leaves. Corollas white, yellow, or purple. Filaments usually bearded.

This order differs principally from *Solanàceæ* in the 1-celled, reniform, or oblong anthers, which are sometimes bent in and complicate, often unequal, and of different forms in the same flower; it also differs from *Schrophulárinæ* by the same reason.

Synopsis of the genera.

1 Verba'scum. Calyx 5-parted. Corolla rotate or funnel-shaped. Stamens 5, inclinate, usually bearded, all antheriferous. Anthers lunate.

2 Ramóndia. Calyx 5-parted. Corolla rotate, rather unequal. Stamens 5, all antheriferous, approximate, bearded? Anthers perforated at the apex.

3 Ce'lsia. Calyx 5-parted. Corolla rotate. Perfect stamens 4, didynamous, bearded; anthers lunate.

4 Isanthe'ra. Flowers polygamous. Corolla in the male flowers rotate, in the female wanting. Stamens equal, glabrous; anthers reniform, dehiscing by a vertical chink.

I. VERBA'SCUM (of Pliny, who deduces it from *Verbèna;* but according to others, it should have been *Barbáscum*, from the bearded filaments. Hence it is called *Barbasso* in Italian; and one species is called *Thápsus barbàtus* by some old authors.) Tourn. inst. t. 61. Lin. gen. no. 245. Schreb. gen. no. 331. Juss. gen. p. 124. ed. Usteri, p. 139. Gærtn. fruct. t. 55. Lam. ill. 117. f. 2. Schrad. verb. in colum. soc. goett. vol. 2. 1813. Nees, in Lin. trans. 17. p. 79.—Blattària, Tourn.

Lin. syst. *Pentándria, Monogýnia*. Calyx 5-parted. Corolla rotate or funnel-shaped. Stamens 5, all antheriferous, inclinate, usually bearded. Anthers all or only some of them in the same flower, lunate. Capsule 2-valved; valves bent in. Seeds fixed to the central placenta.—Usually strong, erect, perennial, or biennial herbs. Leaves broad, usually decurrent, decreasing in size as they ascend the stem, until they become bracteas. Flowers yellow, white, purple, or copper-coloured, disposed in elongated, dense or loose, racemes or spikes.

§ 1. *Leaves decurrent. Flowers disposed in dense spikes.*

1 V. Tha'psus (Lin. spec. p. 252.) leaves crenulated, decurrent, lanceolate-oblong, tomentose: superior ones acute; racemes spicate, dense; calycine segments lanceolate, acute, tomentose above, equal in length to the fruit; corolla subrotate, with oblong, obovate, obtuse segments; anthers nearly equal. ♂. H. Native throughout Europe, Siberia, Tauria, and Caucasus, in sterile and waste places, especially on a gravelly or calcareous soil; plentiful in Britain, in like situations; also of Nipaul and Kamaon. Smith, engl. bot. t. 549. Oed. fl. dan. t. 631. Schkuhr, handb. 1. p. 136. t. 42. Woodv. med. bot. p. 342. t. 125. V. lychnìtis, Schultz, starg. no. 185. V. pállidum, Nees, in flora, 2. p. 295. V. I'ndicum, Wall. cat. no. 2630. B. C. and F.—Gmel. sib. 4. p. 91. no. 415.—Hall. helv. no. 581.—Blackw. herb. t. 3.—Mor. hist. 2. sect. 5. t. 9. f. 1. —Lob. icon. 1. p. 561. Plant soft from tomentum in every part. Lower leaves a foot long. Racemes densely spiked, fascicled, simple, or branched, often 3 feet long. Corolla yellow.

The 3 smaller filaments densely clothed with white hairs; but the 2 larger ones but sparingly so in the middle. This plant is very apt to run into mules by the impregnation of other species. The leaves and whole herb are mucilaginous, and recommended as emollients, both internally and externally. A pint of cow's milk, with a handful of the leaves, either of this or any allied species, boiled in it to half a pint, sweetened with sugar, strained, and taken at bed-time, is a pleasant emollient, and nutritious medicine for allaying a cough, and more particularly for taking off the pain and irritation of hæmorrhoids. It is often applied externally in this disorder; and is used as an injection in tenesmus with advantage. In diarrhœas of an old standing, a decoction of it is useful to ease the pains of the intestines: two ounces of the leaves are boiled in a quart of water, and 4 ounces are given every 3 hours. In pulmonary complaints of cattle it is found to be of great use; and hence its name of Cow's Lungwort. It is well known to the country cow-leeches under the name of Murrain-grass, which is a corruption of Mullien. The French call it Bouillon blanc, and use an infusion of the flowers in coughs, supposing them to possess anodyne and pectoral virtues. It does not seem to have much of the narcotic powers for which the *Solanàceæ* are distinguished. The seeds, however, are said to stupify fish so much that they may be taken with the hand.—Woodville. In the East Indies, the natives have the superstitious notion of the efficacy of this plant in protecting them from the visitation of evil spirits.

The plant has many names in English. Gerarde enumerates *Mullien*, or rather *Woollen*, *Hig-taper*, *Torches*, *Lung-woort*, *Bullock's Lung-woort*, and *Hare's Bearde*. Withering adds *Ladies' Foxglove*. It is probable that Gerarde's correction of *Mullien* to *Woollen* is right, especially as it is called in Dutch *Wullkraut*. The French name *Molene* is probably borrowed from our word Mullien. *Hig-taper* is altered to *High-taper* in all modern books, supposing it to have been so named from its high tapering stem; but in the North it is called *Hag-taper*, probably from its supposed efficacy in sorcery.

Var. β; flowers white. ♂. H. V. elongàtum, Willd. enum. 1. p. 223. V. II. flore albo, Tabern. krauter. p. 956. with a figure.

Var. γ; leaves narrower. ♂. H. V. angústius, Dodon. hist. p. 143. with a figure.—Mor. hist. 2. sect. 5. t. 9. f. 7. Schrank, in Hoppe, taschen. 1809. p. 90.

Shepherd's-Club, or Common Mullien. Fl. July, Aug. Britain. Pl. 3 to 6 feet.

2 V. I'NDICUM (Wall. in Roxb. fl. ind. 2. p. 236. cat. no. 2630. Nees, in Lin. trans. 17. p. 80.) leaves decurrent, elliptic-oblong, crenated, undulated, clothed with woolly tomentum; racemes spicate, dense; bracteas and calyxes woolly, cuspidate, longer than the fruit; corolla subrotate, with roundish segments; anthers nearly equal. ♂. H. Native of Nipaul. V. Thápsus, Roxb. fl. ind. l. c. Flowers yellow. Nearly allied to *V. Thápsus*, but perfectly distinct.

Indian Mullien. Fl. July, Aug. Clt.? Pl. 3 to 4 feet.

3 V. MACROU'RUM (Tenore, fl. neap. prod. 5. ex Linnæa, 3. p. 98.) leaves decurrent, elliptic, crenulated, clothed with white tomentum; spike very dense and very long, usually simple; bracteas ovate-lanceolate, about equal in length to the calyx; corolla funnel-shaped, with orbicular segments, which are woolly beneath; filaments clothed with yellow wool; anthers about equal. ♂. H. Native of Calabria, at the foot of the mountains. This species differs from *V. Thápsus*, in the spikes being much more crowded; in the flowers being altogether sessile, imbricate; in the corolla being twice the size; in the filaments being equal, and densely woolly.

Long-tailed Mullien. Fl. July, Aug. Pl. 3 to 4 feet.

4 V. THAPSIFÓRME (Schrad. verb, p. 21.) leaves decurrent, crenulated, tomentose: superior ones acuminated; racemes spicate, dense; corolla rotate, with obovate-rounded segments. ♂. H. Native of Lower Saxony, in waste sterile places; and not far from Paris. V. intermèdium, Leman, ined. V. Thápsus, Merat, fl. par. p. 85. no. 407. Habit of *V. Thápsus*. Tomentum yellowish-green. Lower leaves 4 to 6 inches long. Racemes more than a span long, simple. Flowers twin, or by threes, rarely solitary, sweet-scented, form and colour of those of *V. phlomoìdes*. The 2 longer filaments naked, or furnished with a few hairs on the inner side, bearing oblong anthers; the other 3 bearded.

Thapsus-formed Mullien. Fl. July, Aug. Clt. 1817. Pl. 3 to 4 feet.

5 V. CRASSIFÒLIUM (Hoffm. et Link, fl. port. 1. p. 213. t. 26. Schrad. mon. p. 22.) leaves decurrent, obsoletely crenulated, densely tomentose: superior ones acutish; racemes spicate, dense; filaments glabrous; 2 of the anthers oblong. ♂. H. Native of Portugal, in sandy places. V. Thápsus, Brot. fl. lus. 1. p. 270. Plant densely clothed with rusty yellow tomentum. Stem simple. Lower leaves obovate-elliptic. Very like *V. thapsifórme*, and agreeing with it in the form of the anthers; but it is readily distinguished, in the filaments being all glabrous. V. crassifolium, of D. C. fl. gall. no. 2670. exclusive of the synonymes, may be the same.

Thick-leaved Mullien. Fl. July, Aug. Clt. 1818. Pl. 2 to 3 feet.

6 V. CUSPIDA'TUM (Schrad. verb. p. 23. t. 1. f. 1.) leaves decurrent, crenulated, tomentose: superior ones cuspidate; fascicles of racemes remote; 2 of the anthers oblong. ♂. H. Native about Vienna, in mountain groves. V. Thápsus, Bot. vindob. The stem is usually more dwarf than in *V. Thápsus*, less thick, and the leaves and the tomentum thinner. The upper cauline leaves are drawn out into long taper points. The disposition and form of the flowers come near to *V. phlomoìdes*. Fructiferous pedicels about equal in length to the calyx, not twice as short as in *V. Thápsus*. Corolla exactly rotate, with obovate unequal segments, larger than those of *V. Thápsus*, but smaller than those of *V. phlomoìdes*. The colour of the plant is pale green, as is generally observed in *V. Thápsus*.

Cuspidate-leaved Mullien. Fl. May, June. Clt. 1817. Pl. 3 to 4 feet.

7 V. NI'VEUM (Tenor. fl. neap. p. 90. t. 22. syn. p. 36. prod. p. 16. Gussone, pl. rar. 103.) leaves crenated, clothed with white floccose tomentum; racemes spicate, dense; anthers equal. Schrad. verb. p. 23. Radical leaves petiolate, obovate, cuneated: cauline ones stem-clasping, elliptic, crenated, clothed with white tomentum on both surfaces; spike simple, compact; filaments bearded with white hairs. ♂. H. Native of Naples, in the province of di Bari e di Lecce, in pastures; and of the mountains of Lucania, and of Calabria. The whole plant white from tomentum, except the upper surfaces of the adult leaves, which are green. Flowers yellow, nearly sessile, fascicled. Raceme simple, not branched. All the filaments clothed with white wool. Leaves never decurrent. There are varieties of this having the tomentum either white or yellowish.

Snow-white Mullien. Fl. April, May. Clt. 1823. Pl. 3 to 4 feet.

8 V. DENSIFLÒRUM (Bertol. pl. rar. ital. 3. p. 52. Schrad. verb. p. 24.) leaves tomentose: radical ones long-lanceolate, crenated, deeply serrated at the base: upper cauline leaves acuminated, dentate, semidecurrent; racemes spicate, dense; anthers equal? ♂. H. Native of Italy, on the top of Mount Bruciana, which is situated between Carraria and Massa. Upper part of plant clothed with fulvous tomentum. Radical leaves more than 1½ foot long, green above, but paler beneath. Raceme simple, more than a foot long, fascicled. Corollas large,

yellow. Filaments clothed with white wool. Capsule tomentose.

Dense-flowered Mullien. Pl. 4 to 6 feet.

9 V. THAPSOÏ'DES (Hoffm. et Link, fl. port. 1. p. 214. exclusive of the synonymes. Schrad. verb. p. 25. t. 5. f. 2.) leaves crenulated, tomentose: radical ones oblong-lanceolate: cauline ones oblong, acute, semidecurrent; racemes subspicate; fascicles of flowers rather crowded; anthers nearly equal. ♃. H. Native of Portugal. Stem branched at top; branches floriferous. Plant clothed with canescent tomentum. Upper surfaces of the leaves green in the adult state, and less tomentose. Radical leaves a span to a foot and more long. One or two of the flowers in each fascicle usually fertile, the rest sterile. Corolla yellow, size of those of *V. Lychnìtis*. Filaments clothed with white wool. Perhaps *V. Lychnìtis*, Brot. fl. lus. 1. p. 272.

Var. β, simplex; stem simple, and more humble. ♃. H. V. símplex, Hoffm. et Link. fl. port. 1. p. 216. V. dùbium, Rœm. et Schultes, syst. 4. p. 330.

Thapsus-like Mullien. Fl. July, Aug. Clt. 1819. Pl. 4 to 6 feet.

10 V. PLANTAGI'NEUM (Mor. elench. sard. ex Bull. 14. p. 348.) plant clothed with fulvous tomentum; leaves obsoletely crenulated, thick: cauline ones decurrent, crowded, oblong: radical and lower leaves attenuated into the petioles, ovate-elliptic, obtuse; racemes densely spicate; filaments clothed with coppery villi. ♂. H. Native of Sardinia, on the hills of Cala and D'Ostia Pula, in arid pastures. Said to be nearly allied to *V. thapsoìdes*.

Plantain-leaved Mullien. Pl. 4 to 5 feet.

11 V. GOSSYPI'NUM (Bieb. fl. cauc. suppl. p. 152.) leaves decurrent, crenulated, green, and rather woolly above, but clothed with white wool beneath; racemes simple, tailed; pedicels fascicled, rather shorter than the calyx. ♂. H. Native of Iberia. Habit of *V. gnaphaloìdes;* the down, inflorescence, flowers, and capsules, are also the same; but the leaves are narrower, and the crenæ more minute. Filaments copper-coloured; the 2 shorter ones clothed with white tomentum above the middle; the other 3 longer, and naked. Corollas yellow.

Woolly Mullien. Fl. July, Aug. Clt. 1820. Pl. 4 to 6 feet.

12 V. MACRA'NTHUM (Hoffm. et Link. fl. port. 1. p. 215. t. 27.) leaves crenulated, tomentose: radical ones elliptic-oblong, attenuated at the base: cauline ones oblong, acute, semidecurrent; fascicles of racemes remote; two of the anthers oblong. ♂. H. Native of the North of Spain, by way sides. Schrad. verb. p. 27. Plant tomentose. Leaves green above: radical ones 3-4 inches long. Racemes a foot long, or more. Corollas large, showy, yellow, with broad, obovate-roundish, unequal segments. Filaments clothed with copper-coloured wool; but the 2 longer ones only at the base.

Large-flowered Mullien. Fl. June, July. Clt. 1820. Pl. 3 to 4 feet.

13 V. AUSTRA'LE (Schrad. verb. p. 28. t. 2.) leaves crenated, tomentose: radical ones oblong-lanceolate, tapering into the petioles: cauline ones oblong, acute, decurrent: uppermost ones broad-ovate, cuspidate, semidecurrent; fascicles of racemes remote; 2 of the anthers oblong. ♂. H. Native of the South of Europe. Plant clothed with tomentum, like *V. phlomoìdes*. Radical leaves a foot and more long. Racemes simple, 1½ foot long; but sometimes, as in strong plants, it is branched at the base. Flowers sweet-scented. Corolla, calyx, stamens, and stigma, size, colour, and structure of those of *V. phlomoìdes*.

Southern Mullien. Fl. July, Aug. Clt. 1815. Pl. 4 to 6 feet.

14 V. PHLOMOI'DES (Lin. spec. 253.) leaves crenated, tomentose: radical ones elliptic, or ovate-elliptic, petiolate: cauline ones oblong, acute: superior ones broad-ovate, cuspidate, stem-clasping, decurrent; fascicles of racemes rather remote; 2 of the anthers oblong. ♂. H. Native of Europe, Tauria, Caucasus, and Turkey, in sterile and uncultivated places. Sibth. et Smith, fl. græc. t. 224. Bieb. fl. cauc. no. 398. exclusive of the syn. of Tabern. and Dodon. Mœnch, hass. no. 170. t. 4. Mill. fig. t. 273. V. tomentòsum, Lam. fl. fr. 2. p. 260. V. rugulòsum, Willd. enum. 1. p. 224. V. pulveruléntum, Spreng. hal. no. 233. V. Thápsus, Plenck, med. t. 109. V. thapsoìdes, Vill. dauph. 1. p. 490. V. grandiflòrum, Mill. dict. no. 5. Stem branched at top, tomentose, as well as the leaves and calyxes. Leaves usually yellowish-green: radical ones 3-4 inches long. Racemes from a span to a foot, or longer, branched a little at the base. Flowers sweet-scented. Corolla yellow, showy, size of those of *V. macránthum*, with broad obovate-roundish, unequal segments. The 3 smaller filaments clothed with dense purple wool; the 2 longer ones, for the most part, naked, or but rarely furnished with a few hairs in the middle. Capsule roundish-ovate, blunt.

Var. β, albiflòrum; flowers white. Lob. icon. t. 560. f. 2.

Phlomus-like Mullien. Fl. June, July. Clt. 1739. Pl. 3 to 4 feet.

15 V. CONDENSA'TUM (Schrad. verb. p. 31. t. 3.) leaves tomentose: radical ones elliptic-oblong, attenuated at the base, unequally and doubly crenated: cauline ones oblong, acute, simply crenated; superior ones roundish-ovate, cuspidate, decurrent; racemes dense, fascicled; two of the anthers oblong. ♂. H. Native of Austria, in sterile places. Stem divided at top into floriferous branches. Radical leaves 1 to 1½ foot long. Racemes a foot to 1½ foot long. Flowers and fruit agreeing with *V. phlomoìdes*.

Close-flowered Mullien. Fl. July, Aug. Clt. 1820. Pl. 5 to 6 feet.

16 V. NEMORÒSUM (Schrad. verb. p. 32. t. 1. f. 2.) leaves acute, crenated, tomentose: radical ones oblong, attenuated at both ends: lower cauline ones lanceolate, narrowed at the base: middle ones oblong-lanceolate: and the superior ones oblong and decurrent; fascicles of racemes rather remote; 2 of the anthers oblong. ♂. H. Native of Austria, in groves, Schott. Nearly allied to *V. phlomoìdes*, but with a different habit. Radical leaves a span and more long: lower cauline ones more than a foot long. Racemes solitary, simple. Calyxes, corolla, and fruit, as in the two preceding species.

Grove Mullien. Fl. July, Aug. Clt. 1820. Pl. 4 to 5 feet.

17 V. MONTA'NUM (Schrad. hort. gött. fasc. 2. p. 18. t. 12. verb. p. 33.) leaves tomentose: radical ones oblong-elliptic, crenulated, petiolate: cauline ones oblong, acutish, obsoletely crenulated: superior ones acute, decurrent; raceme subspicate; fascicles of flowers rather crowded; anthers nearly equal. ♂. H. Native of the Pyrenees; also of Switzerland and Germany. V. phlomoìdes, Spreng. hal. no. 231. Schleich. pl. rar. cent. 1. no. 27. Stem simple, clothed with rusty yellow tomentum, as well as the leaves and other parts. Radical leaves 3-5 inches long. Racemes 3 inches to ½ a foot. Flowers sometimes solitary, but usually fascicled. Corolla size, colour, and form of those of *V. Thápsus*. The 3 smaller filaments clothed with white wool: the 2 larger ones beset with scattered hairs, rarely naked. Capsule ovate, obtuse, about equal in length to the calyx. In shady places this plant becomes 6 feet high, and branched at top; and the leaves shining, green above; but in dry exposed places not above 2 feet, and unbranched.

Mountain Mullien. Fl. July, Aug. Clt. 1819. Pl. 2 to 6 feet.

18 V. COLLI'NUM (Schrad. verb. p. 35. t. 5. f. 1.) leaves crenate, tomentose: lower ones elliptic-oblong, petiolate: middle cauline ones oblong-lanceolate, acutish, attenuated at the base: superior ones oblong, acute, decurrent; fascicles of racemes remote; anthers equal. ♃. H. Native of the North of Germany, on dry grassy hills. Stem simple, reddish-green at bottom, tomentose. Leaves pale green above, and canescent beneath: radical ones 4 or 4½ inches long. Racemes 1 to 1½ foot long, solitary; but in strong plants there are sometimes 1-2 small branches at the base. Calyx and corolla almost as in *V. nìgrum;* and the filaments are clothed with purple wool as in it; pollen red. Capsule small, oblong-ovate, obtuse.

Hill Mullien. Fl. July, Aug. Clt. 1820. Pl. 3 to 4 feet.

19 V. VERSIFLÒRUM (Schrad. verb. p. 36.) leaves crenated, tomentose: lower ones elliptic-oblong, petiolate: cauline ones oblong, acute, decurrent: upper ones acuminated; racemes panicled; fascicles remote, few-flowered; anthers equal. ♃.? H. Native near Prague, in sandy places, Tausch. This elegant species comes very near the V. rubiginòsum, Waldst. et Kit, but differs in the colour of the flowers. Plant clothed with greenish-yellow tomentum. Stem divided into many floriferous branches towards the apex. Radical leaves 3½ to 6 inches long. Racemes more than a foot long, panicled. Flowers size of those of *V. phœníceum*, sweet-scented. Corolla of a reddish copper-colour, verging to yellow towards the tube, with obovate-roundish segments, furnished with yellow wool at the base of the smaller ones, as in *V. Blattària*, as well as the smaller filaments; but the 2 longer filaments are clothed with purple wool. Pollen white. Capsule ovate, obtuse, a little larger than the calyx. Corollas sometimes twice the size of those of *V. phlomoìdes.*

Party-flowered Mullien. Fl. June, July. Clt. 1823. Pl. 3 to 4 feet.

20 V. RAMI'GERUM (Link, in litt. ex Schrad. verb. p. 37. t. 4.) leaves clothed with fine tomentum: radical ones oblong-lanceolate: cauline ones oblong, acute, doubly crenated, semidecurrent: upper ones acuminated; racemes panicled; fascicles remote, many-flowered; anthers equal. ♂. H. Native of Germany. Habit of *V. Lychnìtis.* Stem much branched, tomentose. Leaves canescent beneath: radical ones often a foot long. Calyx as in *V. phlomoìdes*, but one half smaller, nevertheless larger than that of *V. Lychnìtis*, but the stamens are the same.

Branch-bearing Mullien. Fl. July, Aug. Clt. 1824. Pl. 4 to 6 feet.

21 V. BASTA'RDI (Rœm. et Schultes, syst. 4. p. 335.) leaves oblong-lanceolate, downy or villous, crenated, and subdecurrent; flowers twin or glomerate; stem much branched. ♂. H. Native on argillaceous hills about Mayenne, near Montreuil-Belfroy. V. blattarioìdes, β. caule ramosissimo, Bast. suppl. fl. Main. et Loire, p. 42.? V. ramosíssimum, D. C. fl. fr. suppl. p. 416. no. 4679. a. but not of Poir. Stem purplish at bottom, downy. Leaves villous, particularly beneath, half stem-clasping. Branches of panicle elongated. Flowers pedicellate. Corolla yellow; hairs of stamens purple. Said to be nearly allied to *V. ramigerum*, and probably only a variety of it.

Bastard's Mullien. Fl. July, Aug. Clt. 1824. Pl. 5 to 6 feet.

22 V. MUCRONA'TUM (Lam. dict. 4. p. 218. Schrad. verb. p. 38.) leaves crenated, clothed with hoary tomentum: radical ones oblong-lanceolate: cauline ones oblong, acute, semidecurrent: upper ones ovate, long-acuminated; spikes panicled; flowers glomerate. ♂. H. Native of Candia, Labillardiere. Verbáscum orientàle, maximum, candidissimum, ramis candelabrum æmulantibus, Tourn. cor. p. 8.? The whole plant clothed with hoary tomentum. Stem branched at top. Radical leaves in the cultivated plant 1½ to 2 feet long. Flowers almost sessile. Corolla large, ex Lam., yellow, middle-sized, ex Spec. Filaments all clothed with white wool.

Mucronate-leaved Mullien. Fl. July, Aug. Clt. 1814. Pl. 6 to 8 feet.

23 V. CANDIDI'SSIMUM (D. C. fl. fr. suppl. p. 413. no. 2670.) leaves and whole plant white from floccose tomentum: lower leaves petiolate, oblong-lanceolate, attenuated at both ends, acute: upper cauline ones ovate, acuminated, all decurrent and finely crenated; racemes panicled; fascicles many-flowered, remote. ♂. H. Native near Montpelier, at Port Juvenal. The upper part of the plant is sometimes deficient of floccose tomentum. Calyx small. Corolla yellow, middle-sized. Perhaps the same as *V. mucronàtum* or *V. níveum.*

Var. β; flowers approximate; stem rubiginose.

Very-white Mullien. Fl. July, Aug. Clt. 1823. Pl. 4 to 5 feet.

24 V. AURICULA'TUM (Smith, prod. fl. græc. 1. p. 149. Sibth. et Smith, fl. græc. t. 223.) leaves crenulated, elliptic-oblong, tomentose on both surfaces, auricled at the base: upper ones half stem-clasping; racemes panicled, flexuous; fascicles many-flowered, remote; anthers equal. ♂. H. Native of the Island of Samos. Verbáscum orientàle, maximum, candidíssimum, ramis candelàbrum æmulantibus, Tourn. cor. p. 8. Corollas yellow. Filaments beset with cream-coloured wool. Anthers fulvous.

Auricled-leaved Mullien. Pl. 3 to 4 feet.

25 V. SINUA'TUM (Lin. spec. p. 254.) leaves clothed with powdery tomentum: radical and lower cauline ones sinuated: superior ones crenated, decurrent; spikes panicled; flowers subglomerate; anthers equal. ♂. H. Native of Italy, South of France, Portugal, and Barbary, in arid stony places; very common in Greece. Sibth. et Smith, fl. græc. t. 227. Verbáscum nìgrum foliis papaveris corniculàti, Tourn. inst. p. 147. Verbáscum críspum et sinuàtum, Bauh. hist. 3. p. 860. with a figure.—Mor. hist. 2. sect. 5. t. 9. f. 6. V. intubàceum, Tabern. kraut. p. 956. with a figure. Stem tomentose, branched at top. Radical leaves 3-5 inches long, obtuse. Leaves naked on the upper surface in the adult state. Spikes 1 to 1½ foot long. Flowers on short pedicels. Calyx small. Corolla yellow, like those of *V. Lychnìtis*, but a little larger. Filaments all clothed with purple wool. Anthers all reniform; pollen of a vermilion colour.

Sinuated-leaved Mullien. Fl. July, Aug. Clt. 1570. Pl. 3 to 4 feet.

26 V. HY'BRIDUM (Brot. fl. lus. 1. p. 170.) leaves tomentose: radical ones obovate-lanceolate, undulated, and subsinuated: cauline ones subdecurrent, cordate, oblong, acute, crenated; racemes panicled; flowers glomerate, each glomerule furnished with 3 bracteas. ♂. H. Native of Portugal, in hedges, and in shady, gravelly places about Coimbra. This is said to be a hybrid between *V. sinuàtum* and *V. pulveruléntum.* Stem branched from the base to the apex, villous. Radical leaves 1½ foot long, and 7 inches broad. Corollas yellow; the throat striped with purple. Filaments all clothed with purple villi. The plant is green, though tomentose.

Hybrid Mullien. Fl. July, Aug. Clt.? Pl. 4 to 5 feet.

27 V. CONOCA'RPUM (Mor. elench. sard. ex Linnæa, 5. p. 93.) clothed with white tomentum; leaves somewhat crenated: lower ones elliptic or oblong, petiolate: upper ones ovate, acuminated, somewhat decurrent; fascicles of flowers loosely racemose; capsule oblong-conical, acutish. ♃. H. Native of Sardinia, in the fissures of rocks by the sea shore. Corolla yellow, with a deep violet centre. Filaments bearded with violaceous hairs, the 2 longest ones naked at top.

Cone-fruited Mullien. Pl. 4 to 5 feet.

§ 2. *Leaves not decurrent.*

* *Flowers glomerate.*

28 V. SYRI'ACUM (Schrad. verb. 2. p. 6. t. 1. f. 1.) leaves quite entire, clothed with woolly tomentum: lower ones obovate-lanceolate: superior ones lanceolate; spike simple. ♃. H. Native of Syria, in sterile waste places. The whole plant is clothed with woolly tomentum. Stem 2-3 from the same root, woody at the base. Radical leaves 3 or $3\frac{1}{2}$ inches long. Spike longer than the stem; bundles or glomerules 5-7-flowered. Corolla middle-sized, yellow. Filaments all woolly; anthers equal. Nearly allied to *V. simplex*, Labill.

Syrian Mullien. Pl. 1 to 2 feet.

29 V. UNDULA'TUM (Lam. dict. 4. p. 221.) leaves densely tomentose: lower ones lyrately sinuated, undulated: cauline leaves subsinuated: superior ones oblong-ovate, sessile; spike solitary. ♃. H. Native of the Levant. Stems woody at the base, simple, a little divided, pale, yellowish from tomentum, as well as the leaves. Radical leaves 3-4 inches long. Spike a foot and more long; bundles 3-4-flowered. Corolla yellow. Filaments all woolly.

Undulated-leaved Mullien. Fl. July, Aug. Clt. 1819. Pl. $2\frac{1}{2}$ to 3 feet.

30 V. CERATOPHY'LLUM (Schrad. verb. p. 7. t. 1. f. 2.) leaves tomentose on both surfaces: lower ones sub-pinnatifid: upper ones entire; spikes panicled; outer bracteas quite entire. ♂. H. Native of the Levant. Stem branched at top, tomentose. Radical leaves a span or more long: uppermost cauline leaves half-stem clasping, unequally serrated. Spikes a foot and more long; bundles remote, 3-4-flowered. Corolla like that of *V. blattària*, yellow. Filaments all clothed with yellow wool. Pollen yellow.

Buckhorn-leaved Mullien. Pl. $2\frac{1}{2}$ to 3 feet.

31 V. PINNATI'FIDUM (Vahl, symb. 2. p. 39. Bieb. fl. cauc. 1. p. 404. Schrad. verb. 2. p. 8.) leaves tomentose beneath: lower ones bipinnatifid: upper ones pinnatifid; spikes panicled; outer bracteas serrated. ♂. H. Native of Tauria, in the sea sand; and of the Islands of the Archipelago. Sibth. et Smith, fl. græc. t. 228. V. bipinnatífidum, Sims, in Curt. bot. mag. t. 1777. V. sinuàtum, Habl. taur. p. 156. Stems sometimes branched from the base, clothed with hoary tomentum. Radical leaves 3-4 inches long. Spikes a span and more long, but those of the branches shorter. Corollas like those of *V. blattària*, yellow. Filaments orange-coloured, clothed with white or fulvous wool; pollen vermillion. Anthers all reniform.

Pinnatifid-leaved Mullien. Fl. July, Aug. Clt. 1788. Pl. $2\frac{1}{2}$ to 3 feet.

32 V. PLICA'TUM (Sibth. et Smith, fl. græc. t. 226.) leaves tomentose, plicately pinnatifid: upper cauline ones sessile; spike simple, interrupted, leafy; anthers equal. ♂. H. Native of the Island of Hydra; plentiful near Athens. V. sinuàtum, β, Lin. spec. p. 255. V. pinnatífidum, Ait. hort. kew. ed. 2d. vol. 1. p. 386, but not of Vahl. V. Græcum fruticosum, folio sinuato candidissimo, Tourn. cor. p. 8. itin. 1. p. 128, with a figure. Plant densely clothed with woolly, cream-coloured tomentum. Leaves obovate-oblong, lyrately sinuated: radical ones a span long, petiolate. Filaments bearded with yellow hairs. Corolla yellow.

Plicate-leaved Mullien. Pl. 2 to 3 feet.

* * *Flowers fascicled.*

33 V. CHRYSE'RIUM (Schrad. verb. 2. p. 9.) leaves quite entire, tomentose: lower ones obovate-lanceolate, obtuse, tapering into the petioles: cauline leaves oblong-lanceolate, acutish, nearly sessile: uppermost ones broad-ovate, acuminated, half stem clasping; racemes panicled; pedicels about equal in length to the calyx; anthers equal. ♂.? H. Native of Palestine, Sieber. Plant clothed with yellowish tomentum. Stem simple, or divided a little at top. Leaves thick: radical and lower cauline ones 4-5 inches long. Racemes about a span long. Corolla yellow; ? filaments glabrous.

Golden Mullien. Pl. 2 to 3 feet.

34 V. SCHOTTIA'NUM (Schrad. verb. 2. p. 13. t. 3. f. 2.) leaves crenated, tomentose: lower ones oval-oblong, acutish, petiolate: middle cauline leaves oblong, acute, sessile: superior leaves ovate, acuminated, subcordate, half stem-clasping; racemes panicled; pedicels twice as long as the calyx. ♂. H. Native of Austria, in groves. Allied to the preceding. Stem simple, or divided a little at top. Radical leaves a span to 1 foot long. Racemes a span long; fascicles 5-10-flowered. Calyx and corollas as in *V. speciòsum*. Filaments clothed with purple wool. Anthers all reniform; pollen vermillion. The leaves are nearly naked in summer.

Schott's Mullien. Pl. 3 to 4 feet.

35 V. LEPTOSTA'CHYUM (D. C. fl. fr. suppl. no. 2676.) leaves oblong, tomentose: lower ones bluntish, crenulated, tapering into the petioles: cauline leaves acute, quite entire, sessile: superior ones ovate, acuminated, half stem-clasping; racemes elongated; pedicels shorter than the calyx. ♂. H. Native near Montpelier, in stony fields near Port Juvenal, D. C. Schrad. verb. 2. p. 14. Plant clothed with white tomentum. Stem simple, terete. Radical and lower cauline leaves 3-5 inches long: the middle cauline leaves 2-3 inches long. Raceme solitary; fascicles 5-7-flowered. Calyx nearly the size of *V. phlomoìdes*. Corolla like that of *V. speciòsum*, yellow. Filaments all woolly; anthers equal. In strong plants the stem is furnished with a branch or two at top.

Slender-spiked Mullien. Fl. July, Aug. Clt. 1825. Pl. 3 to 4 feet.

36 V. ROTUNDIFÒLIUM (Tenore, prod. suppl. 2. p. 66. syn. p. 37. fl. neap. p. 92. t. 23.) leaves crenated, sub-undulated, clothed with hoary tomentum: lower ones oval, petiolate: cauline leaves ovate-elliptic, nearly sessile: uppermost ones roundish-ovate, acute, half stem-clasping; racemes subspicate; pedicels shorter than the calyx. ♂. H. Native of Sicily; and of Capra Island. Schrad. verb. 2. p. 50.—Micheli. in Till. hort. pis. p. 171. Habit of *V. gnaphalòdes*, but the tomentum is finer, and hoary. Upper leaves clasping at the base, adnate, not free. Racemes 1 to $1\frac{1}{2}$ foot, simple, or furnished with 1 or 2 small branches at the base; fascicles remote, few-flowered. Corolla yellow. Filaments clothed with purple wool.

Round-leaved Mullien. Fl. July, Aug. Clt. 1823. Pl. 4 to 5 feet.

37 V. LONGIFÒLIUM (Tenore, fl. neap. 1. p. 89. t. 21. prod. p. 16. syn. p. 37. Gussone, pl. rar. p. 102.) leaves quite entire, tomentose; lower ones oval-lanceolate, petiolate: cauline ones oblong, acuminated, half stem-clasping; racemes elongated; pedicels twice as long as the calyxes; two of the anthers oblong. ♂. H. Native of Abruzzo, plentiful in mountain pastures. Verbáscum montanum, tomentosum longifòlium luteum, foliis non serratis, flore parvo, caule rotundo, Micheli, in Till. hort. pis. p. 171. Plant clothed with yellowish floccose tomentum. Stem branched at top. Radical leaves $1\frac{1}{2}$ foot long. Racemes 2 feet or more long; fascicles remote, many-flowered. Corollas rather mealy, and covered with stellate pili outside, yellow, like those of *V. pyramidàle*. Filaments clothed with purple wool, but the 2 longer ones only at the base inside. The lower leaves in the cultivated plant are repand inside, rarely sub-sinuated, and the superior ones are crenulated. There are

varieties of this species having the stem simple, or branched, and the tomentum sometimes white.

Long-leaved Mullien. Fl. July, Aug. Clt. 1824. Pl. 4 to 5 feet.

38 V. MICRA'NTHUM (Moretti, dec. pl. itin. 3. p. 6. Guss. pl. rar. p. 103.) stem branched; radical leaves petiolate, oblong-lanceolate, acute, crenulated, canescent beneath: cauline leaves scattered, sessile, becoming gradually narrower as they ascend the stem; racemes compound; fascicles remote. ♂. H. Native of Abruzzo, in stony and shady places on the mountains called Morone, Magella, Aquila, Chiarino. Filaments copper-coloured: the 2 longer ones from the base to the middle, bearded by white villi: the 3 shorter ones all their length. Anthers equal, copper-coloured.

Small-flowered Mullien. Pl. 3 to 4 feet?

39 V. SPECIÒSUM (Schrad. hort. gœtt. fasc. 2. p. 22. t. 16. verb. 2. p. 12.) leaves tomentose, quite entire: lower ones oval-lanceolate, tapering into the petioles: cauline ones auriculately cordate, sessile; racemes panicled; pedicels twice or thrice as long as the calyx; anthers equal. ♂. H. Native of Hungary, Austria, and France, in mountain groves. V. longifòlium, D. C. fl. gall. suppl. p. 414. Stem angular, and branched at top. Plant clothed with white tomentum. Radical leaves 1 to 1½ foot long. Racemes 1-2 feet long; fascicles many-flowered. Corolla yellow. Filaments copper-coloured, clothed with white wool. Pollen vermillion, rarely copper-coloured.

Var. β; stem much branched. ♂. H. Native of Austria. V. thapsoìdes, Host, fl. austr. p. 115. V. cærùleum, Schanz, in cat. sem. hort. vind. 1822. It should have been *V. caulés-cens*, instead of *V. cærùleum*.

Showy Mullien. Fl. July, Aug. Clt. 1818. Pl. 4 to 7 feet.

40 V. GNAPHALÒDES (Bieb. fl. cauc. suppl. p. 152. Schrad. verb. 2. p. 15.) leaves crenated, clothed with dense, floccose tomentum beneath: lower ones oval-oblong, petiolate: cauline ones oblong, acute, nearly sessile: upper ones roundish-ovate, long-acuminated, half stem-clasping; racemes terminal, very long; pedicels about equal in length to the calyxes. ♂. H. Native of the South of Tauria. V. Stevènii, Cat. sem. hort. vind. 1821. Very like *V. floccòsum*, but the habit is more robust, and the leaves evidently crenated. Racemes 3 feet long and more, sometimes furnished with a few short racemes; lower fascicles remote: upper ones crowded. Corolla yellow. Plant clothed with white floccose tomentum, except the upper surfaces of the adult leaves.

Gnaphalium-like Mullien. Fl. July, Aug. Clt. 1825. Pl. 6 feet or more.

41 V. FLOCCÒSUM (Waldst. et Kit. pl. hung. 1. p. 81. t. 71.) leaves undulately-crenulated, densely clothed with floccose tomentum: lower ones oblong-oval, petiolate: cauline ones oblong, acute, sessile: uppermost ones roundish-ovate, long-acuminated, half stem-clasping; racemes panicled; pedicels equal in length to the calyx. ♂. H. Native of Portugal, France, Switzerland, Italy, Sicily, shores of Austria, Hungary, and Calabria, in sterile, sandy places. D. C. fl. fr. suppl. no. 2673. a. Schrad. verb. 2. p. 16. V. pulveruléntum, Hoffm. et Link. fl. port. 1. p. 217, exclusive of the syn. of Villars. V. pulvinàtum, Thuill. fl. par. p. 109.—Hall. helv. no. 583.—Bauh. hist. 3. p. 872. and 873, with a figure.—Mor. hist. 2. sect. 5. t. 9. f. 3. Stem simple, or a little branched at top. Plant clothed with floccose tomentum. Radical and lower cauline leaves ½ a foot, or a span or more long; uppermost leaves sometimes cordate, half stem-clasping. Flowers size, colour, form, and disposition of *V. Lychnìtis flàva*, as well as the structure of the stamens.

Var. β; flowers larger. ♂. H. Native of England. V. pulveruléntum, Smith, fl. brit. 1. p. 251. engl. bot. t. 487.

Var. γ, *nìgro-pulveruléntum* (Schrad. verb. 2. p. 16.) V. pulveruléntum, β, Smith, l. c. V. mixtum, D. C. fl. fr. no. 2674. Said to be a hybrid from *V. floccòsum*, impregnated by the pollen of *V. nìgrum*.

Floccose Mullien. Fl. June, Aug. Clt. 1805. β and γ, England. Pl. 4 to 6 feet.

42 V. PULVERULE'NTUM (Vill. dauph. 2. p. 490, exclusive of the synonymes. Schrad. verb. 2. p. 17.) leaves doubly crenated, tomentose beneath: lower ones oblong-oval, petiolate: cauline ones ovate-oblong, acutish, nearly sessile: upper ones roundish-ovate, acuminated; racemes panicled; pedicels equal in length to the calyxes. ♂. H. Native of Dauphiny. This species has been confused with *V. Lychnìtis flàva*, and *V. floccòsum*, but differs from both in the stem being more humble and terete, and in the leaves being naked above, and in the smaller calyxes, and in the leaves being doubly crenated, and in the tomentum being finer.

Powdery Mullien. Fl. June, Aug. Clt.? Pl. 2 to 4 feet.

43 V. LYCHNI'TIS (Lin. spec. p. 253.) leaves crenated, smoothish above, but clothed with powdery tomentum beneath: lower ones oval-oblong, bluntish, tapering into the petioles: superior ones ovate-oblong, acute, nearly sessile: upper ones ovate, acuminated; racemes panicled; pedicels twice as long as the calyx. ♂. H. Native of Europe, North of Asia, and North America, among rubbish, in waste fields and groves. Jaume, St. Hil. pl. fr. 4. t. 392. V. pulveruléntum, Bieb. fl. cauc. no. 400, and of other Floras. D. C. fl. fr. no. 2672. Stem more or less branched. Radical leaves half a foot long: middle cauline ones 2-4 inches. Racemes a span long, or longer; fascicles 5-7-flowered; the superior fascicles 2-3-flowered. Flowers middle-sized, sweet-scented. Corolla yellow. Filaments clothed with white wool, the 2 longer ones only at the base. Anthers equal; pollen vermillion. *V. Weldènii*, Morelli is only a var. of *V. Lychnìtis*.

Var. β; flowers white. ♂. H. Native along with the species, also in many parts of Britain. V. Lychnìtis, β, Lin. spec. p. 253. Willd. spec. 1003. β. and γ. o. b. Lychnìtis, β, Lam. dict. 4. p. 218. Smith, fl. brit. 1. p. 250. engl. bot. t. 58. Oed. fl. dan. t. 586. V. Mœ'nchii, Schultz, starg. suppl. p. 14. V. thapsoìdes of English authors. V. álbum, Mœnch, meth. p. 447. Bess. fl. gal. no. 267.—Hall. helv. no. 583. β.—Mor. hist. 2. sect. 5. t. 9. f. 4.—Bauh. hist. 3. p. 873, with a figure.—Tabern. kraut. p. 956. icone.—Lob. icon. 1. p. 562.

Var. γ; flowers without petals. ♂. H.

Lychnitis Mullien. Fl. June, Aug. Britain. Pl. 2 to 6 feet.

44 V. RAMOSI'SSIMUM (Poir. suppl. 3. p. 718.) lower leaves ovate-oblong, crenated, nearly glabrous, on short petioles; panicle much branched, beset with glandular hairs; flowers solitary, pedicellate; stem angular, nearly glabrous. ♂. H. Native country unknown; probably of hybrid origin. Plant deep green. Leaves at least 8 inches long: upper ones stem-clasping. Panicle 1 to 2 feet; branches a foot long. Flowers shorter than the pedicels. Corolla yellow. Filaments bearded with purple hairs.

Much-branched Mullien. Fl. July, Aug. Clt. 1824. Pl. 4 to 6 feet.

45 V. MONSPESSULA'NUM (Pers. ench. 1. p. 215. Schrad. verb. 2. p. 20. t. 2. f. 2.) leaves glabrous above, clothed with fine tomentum beneath: cauline ones ovate-oblong, acutish, unequal, crenately serrated, petiolate: upper ones ovate-lanceolate, acute, sessile; racemes panicled; pedicels twice as long as the calyx. ♂. H. Native about Montpelier. Stem sim-

ple, tomentose. Lower cauline leaves $2\frac{1}{2}$ inches long. Terminal raceme half a foot: lateral ones shorter; fascicles remote, 5-7-flowered: upper ones 3-flowered. Flowers yellow, like those of *V. Lychnìtis*, but a little smaller.

Montpelier Mullien. Fl. June, Aug. Pl. 2 to 3 feet.

46 V. ova'tum (Schrad. hort. gött. fasc. 2. p. 21. t. 15. verb. 2. p. 21.) leaves ovate, crenated, glabrous above, and clothed with fine tomentum beneath: lower and cauline ones obtuse, petiolate: superior ones acute, sessile, half stem-clasping; racemes panicled; pedicels twice as long as the calyx. ♂. H. Native of Spain. Stem usually branched from the base, beset with fascicles of stellate hairs, which constitute fine tomentum at top. Radical and lower cauline leaves 3-4 inches long. Lower racemes a span long, leafy at base: superior ones shorter. Flowers scentless, smaller than those of *V. Lychnìtis*, yellow. Filaments clothed with purple wool. Anthers equal; pollen copper-coloured.

Ovate-leaved Mullien. Fl. July, Aug. Clt. 1824. Pl. 2 to 3 feet.

47 V. Austri'acum (Rœm. et Schultes, syst. 4. p. 341. Schrad. verb. 2. p. 22.) leaves crenated, glabrous above, and pubescent beneath: lower and cauline ones oblong-ovate, petiolate: superior ones ovate, acute, nearly sessile; racemes panicled; pedicels about equal in length to the calyx. ♃. H. Native of Austria, and Hungary, on mountains among bushes. V. nìgrum, Plenck. icon. pl. off. t. 110. Habit of *V. Lychnìtis*. Stem simple, or branched, beset with fascicles of small hairs, brownish purple. Leaves deep green: radical ones 4 inches to a span long. Racemes a span or more long: lower ones leafy, and often divided; fascicles 5-7-flowered: upper ones 3-flowered. Flowers sweet-scented. Calyx, corolla, and stamens as in *V. nìgrum*, but the capsule is larger, and the down stellate.

Austrian Mullien. Fl. July, Aug. Clt. 1818. Pl. 3 to 4 feet.

48 V. orienta'le (Bieb. fl. cauc. no 401. and suppl. p. 154. exclusive of the syn. of Schrad. and D. C.) leaves crenated, glabrous above, but clothed with fine tomentum beneath: lower ones oblong, tapering into the petioles: cauline ones oblong-ovate, cordate, on short petioles: upper ones acuminated, nearly sessile; racemes panicled; pedicels hardly exceeding the calyx. ♃. H. Native of the Ukrain, along with *V. nìgrum*. Schrad. verb. 2. p. 23. V. nìgrum, Pall. ind. taur. ex Bieb. Stem flexuous and branched. Leaves opaque. Corolla yellow.

Eastern Mullien. Fl. June, July. Clt. 1821. Pl. 2 to 3 feet.

49 V. alope'curos (Thuill. fl. par. p. 110. D. C. fl. fr. no. 2626.) leaves crenated, downy above, clothed with hoary tomentum beneath: lower ones oblong-ovate, subcordate, petiolate: cauline ones oval-oblong, on short petioles: upper ones oblong-ovate, nearly sessile; racemes simple; pedicels longer than the calyx. ♃. H. Native of France, in arid places. Schrad. verb. 2. p. 26. Very nearly allied to *V. nìgrum*. Stem tomentose, as well as all the plant, with the exception of the upper surfaces of the leaves. Radical and cauline leaves a span long, doubly crenated. Racemes usually simple, a span or more long. Filaments clothed with white wool. The rest as in *V. nìgrum*.

Fox-tail-racemed Mullien. Fl. July, Aug. Clt. 1820. Pl. 3 to 4 feet.

50 V. Cha'ixii (Vill. dauph. 2. p. 491. t. 13. exclusive of the synonymes. Schrad. verb. 2. p. 27.) leaves oblong-ovate, cordate, petiolate, crenated, clothed with fine tomentum: lower ones pinnatifid at the base; racemes panicled; pedicels longer than the calyx. ♂. H. Native of Piedmont, Dauphiny, southern provinces of France, in rocky places. Lam. dict. 4. p. 220. D. C. fl. fr. no. 2680. and suppl. p. 480. Very like *V. nìgrum*, but is less robust, and usually branched above. Leaves deep green. Racemes more numerous, smaller, and more slender, disposed in a panicle, and the flowers are a little smaller.

Var. β, *urticæfòlium*; lower leaves less cut. ♂. H. V. urticæfòlium, Lam. dict. 4. p. 220.

Var. γ, *dentàtum* (Rœm. et Schultes, syst. 4. p. 339. β.) stem twiggy, branched at top; flowers racemosely spicate; corollas villous outside; leaves lanceolate, sessile, tomentose beneath, and rather villous above, serrated: radical ones petiolate, doubly toothed. ♂. H. Native of the Pyrenees. V. dentàtum, Lapeyr. fl. pyr. p. 114. D. C. fl. fr. suppl. no. 2680. a.

Chaix's Mullien. Fl. June, Aug. Clt. 1821. Pl. 3 to 4 feet.

51 V. ni'grum (Dodon. hist. p. 144. icon. Lin. spec. p. 253.) leaves crenated, nearly glabrous above, but clothed with fine tomentum beneath, or pubescent: lower and cauline ones oblong-ovate, cordate, petiolate: superior ones ovate-oblong, nearly sessile; racemes elongated; pedicels twice as long as the calyx. ♃. H. Native throughout Europe and Siberia, in waste places, way-sides, and in hedges; plentiful in some parts of Britain. Smith, engl. bot. t. 59. Oed. fl. dan. 1088. Schrad. verb. 2. p. 24.—Hall. helv. no. 584.—Mor. hist. 2. sect. 5. t. 9. f. 5.—Bauh. hist. 3. p. 873. icone.—Lob. icon. 1. p. 562. Stems simple, or divided a little at apex, brownish-purple, downy, or glabrous. Leaves opaque above. Racemes $1\frac{1}{2}$ foot long, simple, or furnished with 1 or 2 short branches at the base; fascicles many-flowered: lower ones remote: upper ones crowded. Corolla yellow. Filaments clothed with purple wool. Anthers all reniform; pollen vermillion. Down branched, or stellate.

Var. β; racemes subpanicled. ♃. H. Native of France. V. Parisiénse, Thuill. fl. par. p. 110.

Var. γ, *gymnostèmon* (Rœm. et Schultes, syst. 4. p. 345.) stamens glabrous, or naked.

Var. δ, *albiflòrum*; flowers white.

Var. ε; flowers funnel-shaped, proliferous. ♃. H. Native of Siberia. Verbáscum, Gmel. sib. 4. p. 91. t. 47.

Black-rooted Mullien. Fl. May, Aug. England. Pl. 3 to 4 feet.

52 V. Bana'ticum (Schrad. verb. 2. p. 28.) lower leaves oval-oblong, petiolate, triply crenated, tomentose, pinnatifid at the base: cauline leaves oblong-ovate, doubly crenated, nearly sessile: superior ones broad-ovate, subcordate, smoothish, sessile; racemes panicled; pedicels longer than the calyx. ♂. H. Native of Banatu, near Alt-orsowa, and frequent about Topliz. V. sinuàtum, Rochel, pl. ban. exsic. no. 136. V. sinuàtum, β, Banáticum, Rochel, in litt. and Schrad. Upper cauline leaves half stem-clasping, all glabrous above. Down stellate. Herb deep green. Disposition and structure of flowers that of *V. sinuàtum*.

Banatic Mullien. Pl. 2 to 4 feet?

53 V. lana'tum (Schrad. verb. 2. p. 28. t. 2. f. 1.) leaves clothed with woolly tomentum beneath: lower and cauline leaves oblong, petiolate, somewhat triply crenated: upper ones oblong-ovate, sessile, acutely crenated; racemes simple; pedicels twice as long as the calyx. ♃. H. Native of Italy, Bassi; Carnea, Wulf; Carinthia, Bernhardi. Plant clothed with white woolly tomentum, except the upper surfaces of the leaves. Lower leaves 3-4 inches long. Racemes a span long, simple; fascicles remote, 4-6-flowered: lower ones leafy. Flowers sweet-scented. Calyx and corolla as in *V. nìgrum*, but the tube is sometimes spotted with purple. Stamens, structure, and colour of those of *V. nìgrum*.

Woolly Mullien. Fl. July, Aug. Clt. 1825. Pl. 3 to 4 feet.

54 V. RUBIGINÒSUM (Waldst. et Kit. pl. hung. 2. p. 216. t. 197.) leaves crenated, pubescent beneath: lower ones oblong, obtuse, petiolate: cauline ones oblong-ovate, acutish, sessile: superior ones ovate, acute, sub-cordate, half stem-clasping; racemes panicled; pedicels much longer than the calyx. ♂. H. Native of Hungary, about Pesth, Akazto, and elsewhere, Waldst. et Kit.; south of Podolia, Besser; and of Caucasus, in high, grassy lands between Tyra and Borysthene; very rare at the river Terek, Bieb. Habit and flowers of *V. ferrugíneum;* and the leaves like those of *V. phœníceum.* Stem downy. Leaves deep green: radical ones 3-4 inches long. Racemes a foot long, leafy at the base, generally simple; fascicles remote, 3-5-flowered, rarely 6-flowered: upper ones usually 2-flowered. Flowers scentless, size of those of *V. Blattària.* Corolla of a reddish rust colour outside, and of a yellowish rust colour inside, spotted with red towards the tube. Filaments clothed with purple wool. Anthers equal; pollen copper-coloured.

Rusty-flowered Mullien. Fl. June, Aug. Clt. 1817. Pl. 3 to 4 feet.

55 V. HYOSERIFÒLIUM (Schrad. verb. 2. p. 31. t. 3. f. 1.) leaves tomentose: lower ones linear-lanceolate, attenuated at the base: superior ones oblong, acutely-crenated, sessile: upper ones broad-ovate, auriculately cordate; racemes panicled; pedicels twice as long as the calyx. ♂.? H. Native of the Levant. Stem erect, simple, tomentose. Leaves greenish grey beneath: radical and lower cauline leaves a span long, sub-sinuated: upper cauline leaves half stem-clasping. Racemes a span to a foot long; fascicles 4-7-flowered: lower ones remote. Corolla middle-sized, yellow, a little larger than those of *V. Lychnìtis.* Filaments all clothed with yellowish wool; anthers equal.

Hyoseris-leaved Mullien. Pl. 3 to 4 feet.

56 V. VIMINA'LE (Guss. pl. rar. p. 101. t. 21.) stem simple; leaves oblong-elliptic, crenulated, green, and beset with ad-pressed villi above, but clothed with white tomentum beneath; racemes rather crowded; lower fascicles remote; bracteas, calyxes, and capsules densely clothed with mealy tomentum. ♂. H. Native of Japygia, on arid hills, as on Massafra, Castellaneta, and Taranto. Stem tomentose, green, or purplish, 2-4 feet high, tough, and serve for tying, hence the specific name. Radical leaves 5-6 inches long: cauline leaves sessile: upper ones half stem-clasping, drawn out at the base, and therefore somewhat decurrent. Racemes solitary, 1 to 1½ foot long; fascicles 2-4-flowered, one of the flowers usually fertile. Corolla not seen.

Twiggy Mullien. Pl. 3 to 6 feet.

* * * *Flowers twin and solitary.*

57 V. ANGUSTIFÒLIUM (Tenore, prod. suppl. 2. p. 64. syn. p. 37.) leaves crenulated, tomentose: lower ones linear-lanceolate, tapering into the petioles: upper ones oblong-ovate, sessile; spike simple; flowers solitary, sessile. ♂. H. Native of Calabria, and Nicotera, in dry fields. V. Calábricum, Richard, in litt. Stem simple, clothed with canescent tomentum, dwarf. Leaves calvescent above in the adult state. Radical and lower cauline leaves length of stem: upper cauline ones half stem-clasping. Corolla yellow, larger than those of *V. Lychnìtis.* Filaments beset with white hairs. Anthers reniform. The whole plant is densely clothed with canescent tomentum, which becomes loose, and falls off in part during summer.

Narrow-leaved Mullien. Fl. July, Aug. Clt. 1824. Pl. 1 to 1½ foot.

58 V. SÍMPLEX (Labill. pl. syr. dec. 4. p. 10. t. 5.) leaves crenated, tomentose: lower ones obovate-spatulate, tapering into the petioles: upper ones ovate, sessile; racemes subspicate; flowers twin and solitary. ♃. H. Native in sandy places near Damascus. Schrad. verb. 2. p. 32. Stems simple, many from the same root, which is woody, tomentose. Radical and lower cauline leaves 2½ inches long. Flowers nearly sessile: lower and upper ones solitary: the rest twin, but very rarely by threes. Corolla like that of *V. blattària,* but smaller. Stamens all woolly: anthers all reniform. There is a variety of this having the superior flowers smaller and sessile.

Simple-stemmed Mullien. Pl. 1 to 1½ foot.

59 V. MAJA'LE (D. C. fl. fr. suppl. no. 2673. b. Schrad. verb. 2. p. 33.) leaves crenated, tomentose: lower ones ovate-oblong, and ovate, petiolate: upper ones oblong-ovate, sub-cordate, sessile; racemes subspicate; flowers twin and solitary; anthers equal. ♂. H. Native of the Pyrenees, Flügge; in sandy, sterile places near Nice, Rohde; Montpelier at Cambrettes, and elsewhere, D. C. This is a very polymorphous plant, densely clothed with white floccose, caducous tomentum. Stem simple, purplish brown. Radical and lower cauline leaves 2 to 2½ inches long: upper ones half stem-clasping. Flowers on short pedicels. Corolla yellow, size of those of *V. Blattària* and *V. phlomoìdes.* The 3 smaller filaments clothed with purple wool; the 2 longer ones pilose only in the middle.

Var. β, longibracteàtum (Schrad. verb. 2. p. 34.) lower bracteas twice as long as the calyx; the plant is, however, less tomentose, and larger in all its parts than the species.

Hog Mullien. Fl. July, Aug. Clt. 1817. Pl. 2 to 3 feet.

60 V. BUGÙLÆFÒLIUM (Lam. dict. 4. p. 226. Schrad. verb. 2. p. 35. exclusive of the syn. of Lin.) lower leaves broad-ovate, crenated, glabrous, petiolate: superior cauline ones lanceolate, acuminated, deeply serrated, rather pilose; racemes subspicate; flowers solitary; anthers equal. ♂. H. Native about the Bosphorus. Blattària orientàlis, Bugulæ folio, flore maximo virescente, lituris luteis in semicirculum striato, Tourn. cor. p. 8. itin. 2. p. 83. with a figure.—Buxb. cent. 5. p. 17. t. 32. Stem simple, rather villous. Radical leaves 1½ to 2 inches long, obtuse. Flowers on short pedicels. Corollas larger than those of *V. phlomoìdes,* pale green, verging to yellow, marked by 2 purple stripes. Filaments clothed with purple wool; the 2 larger ones only in the middle.

Bugloss-leaved Mullien. Pl. 2 to 3 feet.

61 V. COMPA'CTUM (Bieb. fl. cauc. no. 399, exclusive of the syn. of Till. pis. suppl. p. 151. Schrad. verb. 2. p. 35.) leaves ovate, coarsely crenated, tomentose beneath: lower ones tapering into the petioles: cauline ones petiolate: upper ones sub-cordate, sessile; spikes compact; flowers solitary; 2 of the anthers oblong. ♂. H. Native of Tauria and Caucasus; and Iberia, Bieb.; Lower Volga, Heming. Stem tomentose, simple, or divided a little at top. Leaves at length almost glabrous above. Tomentum of a greyish green colour. Lower leaves 2-3 inches long: upper cauline ones half stem-clasping. Spike ½ a foot to a span long, dense, interrupted a little at the base. Corolla yellow. Filaments copper-coloured, beset with orange-coloured wool, unequal; the 2 longer ones only pilose inside. Pollen vermillion. There is a variety having the radical leaves repandly crenated.

Compact-flowered Mullien. Fl. July, Aug. Clt. 1820. Pl. 2 to 3 feet.

62 V. OVALIFÒLIUM (Donn, hort. cant. ed. 4. p. 42. Sims, bot. mag. t. 1037.) stems simple; leaves oval, sessile, dentately crenated, tomentose beneath, and nearly glabrous above; spike long, simple; flowers solitary? ♃. H. Native of Caucasus. Habit of *Célsia Crética.* Each flower furnished with 3 bracteas: the middle one orbicular, acuminated: lateral ones small. Corolla large, orange-yellow. Filaments fulvous: the 3 smaller ones bearded, the other 2 naked. Capsule globose. Perhaps the same as *V. compáctum.* Leaves large.

Oval-leaved Mullien. Fl. July, Sept. Clt. 1804. Pl. 2 to 3 feet.

63 V. FORMÒSUM (Fisch. hort. gorenki, 1812. p. 25. Schrad. verb. 2. p. 36.) leaves tomentose beneath: lower ones elliptic-ovate, somewhat triply crenated, and are, as well as the cauline ones, petiolate: upper ones ovate, cordate, simply crenated; spikes elongated; flowers solitary; 2 of the anthers are oblong. ♂. H. Native of Tauria, Caucasus, and Iberia. Steven and Ledebour. D. Don, in bot. reg. t. 558. Schrank, hort. mon. t. 22. Stem simple, or branched at top. Spikes dense. Corolla large, yellow, with a dark purple centre. Filaments clothed with purple wool.

Handsome Mullien. Fl. July, Aug. Clt. 1818. Pl. 2 to 4 feet.

64 V. BETONICÆFÒLIUM (Desf. cor. de Tourn. p. 33. t. 23. and in ann. mus. 11. p. 54. with a figure. Schrad. verb. p. 37.) leaves crenated, villous: lower and cauline ones oblong, cordate, petiolate: upper ones oblong-lanceolate, sessile; raceme spicate; flowers solitary; 2 of the anthers are oblong. ♃. H. Native of Armenia. Schrad. verb. 2. p. 37. Stem simple, villous. Leaves deep green: lower and cauline ones 2-3 inches long. Racemes 2-3 inches long. Flowers crowded, on short pedicels. Corollas yellow, smaller than those of *V. Blattària*. Three of the filaments are woolly, and the other two declinate and glabrous. Capsule roundish.

Betony-leaved Mullien. Fl. June, Aug. Clt. 1825. Pl. 1½ to 2½ feet.

65 V. PUNI'CEUM (Schrad. hort. gött. fasc. 2. p. 20. t. 14. verb. 2. p. 38.) leaves doubly crenated, pubescent: radical and lower cauline ones ovate, cordate, petiolate: upper ones oblong-ovate, sessile; racemes elongated; pedicels usually twin, twice as long as the bracteas. ♃. H. Native of the South of Europe. Stems many from the same root, branched at top, rarely simple, more or less downy. Leaves green: radical and lower cauline ones 4-6 inches long, obtuse; one of the lobes at the base longer than the other: upper ones half stem-clasping, acute, or acuminated. Racemes flexuous, drooping at top: terminal one 1 foot and more long; but the lateral ones are much shorter. Flowers twin, except the upper ones, remote. Corolla dirty red. Filaments clothed with purple wool. Anthers all reniform; pollen copper-coloured. Down simple. There is a variety of this having the lower leaves subtriply crenate: the upper ones recurved at top, and the uppermost ones rounded at the base, not cordate.

Light-red-flowered Mullien. Fl. June, Aug. Clt. 1820. Pl. 2 to 4 feet.

66 V. SPECTA'BILE (Bieb. fl. cauc. suppl. p. 158.) leaves oblong-ovate, cordate, doubly crenated, rather villous above, but villously tomentose beneath: lower and cauline leaves petiolate: superior ones sessile, half stem-clasping; raceme terminal, elongated; pedicels twin and solitary, about equal in length to the bracteas. ♃. H. Native of the South of Tauria, on mountains about Sobla; at the fountains of the river Salgir; and on mountains above Utu-Usen, Bieb. Stem simple, and is, as well as the under sides of the leaves, tomentose. Leaves all cordate, green above, but paler beneath: radical and lower cauline ones 2½ to 3½ inches long. Raceme length of stem; those of the branches, if present, shorter. Lower pedicels twin, beset with simple and glandular hairs. Corolla showy, yellow, spotted with purple in the bottom. Capsule downy, mucronate.

Eminent Mullien. Fl. June, July. Clt. 1820. Pl. 2 to 4 feet.

67 V. TRI'STE (Smith, prod. fl. græc. 1. p. 151.) leaves pubescent: lower ones elliptic-ovate, cordate, subsinuated, unequally crenated, petiolate: superior cauline leaves sessile; racemes elongated; pedicels solitary, spreading, much longer than the bracteas. ♃. H. Native on Mount Athos. Schrad. verb. 2. p. 40. V. ferrugíneum, Andr. bot. rep. t. 162. but not of others. Corollas rust-coloured, or yellowish-red.

Sad-flowered Mullien. Fl. July, Aug. Clt. 1788. Pl. 2 to 4 feet.

68 V. FERRUGI'NEUM (Mill. dict. no. 10. Ait. hort. kew. 1. p. 237.) leaves rather villous, wrinkled: cauline ones nearly sessile, equally crenated: radical ones oblong, cordate, doubly crenated; racemes spicate; pedicels twin and solitary: lower ones 3-4 together. ♃. H. Native of the South of Europe. Trew. ehret. p. 3. t. 16. f. 1. Miller says the radical leaves are almost entire, dark green above and paler beneath, on long petioles: cauline leaves acute, sessile. Corolla rust-coloured.

Rusty-flowered Mullien. Fl. May, Aug. Clt. 1683. Pl. 3 to 4 feet.

69 V. PHŒNI'CEUM (Lin. spec. p. 254) leaves pubescent beneath: lower ones elliptic, or ovate-oblong, subcordate, crenated, petiolate: upper cauline leaves crenulated, sessile; raceme terminal, elongated: pedicels solitary, much longer than the bracteas. ♃. H. Native of the South and East of Europe, on the margins of woods, and in stony grassy fields; and of Caucasus and Siberia. Lam. ill. t. 117. Gærtn. fruct. 1. p. 262. t. 55. Jacq. fl. austr. 1. t. 125. Curt. bot. mag. t. 885. Ker. bot. reg. 637.—Mor. hist. 2. sect. 5. t. 9. f. 1.—Bauh. hist. 3. p. 875. with a figure.—Tab. kraut. 959. icone.—Lob. icon. 1. t. 565. Stem downy, simple, or divided into a few floriferous branches. Leaves deep green, nearly glabrous above: radical ones 2-4 inches long: upper cauline ones half stem-clasping. Raceme length of stem. Flowers remote. Corolla deep purple, beset with small purple hairs at the base. Two of the filaments are clothed with purple hairs, and the other 3 with white hairs. Anthers all reniform; pollen copper-coloured. Down on the stem and lower leaves simple; of the other parts guttuliferous or glandular. Verb. Cisalpìni, Bisol. is a var. of this, ex Coll. in act. acad. taur. vol. 26. p. 507.

Purple-flowered Mullien. Fl. May, Aug. Clt. 1796. Pl. 2 to 4 feet.

70 V. CU'PREUM (Curt. bot. mag. t. 1226.) leaves cordate, wrinkled, crenated, woolly beneath; pedicels solitary, unibracteate. ♃. H. Native country unknown. Corolla of a rust-colour. The 3 shorter filaments covered with long, glandular, purple hairs; the 2 longer ones naked; anthers of the long filaments moon-shaped and naked: of the shorter ones nearly circular and hairy. Perhaps a hybrid between *V. ovalifòlium* and *V. phœníceum*.

Copper-coloured-flowered Mullien. Fl. May, Aug. Clt. 1798. Pl. 2 to 4 feet.

71 V. REPA'NDUM (Willd. enum. 1. p. 226. Schrad. verb. 2. p. 44.) leaves glabrous: lower ones obovate-oblong, attenuated at the base, somewhat sinuated: cauline leaves oblong, acute, crenated, sessile: superior ones broad-ovate, cordate, acuminated, acutely crenated, stem-clasping; racemes elongated; pedicels solitary: superior ones longer than the bracteas. ♂. H. Native country unknown. Célsia heterophýlla, Pers. ench. 1. p. 161. This species differs from *V. Blattària*, in the superior leaves being always broader, and exactly cordate, stem-clasping, and acutely crenated; in the bracteas being larger, broader, and serrulated. Racemes as in *V. blattarioìdes*, 3 feet long, and more. Flowers yellow, never white.

Repand-leaved Mullien. Fl. July, Aug. Clt. 1813. Pl. 4 to 6 feet.

72 V. BLATTA'RIA (Lin. spec. p. 254.) leaves glabrous: lower ones obovate-oblong, attenuated at the base, somewhat sinuated: cauline ones oblong, acute, crenated, sessile: superior leaves subcordate, acuminated, half stem-clasping; raceme terminal,

elongated; pedicels solitary, twice as long as the bracteas. ♂. H. Native of Middle and South Europe, in gravelly places; Tauria, and Caucasus, Bieb.; Palestine, Sieber; North America, Michx.; plentiful in some parts of Britain. Jaume St. Hil. pl. fr. t. 469. Smith, engl. bot. t. 393.—Sab. hort. 2. t. 56.—Mor. hist. 2. sect. 5. t. 10. f. 6. Bauh. hist. 3. p. 874. icone. Lob. icon. 1. t. 564. Lob. hist. p. 304. icone. Plant glabrous. Stem simple, or divided into floriferous branches at top. Leaves deep green. Calyx, peduncles, pedicels, bracteas, and ovarium, beset with very short guttuliferous hairs. Corollas yellow, larger than those of *V. phœníceum*. Filaments clothed with purple villi: the 2 longer ones only in the middle, on the inner side. Anthers all reniform.

Var. β, albiflòrum; flowers white. ♂. H. Native along with the species. V. glàbrum, Mill. fig. t. 67. dict. no. 8.—Barrel. icon. t. 1249.—Bauh. hist. 3. p. 874.—Lob. icon. 1. p. 563.

Moth Mullien. Fl. July, Aug. Britain. Pl. 4 to 6 feet.

73 V. BLATTARIOI'DES (Lam. dict. 4. p. 225. Schrad. verb. 2. p. 45.) leaves downy: lower ones elliptic-oblong, tapering into the petioles, coarsely crenated: cauline leaves oblong, acute, sessile: superior leaves oblong-ovate, subcordate, acuminated, acutely crenated, half stem-clasping; raceme terminal, very long; pedicels usually twin, shorter than the bracteas, and are, as well as the calyxes, clothed with viscid hairs. ♂. H. Native of France, by way sides, and in waste fields, on gravelly soil. V. crystallostèmon, Cat. sem. hort. dorp. 1818. V. glandulòsum, Thore. V. viscídulum, Pers. ench. 1. p. 215. V. glàbrum, Willd. enum. 1. p. 225. Stem pubescent, like the leaves; hairs simple, mixed with guttuliferous pili. Leaves glabrous on the upper surface in the adult state: radical and cauline ones 4-6 inches long. Raceme twiggy, simple, or a little branched at base. Bracteas 3 to each flower. Corolla yellow; the smaller segments furnished with a few hairs at the base, as in *V. Blattària*. Hairs of the longer filaments purple; of the rest purple on one side, and white on the other. Anthers as in *V. Blattària*.

Var. β, Lusitánicum (Schrad. verb. 2. p. 45.) larger in all its parts; lower leaves a foot long: the stem ones acuter, and doubly and acutely crenated; bracteas narrower. ♂. H. Native of Portugal. V. blattarioìdes, Brot. fl. lus. 1. p. 272. Hoffm. et Link. fl. port. 1. p. 219.

Blattaria-like Moth Mullien. Fl. July, Aug. Clt. 1805. Pl. 4 to 6 feet.

74 V. VIRGA'TUM (With. arrang. p. 250. Smith, engl. bot. t. 550.) leaves oblong-lanceolate, pubescent, toothed, sessile: radical ones sublyrate; stem branched; flowers in fascicles, nearly sessile. ♂. H. Native of Britain, in corn-fields and by way sides. V. blattarioìdes, β, virgàtum, Schrad. verb. 2. p. 45. Blattària magno flore, Bauh. hist. 3. p. 859. Lob. icon. 1. t. 564. Stem branched from the base. Leaves dentately crenated, pinnatifidly cut at the base, shining above: superior ones cordate, sessile. Flowers disposed in nearly sessile fascicles, yellow, large, with a purplish mouth. Perhaps only a variety of *V. blattarioìdes*, as considered by Schrader.

Twiggy Moth Mullien. Fl. July, Aug. Britain. Pl. 5 to 6 feet.

75 V. GRANDIFLÒRUM (Schrad. hort. gött. fasc. 2. p. 19. t. 13. verb. 2. p. 47.) leaves coarsely crenated, pubescent beneath: lower ones elliptic-oblong, attenuated into the petioles: cauline ones oblong, acute, sessile: superior ones broad-ovate, cordate, acuminated, stem-clasping; racemes spicate, elongated; pedicels solitary, shorter than the bracteas, and are, as well as the calyxes, downy. ♂. H. Native country unknown, but probably of Spain. Stems many from the same root, divided into floriferous branches at top. Leaves deep green, and glabrous above. Bracteas 3 to each flower. Racemes 1-2 feet long. Flowers crowded, but at length more remote. Corolla yellow. The 3 smaller filaments woolly: the 2 larger ones pilose on the inner side. Anthers of the longer filaments oblong.

Great-flowered Moth Mullien. Fl. July, Aug. Clt. 1820. Pl. 4 to 6 feet.

76 V. PYRAMIDA'TUM (Bieb. fl. cauc. 1. p. 161. suppl. p. 155.) leaves downy beneath: lower ones oval-oblong, doubly crenated, petiolate: cauline ones oblong-ovate, cordate, acute, nearly sessile: superior ones broad-ovate, acuminated, sessile; racemes panicled; pedicels usually solitary, shorter than the bracteas. ♃. H. Native of Caucasus and Iberia; and of Hungary, in woods, hedges, and among bushes. Schrad. verb. 2. p. 48. Sweet, fl. gard. t. 31. V. Caucásicum, Hort. Stem downy, branched at top. Leaves at length canescent, smoothish above, a span to 1 foot long, wrinkled. Racemes subspicate, disposed in a panicle, like those of *V. Lychnìtis* and *V. floccòsum*. Flowers remote, sweet-scented: the lower ones sometimes twin. Pedicels a little shorter than the calyxes. Bracteas solitary. Corollas yellow, size of those of *V. Thápsus*. Filaments clothed with purple villi. Anthers equal; pollen vermilion. Capsule downy.

Pyramidal-flowered Mullien. Fl. July, Aug. Clt. 1804. Pl. 5 to 8 feet.

77 V. SPINÒSUM (Lin. amœn. acad. 4. p. 307.) stem frutescent, spiny. ♄. F. Native of Candia, on the higher mountains, but never below the altitude of 300 hexapods; but in sterile places about Alexandria. Lam. dict. 4. p. 222. Sibth. et Smith, fl. græc. t. 229. Verbáscum Créticum, spinòsum frutéscens, Tourn. cor. p. 8.—Mor. hist. 2. sect. 5. t. 10. f. 8.—Alp. exot. p. 37. t. 36.—Clus. hist. p. 299. with a figure. Habit distinct from other species. Stem much branched; bark scabrous. Branches tomentose, but naked in summer; branchlets naked, flexuous, leafless, spinescent. Leaves linear-lanceolate, an inch long, obtuse, more or less sinuated, becoming gradually smaller and more entire as they ascend; with fascicles of smaller entire leaves in the axillæ of the upper ones. Peduncles at the extremity of the branches, scattered, spinescent, propped each by a small bractea. Corollas small, yellow, tomentose outside. Filaments clothed with white wool. Anthers all reniform: pollen orange-coloured.

Spiny Mullien. Fl. May, June. Clt. 1824. Shrub 1 to 1½ foot.

† *Doubtful species.*

78 V. BOERHAA'VII (Lin. mant. 45.) leaves sublyrate; flowers sessile. ☉. H. Native of the South of Europe. Willd. spec. 1. p. 1002. V. lùteum, Mill. fig. 273. V. blattàriæ foliis nigrum amplioribus, floribus luteis, apicibus purpurascentibus, Boerh. ludgb. 1. p. 228. Till. pis. t. 50.? Leaves sessile, a little decurrent, spatulate, narrowed at the base, sinuated, naked above, and tomentose beneath. Spike like that of *V. Thápsus*, but not so crowded, and with numerous bracteas to each flower. Corolla yellow. Genitals purple, ex Lin. Perhaps a hybrid between *V. phlomoìdes* and some allied species.

Boerhaave's Mullien. Fl. July. Aug. Clt. 1731. Pl. 2 to 3 feet.

79 V. HÆMORRHOIDA'LE (Ait. hort. kew. ed. 1. p. 236.) leaves ovate-oblong, attenuated at the base, tomentose, obsoletely crenulated; racemes spike-formed, elongated; fascicles of flowers bractless. ♂. H. Native of Madeira. It is doubtful whether this is a true species of the genus, from the want of bracteas, and it is not enumerated in the second edition of Hort. kew.

Hæmorrhoidal Mullien. Fl. June, Aug. Clt. 1777. Pl. 2 to 4 feet.

80 V. corda'tum (Desf. fl. atl. 1. p. 186.) leaves tomentose: radical ones cordate, petiolate, crenulated, obtuse: cauline ones stem-clasping, quite entire. ♂.? H. Native of Mount Atlas, near Tlemsen. Stem simple, or a little branched, tomentose, erect, thickness of a finger. Flowers unknown.

Cordate-leaved Mullien. Pl. erect.

81 V. Claytònii (Michx. fl. bor. amer. 1. p. 148.) glabrous; stem very simple; cauline leaves nearly lanceolate-oblong, deeply crenated: the crenæ again crenated; spikes like those of *V. Blattària*. ♂. H. Native of Carolina. This is probably only a variety of *V. Blattària*.

Clayton's Mullien. Pl. 4 to 6 feet.

82 V. stri'ctum (Clark. trav. ed. 2d. pt. 2. sect. 1. p. 262.) stem shrubby, erect; lower leaves spatulate-ovate, petiolate: superior leaves ovate-lanceolate, obsoletely toothed or quite entire, sessile; all canescent from stellate hairs; racemes elongated; pedicels divaricate, longer than the calyx. ♄. F. Native of the Island of Rhodes. Plant tomentose. Leaves 1½ to 2 inches long and more. Racemes panicled. Flowers large, an inch in diameter, yellow.

Strict Mullien. Shrub 5 to 6 feet.

83 V. laxiflòrum (Presl. del. prag. 1. p. 76.) leaves crenulated, densely clothed with stellate tomentum on both surfaces: radical ones oblong-ovate, mucronate: cauline ones sessile: upper ones ovate, acuminated; flowers panicled; fascicles many-flowered, loose. ♂. H. Native in the region of Mount Ætna.

Loose-flowered Mullien. Pl.?

84 V. bractea'tum (Presl. del. prag. 1. p. 214.) leaves ovate-oblong, toothed, green on both surfaces, rather tomentose beneath: radical ones acute: lower cauline ones acuminated, petiolate: upper ones lanceolate-linear, exceeding the aggregate fascicles of flowers. ♂. H. Native of Bohemia. Very nearly allied to *V. lychnìtis*, and is probably only a variety of it.

Bracteate-flowered Mullien. Pl. 3 to 4 feet.

85 V. gla'brum (Delarb. in journ. de santé et d'hist. nat. bourd. 2. p. 166. and in journ. soc. pharm. par. 1. p. 154.) stem angular, branched; leaves glabrous, obscure green: radical ones petiolate, elliptic, crenated: cauline ones subdecurrent, cordate, auricled; fruit spicate, sessile, bracteate. ♂. H. Native of France. If the cauline leaves of this species are truly subdecurrent, it is distinct from all others.

Glabrous Mullien. Pl.

86 V. a'nnuum (Mill. dict. no. 11.) radical leaves oblong, quite entire, deep green on both surfaces: cauline leaves acute, sessile; flowers aggregate, pedicellate. ♂.? ⊙.? H. Native of Sicily. Blattària annua, flore majore luteo, capsulâ item majore, Mor. hist. 2. p. 498. Lower leaves 10 inches long, rounded at apex. Raceme long, loose, terminal. Flowers fascicled, deep yellow. Capsule large, brownish. Perhaps V. glàbrum, Willd.; the V. blattarioìdes, Lam.

Annual Mullien. Fl. July, Aug. Clt.? Pl. 4 to 9 feet.

Cult. The species of *Verbáscum* are generally tall, robust plants, they therefore should be grown at the back of flower borders, or in shrubberies, where they will make a showy appearance. They thrive in any common soil, and are all readily increased by seeds; and some of the perennial kinds by divisions of the root. As there is hardly any genus more liable to sport into hybrids than *Verbáscum* by promiscuous impregnation, it is difficult to say what is a hybrid, or what is a species in the gardens. These hybrids we have found, however, to become abortive generally about the third generation, plainly showing that nature has its limits.

II. RAMO'NDIA (named in honour of L. Ramond, a French botanist, and traveller in the Pyrenees; author of "Voyages au Mont Perdu," 1 vol. 8vo. Paris, 1801.) Richard in Pers. ench. 1. p. 216. Lam. et D. C. fl. fr. syn. 1. p. 236. Mycònia, Lapeyr. Chaìxia, Lapeyr. Verbáscum species, Lin.

Lin. syst. *Pentándria, Monogýnia.* Calyx campanulate, 5-parted. Corolla rotate, 5-lobed, or 5-parted, rarely 4-parted, rather unequal, hairy at the base of the sinuses of the lobes. Stamens approximate. Anthers perforated at the apex. Stigma roundish. Capsule 1-celled, 2-valved: valves bent in at the margins, forming dissepiments; placentas 2, parietal, many-seeded.—A stemless plant, with radical, rosulate, wrinkled, hairy leaves, and 1, or few-flowered scapes, and large purple corollas.

1 R. Pyrena'ica (Rich. in Pers. ench. 1. p. 216.) ♃. H. Native of the Pyrenees and Piedmont, in groves. R. scapígera, Jaume St. Hil. fam. nat. 1. p. 280. Verbáscum Mycòni, Lin. spec. p. 255. Mill. icon. t. 277. Curt. bot. mag. 236. Mycònia borragínea, Lapeyr. abr. p. 115. Chaìxia Mycòni, Lapeyr. abr. suppl. p. 37. Cortùsa foliis ovatis sessilibus, Lin. hort. cliff. p. 50. Trew. ehret. p. 26. t. 57. Auricula Ursi Myconi, Dalech. hist. p. 837. Leaves radical, ovate, tapering into the petioles, disposed in a rosulate manner, broadly and deeply crenated, clothed with long, rufous, silky hairs on the under side and along the margins, and white hairs above. Scapes naked, pubescent, 2-4 inches long, usually 1-flowered, rarely 2-5-flowered.

Pyrenean Ramondia. Fl. May. Clt. 1731. Pl. ¼ foot.

Cult. This is a pretty little alpine plant. It grows well in common garden earth, and is well fitted for the front of flower borders, or to be grown among other alpine plants. It is readily propagated by division.

III. CE'LSIA (named by Linneus, in honour of Olaus Celsius, D.D. professor of the Greek language, and afterwards of theology, in the University of Upsal.) Lin. gen. no. 757. Schreb. gen. no. 1015. Juss. gen. p. 124. ed. Usteri. p. 139. Gærtn. fruct. 1. p. 262. t. 55. Nees in Lin. trans. 17. p. 80. Verbáscum species, Tourn.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla rotate, 5-lobed. Perfect stamens 4, didynamous, that is 2 long and 2 short, all bearded. Anthers woolly.—Herbs. Leaves simple, or pinnate. Flowers disposed in loose, terminal racemes, rising each from the axil of a bractea, or small leaf.

Sect. I. Arctu'rus (from *αρκτος, arctos*, a bear; and *ουρα, oura*, a tail; in reference to the long raceme of flowers, which has been compared to a bear's tail.) Benth. scroph. ind. p. 5. Herbs. Filaments all bearded; anthers of all fixed by the middle, 2-celled, and, with the cells, confluent.

1 C. orienta'lis (Lin. spec. 866. hort. ups. 179. t. 2.) lower leaves jagged: cauline ones bipinnate. ⊙. H. Native of Cappadocia and Armenia. Lam. ill. 1. t. 532. Sibth. et Smith, fl. græc. t. 605. Verbáscum orientàle Sophiæ folio, Tourn. cor. 8.—Buxb. cent. 1. p. 14. t. 20. and 5. p. 17. t. 33. Plant glabrous or downy. Segments of leaves narrow. Calyx clothed with glandular down. Flowers shorter than the bracteas, of a rusty yellow colour outside, and yellow inside.

Eastern Celsia. Fl. June, July. Clt. 1713. Pl. 2 feet.

2 C. Pe'rsica (Meyer, verz. pflanz. p. 111.) perennial, pubescent; radical leaves bipinnatifid: cauline ones cut; pedicels much longer than the sublinear bracteas; calycine segments sublinear, one half shorter than the capsule, which is pear-shaped. ♃. H. Native of Caucasus, in dry stony places on the Talusch mountains.

Persian Celsia. Pl. 2 feet.?

3 C. Arctu'rus (Lin. syst. 561. Vahl, symb. 3. p. 79.) radical leaves lyrate: superior ones oblong; pedicels longer than the bracteas; calycine segments linear, quite entire. ♂. H. Native of Candia. Curt. bot. mag. t. 1962. Verbáscum Arctùrus, Lin. spec. 254. Jacq. hort. vind. 2. t. 117.—Column. ecphr. 2. p. 81. t. 82.—Alp. exot. p. 123. t. 122. Floral leaves sessile, cordate, serrately toothed. Corollas large, yellow. Filaments bearded with purple hairs.

Bear's Celsia. Fl. July, Sept. Clt. 1780. Pl. 4 to 6 feet.

4 C. Coromandelia'na (Vahl, symb. 3. p. 79. Nees in Lin. trans. 17. p. 80.) clothed with hoary villi; lower leaves lyrate: floral ones cordate, half stem-clasping; peduncles 3 times as long as the calyx; calycine segments ovate, somewhat serrated. ⊙. H. Native of the East Indies. Flowers yellow, size of those of *C. Arctùrus*.

Var. β, heterophýlla (Nees, l. c. p. 81.) lower leaves pinnate: terminal leaflet large, ovate-lanceolate: upper leaves sessile, subcordate; stem much branched; branches twiggy, racemose. ⊙.? H. Native of the East Indies.? C. heterophýlla, Pers. ench. 1. p. 161. Flowers small, yellow.

Coromandel Celsia. Fl. July, Aug. Clt. 1783. Pl. 4 to 6 feet.

5 C. viscòsa (Roth, catalect. fasc. 2. p. 69. fasc. 3. p. 50. Nees, in Lin. trans. 17. p. 81.) clothed with clammy pubescence: lower cauline leaves lyrate: floral ones cordate, half stem-clasping; peduncles equal in length to the flowers; calycine segments oblong-lanceolate, quite entire. ⊙. H. Native of the East Indies, at Tanjore. Link. enum. 2. p. 146. C. Coromandeliàna, Vahl, symb. 3. p. 79. diagnosis, but not the description. Willd. spec. 3. p. 280. Corolla yellow, like those of the preceding.

Clammy Celsia. Fl. July, Aug. Clt. 1816. Pl. 3 to 4 feet.

Sect. II. Pseudotha'psus (from ψευδης, *pseudes*, false; and *thapsus*, the name of the shepherd's club.) Benth. scroph. ind. p. 5. Herbs. The 2 longer stamens glabrous, with oblong adnate anthers: the 2 shorter stamens bearded, having the anthers fixed by the middle, with the cells confluent.

6 C. Cre'tica (Lin. syst. 469. Vahl, symb. 3. p. 80.) radical leaves lyrate: upper ones oblong; flowers nearly sessile, length of bracteas; calycine segments ovate, serrated. ♂. H. Native of the North of Africa and Candia. Curt. bot. mag. 964. Upper leaves or bracteas cordate, serrated, stem-clasping. The 2 lower filaments smooth. Corolla yellow, large, marked by 2 rust-coloured spots at the bottom on the upper side. Plant hoary.

Cretan Celsia. Fl. July, Sept. Clt. 1752. Pl. 5 to 6 feet.

7 C. betonicæfòlia (Desf. fl. atl. p. 58. Willd. spec. 3. p. 281.) hairy; leaves ovate-oblong, wrinkled, crenated: floral ones lanceolate, half stem-clasping, shorter than the pedicels; calycine segments ovate, acute, with serrated or entire edges. ♂. F. Native of Algiers, in waste fields. Blattària Hispánica maximo flore, Dodart. icon. Shaw. afr. no. 78. Stem simple, or branched. Leaves glabrous, or scarcely hairy, often pinnate at the base. Corolla yellow, the 2 superior segments marked each by a purple spot. Lower filaments glabrous.

Betony-leaved Celsia. Fl. July, Aug. Clt.? Pl. 2 to 3 feet.

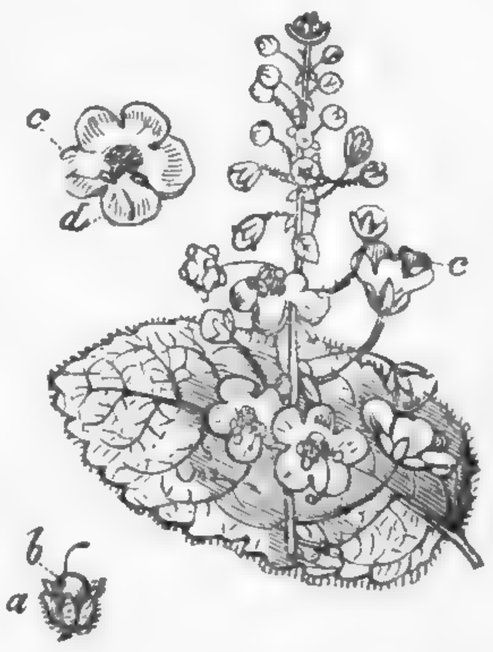
Sect. III. Neffle'a (meaning unknown to us.) Benth. l. c. Small shrubs. Filaments all bearded. Anthers all terminal, 1-celled, dehiscing by 2 ovate-acute valves.

8 C. lanceola'ta (Vent. hort. cels. t. 27.) rather tomentose; leaves lanceolate, serrated, attenuated at the base; pedicels rather shorter than the floral leaves; calycine segments entire, acute. ♄. F. Native at the mouth of the Euphrates. Corolla yellow, marked with purple spots at the base.

Lanceolate-leaved Celsia. Fl. July, Sept. Clt. 1816. Shrub 3 to 4 feet.

9 C. sublana'ta (Jacq. fragm. 79. no. 247. t. 126. Ker. bot. reg. 438.) shrubby, clothed with woolly tomentum; leaves oval-oblong, obtuse, crenated, wrinkled, soft. ♄. G. Native country unknown. Leaves doubly crenated, alternate, petiolate, or furnished with 1 or 2 pairs of sessile leaflets at the base. Bracteas sessile, acute, small, subserrated. Flowers sweet-scented.

FIG. 45.



Woolly Celsia. Fl. July, Sept. Clt. 1818. Shrub 1 to 2 feet.

10 C. parviflòra; radical leaves pinnatifidly runcinate, tomentose on both surfaces; stem branched, nearly naked; flowers small. ♄. H. Native country unknown. Verbáscum parviflòrum, Lam. dict. 4. p. 222. Pers. ench. 1. p. 216. Radical leaves size of those of *Leóntodon Taráxacum*. Segments ovate, or ovate-oblong, acutish, entire, or a little toothed. Flowers in fascicles. Ovarium tomentose. Flowers size of those of *Scopària dúlcis*. Capsule size of *Coriander* seed.

Small-flowered Celsia. Shrub 1 to 1½ foot.

† *Doubtful species.*

11 C. Bernade'sii; stem nearly naked; leaves lanceolate, dentately sinuated, glabrous; peduncles solitary. ♂.? H. Native of Spain, on hills towards the town called Ortalezza. Verbáscum Bernadèsii, Vahl, symb. 2. p. 39. Stem glabrous, simple. Radical leaves numerous, petiolate, hardly 3 inches long, somewhat pinnatifid, acute, with lanceolate toothed segments; floral leaves small, cordate, cuspidate. Calycine segments unequal both in size and shape, all a little denticulated. Corolla yellow, Vahl. Peduncles an inch long.

Bernades's Celsia. Pl. 1 to 2 feet.

12 C. lyra'ta; hairy; radical leaves lyrately-pinnatifid at the base, having the margins angularly-toothed: cauline leaves unequally toothed, nearly sessile; calycine segments serrated. ♂.? H. Native of Spain?. Verbáscum lyràtum, Lam. dict. 4. p. 222. Stem weak, flexuous, leafy. Leaves glabrous above, or almost so, 3-4 inches long. Cauline leaves cordate, acute: upper ones stem-clasping. Flowers large, yellow, on short pedicels, solitary, disposed in a long raceme. Calycine segments unequal. Corolla 3 inches in diameter. The two lower filaments naked. Perhaps the same as *C. Crética*.

Lyrate-leaved Celsia. Fl. July, Aug. Clt. 1819. Pl. 2 to 4 feet.

Cult. The species of *Célsia* have much the habit of the species of *Verbáscum*, and like them bear showy yellow flowers. The seeds of them should be reared on a gentle hot-bed; and when the plants are of sufficient size they should be set separately in pots, as they require protection of a greenhouse or frame the first winter. In May of the second year they may be planted out into the open border in any warm, sheltered situation, where they will flower and ripen their seed. *C. sublanàta* and *C. parviflòra*, being shrubby, will require the same treatment as a geranium, or other common greenhouse shrub.

IV. ISANTHE'RA (from ισος, *isos*, equal; and ανθηρα, *anthera*, an anther; in reference to the stamens being 5, and equal.) Nees, in Lin. trans. 17. p. 82.

LIN. SYST. *Polygàmia, Diœ'cia.* Flowers polygamous. Calyx 5-cleft. Corolla rotate. Stamens 5, equal, straight, glabrous. Anthers reniform, 1-celled, opening by a vertical, longitudinal chink, clasping a semicircular connective. Stigma truncate. Capsule 2-celled, many-seeded. Seeds small, inserted in 4 lamelliform placentas. Female flowers without any corolla. Pistil as in the hermaphrodite flowers. Rudiments of stamens tubercle-formed.

1 I. PERMÓLLIS (Nees, l. c.)—Native of the East Indies, but in what particular part is unknown. Plant clothed with soft rusty wool. Leaves obovate-cuneiform, acute, tapering into the petioles, green above, white beneath, and rusty on the nerves and rib beneath. Flowers fasciculately glomerate in the axils of the leaves, nutant. Calyx woolly. Corolla glabrous, shorter than the calyx. Stem erect, filled with white medulla. Down simple.

Soft Isanthera. Pl. ?

Cult. For culture and propagation see *Célsia*, p. 499.

ORDER CLXIX. SCROPHULARI'NEÆ (this order contains plants agreeing with the genus *Scrophulària* in particular characters.) R. Br. prod. p. 433. D. Don, in edinb. phil. p. 108. Benth. scroph. ind. p. 15.—Scrophulàriæ and Pediculàres, part. Juss. gen. p. 99. & 117. Personàtæ part. Lin. nat. ord.

Calyx 4-5-parted, permanent. Corolla monopetalous, hypogynous, deciduous, irregular, bilabiate, personate, or ringent, imbricate in æstivation. Stamens usually 4, didynamous, sometimes only 2, and sometimes with the rudiment of a fifth. Ovarium 2-celled. Style one; stigma 2-lobed, or undivided. Fruit capsular, rarely baccate, 2-celled, 2-4-valved. Seeds small. Albumen copious. Embryo terete, erect, inclosed, straight. Radicle inferior looking to the umbilicus.—Herbs or shrubs, various in habit, usually with opposite leaves. Inflorescence various.

From the great diversity of form found in this order, and from its partaking, both in habit and structure, of those orders to which it is more immediately allied; for example, the group *Scrophularièæ* closely approximates them to *Verbáscinæ* and *Solanàceæ;* the *Gratiòleæ* connects them with *Lentibulàreæ;* the *Antirrhineæ* and *Gerardièæ* with *Chelòneæ* and *Bignoniàceæ;* the *Calceolàreæ* with *Gesneriàceæ;* the *Euphrasièæ* with *Rhinanthàceæ;* and their affinity to *Verbenàceæ* is clearly established through the *Buddleièæ.* The *Verbáscinæ* approach so closely to the first group as to be only distinguished by their symmetrical flowers.

The greater part of Linnæus's *Didynàmia Angiospérmia* are found in this order. Capsular fruit and didynamous stamens being amongst the most obvious characteristics of the order. The species are natives of all parts of the world. Some of the plants of this order are highly ornamental, as *Digitàlis, Calceolària, Verónica, Russèlia, Alonsòa, Linària, Maurándya, Antirrhìnum, Gerárdia, Mímulus, Collinsia,* &c.; others are mere weeds. Most of them have a weak, unpleasant smell, a bitterish taste, and acrid and suspicious properties; the taste is refreshing in *Mímulus lùteus,* which is a culinary plant in Peru, and the ordinary acrid properties become emollient in some *Antirrhìnums.* The leaves and roots of *Scrophulària aquática, Gratìola officinàlis,* and *Peruviàna* and *Calceolària* act as purgatives, or, in strong doses, produce vomiting; these properties exist in a high degree in *Digitàlis purpùrea.* The leaves of this plant reduced to powder excite vomiting and vertigo, excite urine and saliva, and lower the pulse; in too strong doses they cause death; in moderate doses they are useful in scrophula, dropsy, asthma, &c.

Synopsis of the genera.

TRIBE I.

SCROPHULARIE'Æ. Calyx deeply 5-parted; segments dilated, with scarious edges, imbricate in æstivation. Corolla tubular, or campanulate, ventricose; limb bilabiate, 5-lobed. Stamens 4, fertile, didynamous; cells of anthers confluent at apex, inserted in a fleshy connective. Stigma capitate, or 2-lobed. Capsule crustaceous; dissepiment double, fixed to the inflexed margins of the valves, placentiferous on both sides. Testa of seeds thick, spongy, corrugated. Albumen fleshy. Embryo almost the length of the albumen.—Shrubs and herbs. Leaves opposite and alternate. Flowers terminal, racemose, yellow, purple or scarlet.

1 DIGITA'LIS. Corolla tubular, declinate; lower lip the longest.

2 ISOPLE'XIS. Corolla tubular, incurved; upper lip the longest.

3 SCROPHULA'RIA. Corolla with a subglobose tube, and a very unequal limb.

4 ALONSÒA. Corolla subrotate, resupinate from the twisting of the pedicels.

5 RUSSE'LIA. Corolla tubular, straight. Valves of capsule bipartible.

TRIBE II.

ANTIRRHI'NEÆ. Calyx deeply 5-parted, imbricate in æstivation. Corolla personate, ventricose; limb 5-lobed, bilabiate. Stamens 4, fertile, didynamous, sometimes with the rudiment of a fifth. Cells of anthers distinct at top. Stigma 2-lobed. Capsule crustaceous; dissepiment undivided; placentas spongy, adnate. Seeds with a thick, spongy, corrugated, or cellular testa. Albumen fleshy. Embryo almost the length of the seeds.—Herbs or sub-shrubs. Leaves opposite, or alternate. Flowers terminal, spicately racemose, or axillary solitary.

6 ANTIRRHI'NUM. Corolla personate, saccate, or gibbous at the base. Capsule opening by 3 valvate pores under the apex, rarely by 2 irregular holes.

7 LINA'RIA. Corolla personate, spurred at the base. Capsule opening by 2 lids at top, or by 4-10-tooth-formed, or valve-formed parts.

8 ANARRHI'NUM. Corolla bilabiate, spurred, or spurless at the base; throat open and naked. Capsule opening by 2 valve-formed lids at top.

9 GALVE'SIA. Corolla bilabiate; throat naked; tube elongated, gibbous at the base. Capsule bursting irregularly under the apex.

10 MAURA'NDYA. Corolla personate, gibbous at the base. Capsule dehiscing by 10 teeth at apex.

11 LOPHOSPE'RMUM. Corolla bilabiate; tube wide, gibbous at the base. Capsule dehiscing irregularly under the apex.

12 Neme'sia. Corolla personate, spurred at the base. Capsule compressed, truncate at apex.

13 Leucophy'llum. Corolla tubularly campanulate, bilabiate, without any spur at the base; palate convex.?

Tribe III.

Gratiòleæ. Calyx usually tubular, 5-cleft. Corolla tubular, ventricose, sometimes personate; limb 5-cleft, bilabiate. Stamens 4, didynamous, all, or only 2 of them, fertile; cells of anthers diverging, distinct at apex. Stigma usually bilamellate. Capsule often membranous, 2-celled, 2-4-valved, rarely almost 1-celled; dissepiment membranous, fixed to the inflexed margins of the valves; placentas spongy, at length free. Testa of seeds somewhat crustaceous. Albumen fleshy. Embryo length of seeds.—Herbs rarely sub-shrubs. Leaves opposite, or verticillate. Flowers axillary or terminal, usually yellow or purple.

§ 1. *Stamens 2, or 4, when 4, 2 of them are sterile.*

14 Grati'ola. Corolla tubular. Two upper stamens fertile. Capsule 4-valved.

15 Beyri'chia. Corolla tubular. Two lower stamens fertile. Valves of capsule hardly cleft.

16 Acheta'ria. Corolla tubular. Two lower stamens fertile. Valves of capsule bipartible.

17 Montìra. Corolla funnel-shaped; limb 5-cleft, almost equal. Capsule didymous, 4-valved.

18 Dopa'trium. Corolla much longer than the calyx, with a wide throat. Two upper stamens fertile. Capsule 4-valved.

19 Microcarpæ'a. Corolla minute, hardly exceeding the calyx. Stamens 2, none sterile. Capsule 2-valved.

20 Pepli'dium. Corolla equal in length to the calyx. Stamens 2, none sterile. Capsule dehiscing irregularly.

21 Bonna'ya. Stamens 4, 2 lower ones sterile. Capsule dehiscing valvately. Valves entire.

22 Hydrótriche. Corolla nearly regular. Stamens 2, without any rudiments of sterile ones.

23 Hemia'nthus. Calyx 4-toothed, cleft. Upper lip of corolla obsolete: lower one tripartite. Stamens 2; lateral clefts antheriferous.

24 Pterosti'gma. Two upper stamens fertile; upper segment of calyx the largest. Capsule with a loculicidal dehiscence; valves bifid.

§ 2. *Stamens 4, all fertile, sometimes with the rudiment of a fifth.*

25 Lindenbe'rgia. Cells of anthers separate. Calyx half 5-cleft.

26 Stemòdia. Cells of anthers separate. Calyx 5-parted.

27 Doda'rtia. Calyx tubular; teeth straight. Lower lip of corolla papillosely bigibbous at the base.

28 Ma'sus. Calyx campanulate; teeth spreading. Lower lip of corolla papillosely bigibbous at the base.

29 Limnóphila. Calyx tubularly campanulate. Lower lip of corolla glabrous, with flat segments.

30 Morga'nia. Calyx 5-parted, equal. Lower lip of corolla with obcordate, equal segments.

31 Herpe'stis. Segments of calyx very unequal. Corolla bilabiate, with flat segments. Valves of capsule bipartite, with flat margins.

32 Mecardònia. Segments of calyx unequal. Corolla tubular, sub-bilabiate. Stigma oblique, sub-capitate; valves of capsule entire, parallel.

33 Bra'mia. Segments of the calyx unequal. Corolla campanulate, somewhat regularly 5-cleft. Ovarium girded by a toothed disk. Valves of capsule bipartite.

34 Sphærothe'ca. Segments of the calyx nearly equal. Valves of capsule bipartite, with flat margins.

35 Di'ceros. Segments of calyx equal. Corolla funnel-shaped: limb bilabiate. Anthers bicornute. Capsule globose; valves entire.

36 Loxophy'llum. Calyx 5-parted, bilabiate. Corolla bilabiate; upper lip emarginate, erect. Stamens exserted. Capsule globose; valves bipartite.

37 Matou'rea. Calycine segments rather unequal. Valves of capsule nearly entire.

38 Cacona'pea. Calycine segments unequal: upper one the largest. Stamens inclosed. Valves of capsule bipartite.

39 Rana'ria. Calycine segments equal in length: the 3 outer ones the broadest. Limb of corolla 4-cleft, nearly equal. Valves of capsule bipartite.

40 Vande'llia. Calyx nearly equal, 5-toothed, or 5-parted. Two lower filaments appendiculate, or gibbous at the base. Valves of capsules entire.

41 E'llobum. Calyx equal. Corolla funnel-shaped: limb bilabiate; upper lip retuse. Stamens exserted; anthers connected, mutic. Capsule silique-formed, subulate.

42 Artane'ma. Calyx nearly equal. Tube of corolla furnished with 4 scales inside. Two lower filaments appendiculate, or gibbous at the base.

43 Tore'nia. Calyx plicate, obliquely 5-toothed. Two lower filaments appendiculate, or gibbous at the base.

44 Hetera'ntha. Anthers of the upper filaments large, and clasping the style. Calyx 5-cleft.

45 Linde'rnia. Anthers equal. Lower filaments bifid. Calyx 5-parted. Valves of capsule entire.

46 Limose'lla. Anthers equal. Calyx 5-toothed, or 5-cleft. Valves of capsule entire.

47 Hydranthe'lium. Calyx deeply 4-parted. Corolla funnel-shaped; limb 3-lobed: the hind lobe large and emarginate. Anthers equal.

48 Conòbea. Calyx 5-cleft. Capsule 1-celled, 4-valved. Anthers sagittate.

49 Mímulus. Calyx 5-toothed. Corolla personate. Capsule 2-valved, with flattish margins.

50 Leucoca'rpus. Calyx 5-toothed. Corolla personate. Fruit baccate.

51 Uveda'lia. Calyx 5-toothed. Corolla ringent. Capsule 4-valved, with flattish edges.

52 Hemiphra'gma. Corolla tubular, sub-bilabiate. Capsule baccate, 2-valved; valves bipartite.

53 Colli'nsia. Corolla gibbous above the base: limb very irregular. Capsule 2-valved; valves bipartite.

Tribe IV.

Gerardie'æ. Calyx tubular, 5-toothed. Corolla campanu-

lately ventricose; limb 5-lobed, bilabiate. Stamens 4, didynamous, usually exserted; anthers 2-celled, often bearded; cells diverging, distinct at apex, usually spurred at the base. Stigma clavate, undivided. Capsule bipartible; dissepiment composed of two combined lamina; placentas narrow, spongy. Seeds angular; testa loose, thick, favosely cellular. Albumen fleshy. Embryo sub-foliaceous, nearly the length of the seeds; radicle short, obtuse.—Herbs or subshrubs. Leaves opposite, scabrous. Flowers axillary, solitary, or terminal, and spicately racemose, yellow or purple.

§ 1. *Calyx tubularly campanulate, 5-toothed, or 5-cleft.*

54 Gera'rdia. Calyx 5-toothed, or semi-5-cleft. Corolla campanulate, or tubularly campanulate; tube longer than the calyx. Stamens inclosed. Cells of anthers equal.

55 Sopu'bia. Calyx 5-toothed. Corolla campanulate; tube shorter than the calyx. Stamens exserted, equal. Cells of anthers unequal.

56 Seyme'ria. Calyx deeply 5-cleft. Corolla with a short tube, and a subrotate spreading limb. Stamens a little longer than the corolla; cells of anthers nearly equal.

57 Macranthe'ra. Calyx 5-cleft, foliaceous; segments denticulate. Corolla cylindrically tubular, nearly equal, with a 5-toothed apex. Stamens exserted.

58 Esterha'zia. Calyx 5-toothed. Corolla tubularly funnel-shaped. Stamens much exserted.

59 Glossóstylis. Calyx 4-5-toothed. Corolla oblique, campanulate. Stamens exserted.

60 Phtheirospe'rmum. Calyx 5-cleft. Corolla campanulate. Stamens inclosed.? Stigma 2-lobed.

61 Escobe'dia. Calyx tubular, pentagonal, 5-toothed. Corolla funnel-shaped. Stamens inclosed.

§ 2. *Calyx inflated, 5-toothed or 5-cleft.*

62 Physoca'lyx. Calyx inflated, 5-toothed. Corolla funnel-shaped.

63 Mela'sma. Calyx inflated, 5-cleft. Corolla campanulate.

64 Gastrome'ria. Calyx inflated, 5-toothed. Corolla campanulate.

§ 3. *Calyx compressed, cleft on one side, at length somewhat 4-lobed.*

65 Centranthe'ra. Character the same as that of the section.

Tribe V.

Veroni'ceæ. Calyx 4-5 parted, imbricate in æstivation. Corolla rotate, 4-lobed, or tubular and sub-bilabiate. Stamens 2 or 4, exserted, distant; anthers incumbent; cells parallel, distinct. Stigma capitate. Capsule membranous; dissepiment narrow, composed of two separable lamina; placentas very short, in the middle of the dissepiment. Seeds compressed, with a membranous testa. Albumen cartilaginous. Embryo minute, terete, located in the base of the albumen.—Herbs or subshrubs. Leaves usually opposite. Flowers axillary or terminal, solitary or racemose, blue, red or white.

§ 1. *Stamens 2.*

66 Vero'nica. Calyx 4-5-parted. Corolla rotate, unequal.

67 Diplophy'llum. Calyx of 2 sepals. Corolla rotate, unequal. Capsule 4-seeded.

68 Lepta'ndra. Corolla tubular, sub-ringent: lower segment the smallest.

69 Pæderòta. Corolla tubular, straight, bilabiate: upper lip entire, or emarginate.

70 Calorha'bdos. Corolla tubular, incurved, with an oblique, 2-3-cleft mouth.

71 Wulfe'nia. Corolla tubular, declinate; limb 4-5-cleft.

72 Gymna'ndra. Corolla tubular, straight, with a sub-bilabiate limb.

§ 2. *Stamens 4, didynamous.*

73 Picrorhi'za. Corolla campanulate, shorter than the calyx.

74 Geochórda. Corolla funnel-shaped.

Tribe VI.

Buchne'reæ. Calyx tubular, striated, 5-cleft. Corolla salver-shaped; limb nearly equal. Stamens 4, didynamous, inclosed. Anthers for the most part 1-lobed, from the cells being contiguous, seated on a thick, elevated connective. Stigma, undivided. Capsule with a simple dissepiment; placentas narrow, columnar, adnate longitudinally, or at length free. Seeds minute, smooth, scrobiculate, with a membranous testa. Albumen fleshy. Embryo much shorter than the seed.—Herbs or subshrubs. Leaves opposite or alternate. Flowers terminal, spicately racemose, white or red.

§ 1. *Valves of capsule entire.*

75 Strìga. Tube of corolla abruptly incurved; limb bilabiate.

76 Buchne'ra. Calyx short, tubular, 5-toothed. Corolla salver-shaped. Capsule straight.

77 Rhamphica'rpa. Calyx campanulate, 5-cleft. Corolla salver-shaped. Capsule obliquely beaked.

78 Cy'cnium. Calyx long, tubular, foliaceous. Corolla salver-shaped. Capsule straight, fleshy.

§ *Valves of capsule bifid.*

79 Nycteri'nia. Calyx bilabiate. Stamens 2, inclosed; with oblong-linear anthers; the other 2 a little exserted, with short or abortive anthers.

80 Polycare'na. Calyx bilabiate. Anthers all exserted, and similar.

81 Phyllopòdium. Calyx 5-cleft. Anthers all exserted, and similar. Bracteas adnate to the pedicels.

82 Sphena'ndra. Calyx 5-cleft. Anthers similar, exserted. Corolla rotate.

83 Chænóstoma. Calyx 5-cleft. Anthers similar, exserted. Bracteas free from the pedicels. Corolla campanulate or funnel-shaped.

84 Lype'ria. Calyx 5-cleft. Anthers all inclosed. Tube of corolla gibbous or incurved; limb bilabiate. Peduncles axillary, or disposed in leafy racemes or spikes.

85 Manu'lea. Calyx 5-cleft. Anthers all inclosed. Corolla tubular; limb nearly equal.

86 Eri'nus. Calyx 5-parted. Corolla tubular, with a 5-

parted, nearly equal limb; lobes obcordate. Stamens nearly equal, inclosed. Capsule ovate.

Tribe VII.

Buddleie'æ. Calyx campanulate, 5-toothed. Corolla tubular; limb 4-cleft, equal, spreading. Stamens 4, nearly equal, inclosed. Anthers composed of 2 parallel distinct cells. Stigma clavate, 2-lobed. Capsule crustaceous; dissepiment constituted from the bent-in margins of the valves, inserted in the thick spongy placenta. Seeds angular, scobiform, with a loose, membranous testa. Albumen fleshy. Embryo almost the length of the seeds. Cotyledons oblong-compressed. Radicle very short.—Shrubs with quadrangular branches, opposite, reticulately veined leaves; and terminal, capitate, spicate, or panicled flowers. Corollas generally orange-coloured.

87 Buddle'a. Character the same as that of the tribe.

Tribe VIII.

Calceolarie'æ. Calyx 4, rarely 5-parted, valvate in æstivation. Corolla irregular, bilabiate. Stamens 2-4, inserted in the throat of the corolla. Cells of anthers diverging at the base, but confluent at the apex. Stigma undivided, capitate. Capsule membranous. Dissepiment constituted from the bent-in margins of the valves; placentas 2, stipitate, or adnate to the dissepiment. Seeds minute, with a mucrone-formed umbilicus; testa membranous. Albumen fleshy. Embryo terete, half the length of the albumen.—Herbs or subshrubs, usually clothed with glandular pubescence. Leaves opposite, usually undivided. Flowers terminal, for the most part corymbosely panicled, or racemose, yellow, rarely purple.

88 Calceola'ria. Lower lip of corolla incurved, calceolate: upper lip small. Stamens 2.

89 Jovella'na. Both lips or lobes of corolla concave, nearly equal, spreading. Stamens 2.

90 Bæ'a. Corolla spreading; lower lip 2-parted: upper 3-lobed. Capsule long, corniculate. Stamens 2.

91 Hemímeris. Lower lip of corolla concave, blunt; upper lip cloven, with a kind of bag at the base. Stamens 2, or didynamous.

92 Thylaca'ntha. Lower lip of corolla large, saccate at the base, trifid: upper lip short, bifid. Stamens 4, didynamous. Capsule round, valveless.

93 Angellònia. Lower lip of corolla saccate at the base, trifid: upper one smaller, bifid. Stamens 4, didynamous. Capsule 2-valved.

Tribe IX.

Euphrasie'æ. Calyx tubular, 5-toothed. Corolla bilabiate. Stamens 4, didynamous. Cells of anthers parallel, usually spurred at the base. Stigma undivided. Capsule crustaceous; dissepiment placentiferous on both sides. Seeds with a membranous testa. Albumen fleshy. Embryo terete, slender, straight, almost the length of the albumen.—Herbs with opposite leaves, and terminal, subspicate, bracteate flowers.

§ 1. *Cells of anthers spurred at the base.*

94 Euphra'sia. Calyx campanulate, 4-cleft. Superior lip of corolla galeate, emarginate; lower lip large, spreading, with emarginate segments.

95 Odonti'tes. Calyx campanulate, 4-cleft. Upper lip of corolla emarginate, galeate: segments of the lower lip equal, linear. Anthers oblong, a little exserted.

96 Ba'rtsia. Calyx campanulate or tubular, 4-cleft. Upper lip of corolla galeate, compressed, entire; segments of the lower lip quite entire, reflexed.

97 Bu'ngea. Calyx tubular, 4-cleft. Upper lip of corolla tridentate: lower one trifid.

98 Siphoneste'gia. Calyx funnel-shaped; tube elongated; limb 4-5-parted. Upper lip of corolla incurved; lower one short, with entire segments.

99 Lamourou'xia. Corolla tubular, compressedly ventricose; upper lip galeate, entire: lower one with obtuse lobes.

§ 2. *Cells of anthers mutic at the base.*

100 Castille'ja. Calyx compressed, bifid or quadrifid, cleft on one side. Upper lip of corolla linear, channelled, entire. Cells of anthers unequal.

101 Orthoca'rpus. Calyx tubular or campanulate, 4-cleft. Upper lip of corolla small, compressed. Cells of anthers unequal.

102 Schwa'lbea. Calyx compressed, obliquely 5-cleft. Upper lip of corolla arched. Cells of anthers equal.

103 Lafue'ntea. Calyx tubular, 5-parted. Cells of anthers equal.

Tribe X.

Teedie'æ. Calyx 5-parted. Limb of corolla nearly equal. Fruit baccate.

104 Tee'dia. Calyx 5-parted. Corolla salver-shaped.

105 Freyli'nia. Calyx 5-parted. Corolla funnel-shaped.

Tribe XI.

Hallerie'æ. Calyx small, 3-lobed, unequal, permanent. Corolla large, funnel-shaped; throat ventricose; limb erect, oblique, 4-cleft, unequal; upper segment the largest, and emarginate. Stamens 4, didynamous. Fruit baccate, roundish, terminated by the style, 2-celled, many-seeded.—A shrub with opposite leaves, with the habit of *Vìtex*.

106 Halle'ria. Character the same as that of the tribe.

† *Genera not sufficiently known.*

107 Pi'kria. Calyx deciduous, 4-leaved, longer than the corolla. Corolla ringent, bilabiate. Stamens 4, didynamous; the 2 longer stamens bearing 1-celled anthers, and the 2 shorter stamens bearing 2-celled anthers. Berry ovate, 2-celled, many-seeded.

108 Diplanthe'ra. Calyx 3-cleft; hind segment entire: lateral ones bifid. Corolla bilabiate; upper lip obcordate. Stamens 4, exserted, nearly equal. Cells of anthers diverging. Ovarium 2-celled; placentas 2, adnate in each cell. Stigma bilamellate.

109 Goma'ria. Calyx 4-cleft. Corolla irregular; tube curved. Nectary cup-shaped. Stamens 4, didynamous. Capsule 2-celled.

110 Rhyncoglóssum. Calyx 5-cleft, bilabiate. Stamens 4, 2 sterile. Capsule 1-celled, 2-valved.

Tribe I.

SCROPHULARIE'Æ (this tribe contains plants agreeing with Scrophulària in the characters indicated below.) D. Don, in edinb. phil. journ. 19. p. 110. July, Oct. 1835. Calyx deeply 5-parted; segments usually dilated, with scarious margins, imbricate in æstivation. Corolla tubular or campanulate, ventricose; limb 5-lobed, bilabiate. Stamens 4, didynamous, often with the rudiment of a fifth. Cells of anthers confluent at apex, inserted into a fleshy connective. Stigma capitate or 2-lobed. Capsule crustaceous; dissepiment double, formed from the bent-in margins of the valves, placentiferous on both sides. Testa of seed thick, spongy, corrugated. Albumen fleshy, nearly the length of the albumen.—Herbs or shrubs, mostly natives of Europe. Leaves opposite and alternate. Flowers terminal, racemose, yellow or purple. This tribe comes near to *Verbascineæ* in habit more than in character.

I. DIGITA'LIS (so named from the resemblance of the flower to the finger of a glove, *digitale*, or from the adjective *digitàlis*, of or belonging to a finger. Parkinson says, some thinking Foxglove to be a foolish name, do call them finger flowers, because they are like unto the fingers of a glove, the ends cut off.) Fuschs. hist. p. 892. Tourn. inst. p. 165. t. 73. Lin. gen. no. 758. Schreb. gen. no. 1017. Juss. gen. p. 120. ed. Usteri. p. 135. Gærtn. fruct. 1. p. 247. t. 53. Lindl. dig. mon.—Campánula, Trag. kreut. 2. cap. p. 125.—Vírga règia Cæsalp. pl. 348.—Gesnèria spec. Lin. hort. cliff. p. 318.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx unequal. Corolla tubular at the base, funnel-shaped: limb obliquely 4-lobed: upper segment much shorter than the lower one or lip, and is, as well as it imbricate in æstivation. The rudiment of the fifth; stamen hardly conspicuous. Stigma simple, or bilamellate. Capsule ovate, acuminated.—Herbs with alternate leaves, and terminal racemes of secund, bracteate, drooping flowers.

§ 1. *Corolla oblong-ventricose; upper segment transverse. Stamens shorter than the tube.*

1 D. PURPU'REA (Fuschs. hist. 892. t. 893. Lin. spec. 866.) leaves oblong, rugose, crenated; calycine segments ovate-oblong; segments of corolla transverse, acute; peduncles straight, about equal in length to the calyxes. ♃. H. Native of Europe, as of Denmark, Germany, Switzerland; Britain, in sandy gravelly soils near London; it grows plentifully about Charlton wood, Norwood, &c. Gærtn. fruct. 1. p. 247. t. 53. Curt. fl. lond. fasc. 1. t. 48. Woodv. med. bot. 71. t. 24. Oed. fl. dan. t. 74. Hoffm. et Link, fl. port. p. 222. Lindl. dig. t. 2. Stev. et Church, med. bot. 1. t. 18.—Blackw. t. 16.—Riv. mon. t. 104.—Lob. icon. 1. p. 572. f. 1, 2.—Mor. hist. sect. 5. t. 8. f. 1. Plant pubescent. Corollas large, purple, marked inside with dark purple spots, which are edged with white. The colour, however, varies from dark purple to cream-colour and white.

Foxglove has been analysed by Destouches. Four ounces of the dried leaves yielded successively 9 drachms of watery and 78 grains of alcoholic extract. The first was brown, smooth, and of a consistence fit for making pills. The second had a very deep green colour, a virose and disagreeable smell, the consistence of tallow, but more tenacious, did not furnish ammonia by distillation, and was not acted upon by acids. The ashes contained salts of lime and potass. The effects of *Foxglove* when taken into the stomach are to diminish the frequency of the pulse, and the irritability of the system; and to increase the action of the absorbents, and the discharge by urine. In excessive doses it produces vomiting, dimness of sight, vertigo, delirium, hiccough, convulsions, collapse, and death. For these symptoms the best remedies are cordials and stimulants. Internally *Digitàlis* has been recommended. 1. In inflammatory diseases, from its very remarkable power of diminishing the velocity of the circulation. 2. In active hæmorrhages, and phthisis. 3. In some spasmodic affections, as in spasmodic asthma, palpitation, &c. 4. In mania from effusion on the brain. 5. In anasarcous and dropsical effusions. 6. In scrophulous tumours. 7. In aneurism of the aorta, and hypertrophy of the heart. Externally it has been applied to scrophulous tumours. It may be exhibited—1. In substance, either by itself, or conjoined with some aromatic, or made into pills, with soap or gum ammoniac. Withering directs the leaves to be gathered before the plant comes into flower; he rejects the petioles and midrib, and dries the remaining part either in the sunshine or before the fire. In this state they are easily reduced to fine green powder, which is given in doses of one grain twice a day, and the dose is gradually increased until it acts upon the kidneys, stomach, pulse, or bowels, when its use must be laid aside, or suspended. 2. In infusion: the same author directs a drachm of dried leaves to be infused for 4 hours in eight ounces of boiling water, and an ounce of any spirituous water to be added to the strained liquor for its preservation. Half an ounce, or an ounce of this infusion may be given twice a day. 3. In decoction. Darwin directs that four ounces of the fresh leaves be boiled in two pounds of water, until they are reduced to one, and that half an ounce of the strained decoction be taken every two hours, for four or more doses. 4. In tincture, put one ounce of the dried leaves, coarsely powdered, into four ounces of diluted alcohol: let the mixture stand by the fire-side 24 hours, frequently shaking the bottle, and the saturated tincture, as Darwin calls it, must then be separated from the residuum by standing, or decantation. Twenty drops of the tincture were directed to be taken twice or thrice a day, but the dose is dangerous. The Edinburgh college use eight ounces of diluted alcohol to one of the powder, but let it digest seven days. 5. The expressed juice and extracts are not proper forms of exhibiting this very active remedy.—Woodville and Duncan.

Var. albiflòra; flowers white. ♃. H. Native along with the species.—Gerard. emac. 790. f. 2.

Purple-flowered, or Common Foxglove. Fl. Clt. Pl. 3 to 5 feet.

2 D. THA'PSI (Lin. spec. 867.) leaves oblong, rugose, crenated, undulated, decurrent; calycine segments ovate; segments of corolla ovate-roundish; peduncles slender, arched, much longer than the calyx. ♃. H. Native of Spain, Portugal, Savoy, &c. Smith, exot. bot. p. 83. t. 43. Hoffm. et Link, fl. port. p. 223. t. 30. Lindl. dig. p. 10. t. 3. D. verbascifòlia, Bocc. mus. t. 85. D. Hispánica purpùrea minor, Tourn. inst. p. 165. —Barrel. icon. 1183. Plant tomentose, in habit much like *D. purpùrea.* Corollas purple; throat pale, marked with blood red dots.

Var. β, *intermèdia* (Lindl. dig. p. 11. t. 4.) stems simple, taller; segments of corolla obsolete. ♃. H. Native of Portugal about Cintra and Grandola. D. purpùrea, Tab. icon. t. 568. D. tomentòsa, Hoffm. et Link, fl. port. p. 220. t. 20. Sims, bot. mag. 2194.—Besl. hort. eyst. ord. 1. fol. 2. f. 2.

Mullien-like Foxglove. Fl. June, Sept. Clt. 1752. B. 1818. Pl. 2 to 4 feet.

3 D. MI'NOR (Lin. mant. p. 567. syst. ed. 13. p. 470.) radical leaves recurved to the ground, lanceolate, flat, denticulated; racemes few-flowered; segments of corolla ovate-roundish, dilated, quite glabrous: superior one bifid; peduncles 3-times longer than the calyxes. ♃. H. Native of Spain. Sims, bot. mag. 2160. Lindl. dig. p. 12. t. 5, 6. D. Hispánica purpùrea, mìnor, Tourn. inst. p. 165. Stem glabrous, or downy. Leaves glabrous above, downy beneath: upper ones quite entire. Corolla purplish, large for the size of the plant, marked by many spots inside.

Smaller Foxglove. Fl. June, July. Clt. 1789. Pl. ½ to ¾ foot.

4 D. AMBI'GUA (Murr. comm. goett. p. 6. Lin. syst. p. 562.)

leaves ovate-lanceolate, toothed, sessile, nerved; lower bracteas about equal in length to the flowers; corolla reticulated: with ovate, transverse, obtuse segments. ♃. H. Native of Austria, Switzerland, Germany, East of Siberia and Persia, in shady places. Schkuhr, handb. t. 174. Lindl. dig. p. 13. t. 7. R. Br. hort. kew. 4. p. 28. D. lùtea, Guildst. reis. 1. p. 425. Poll. pal. no. 599. D. grandiflòra, All. ped. 1. p. 70. Mill. dict. no. 4. Lam. fl. fr. 2. p. 332. D. mèdia, Roth, catalect. 2. p. 60. D. intermèdia, Pers. ench. 2. p. 162. Plant hairy. Leaves downy beneath. Corollas large, yellowish, reticulated with brown. Genitals glabrous.

Ambiguous Foxglove. Fl. July, Aug. Clt. 1596. Pl. 2 to 3 feet.

5 D. OCHROLEU'CA (Jacq. austr. 1. p. 36. t. 57.) leaves ovate-lanceolate, acuminated, toothed, and are, as well as the stem, villous; bracteas lanceolate: lower ones twice as long as the flowers; corolla villous, reticulated: segments ovate, acute: lip bearded. ♃. H. Native of Austria, Germany, Croatia, Carpathian mountains. Lindl. dig. p. 14. t. 8. D. ambígua, Schrank, mon. 3, with a figure. D. lùtea, Tabern. icon. t. 567. Roth. fl. germ. 1. p. 267.—Besl. eyst. ord. 1. fol. 1. f. 3.—Knip. cent. 6, with a figure. Corolla yellow, reticulated with brown.

Var. β, fuscéscens (Lindl. dig. p. 14.) flowers smaller, brown. ♃. H. Native of Croatia. D. fuscéscens, Waldst. et Kit. 3. p. 304. t. 274.

Cream-coloured-flowered Foxglove. Fl. July, Aug. Clt.? Pl. 2 to 3 feet.

6 D. FU'LVA (Lindl. dig. p. 15. t. 9.) leaves lanceolate, ciliated; bracteas all not half so long as the flowers; corolla downy, reticulated: segments ovate, acute: lip bearded; stamens about equal in length to the tube. ♃. H. Native country unknown. D. obscùro-ferrugínea, Kœlr. in act. petrop. 2. p. 261.—Park. par. 381. f. 5.? Plant glabrous. Leaves ciliated and pilose on the veins beneath, smooth, bullate, and tainted with purple above. Calyx downy. Corolla fulvous, reticulated with rust-colour. Stamens glabrous. Perhaps a hybrid between *D. obscùra* and *D. ferrugínea*.

Tawny-flowered Foxglove. Fl. July, Aug. Clt.? Pl. 2 to 3 feet.

§ 2. *Corolla roundish-ventricose. Lip length of tube. Stamens equal in length to the tube.*

7 D. LÆVIGA'TA (Waldst. et Kit. pl. hung. 2. p. 171. t. 158.) glabrous, branched; leaves linear-lanceolate; flowers scattered, glabrous. ♃. H. Native of Croatia, on calcareous rocks. Lindl. dig. p. 16. t. 10. Radical leaves obovate-lanceolate, obscurely-toothed; upper ones recurved, 5-nerved. Corolla fulvous, reticulated; lip ciliated, white; segments obtuse.

Smooth Foxglove. Fl. July, Aug. Clt. 1816. Pl. 2 to 3 feet.

8 D. SIBI'RICA (Mill. dict. no. 9. Lindl. dig. p. 16. t. 11.) villous, branched; leaves ovate, distantly-toothed; flowers scattered, pilose. ♃. H. Native of Siberia, Tartary. Upper leaves quite entire. Calyxes villous. Corolla hairy; segments ovate, transverse, acute; lip drawn out. Corolla rust-coloured, reticulated.

Siberian Foxglove. Fl. June, July. Clt.? Pl. 2 to 3 feet.

9 D. FERRUGÍNEA (Tab. icon. t. 573. Lin. spec. 867.) raceme dense, pyramidal; calycine segments margined; lip of corolla ovate, entire, bearded. ♃. H. Native of Piedmont, Spain, Hungary, Caucasus, Iberia, and Persia. Bieb. cauc. 2. p. 80. Lindl. dig. p. 17. t. 12. Sims, bot. mag. 1828. D. latifòlia flore ferrugineo, Tourn. inst. p. 166.—Mor. hist. 1. p. 477. sect. 5. t. 8. f. 2, 3.—Riv. mon. irr. t. 105.—Sabb. hort. rom. 2. t. 86.—Ger. emac. 790. f. 4.—Park. par. 380. no. 1. f. 6. Stem glabrous, densely leafy. Leaves glabrous, or ciliated. Racemes long. Corolla rusty, reticulated inside, downy outside.

Var. β, parviflòra (Lindl. dig. p. 17.) flowers about half the size of those of the species. ♃. H. Native of Persia and Caucasus.

Iron-coloured-flowered Foxglove. Fl. July, Aug. Clt. 1597. Pl. 4 to 6 feet.

10 D. AU'REA (Lindl. dig. p. 18. t. 13.) racemes many-flowered; calycine segments marginate; corolla arched: lip ovate, tridentate. ♃. H. Native of Mounts Parnassus and Olympus. D. ferrugínea, Smith, prod. fl. græc. 1. p. 439. fl. græc. t. 606.—Mor. hist. 1. p. 478. sect. 5. t. 8.—Park par. 381. f. 6. Stem downy. Leaves distant, distantly-toothed, nearly glabrous: superior ones linear-lanceolate. Corolla fuscescent, brownish purple outside, yellow, and reticulated inside.

Golden-flowered Foxglove. Fl. July, Aug. Clt. 1816. Pl. 2 to 3 feet.

11 D. LEUCOPHÆ'A (Sibth. et Smith, prod. fl. græc. 1. p. 439. fl. græc. t. 607.) raceme dense, cylindrical, many-flowered; lip of corolla unguiculate, lunate; bracteas linear, longer than the flowers. ♃. H. Native of Greece, on Mount Athos. Lindl. dig. p. 18. t. 14. Corolla rust-coloured; lip white.

Grey-flowered Foxglove. Fl. July, Oct. Clt. 1788. Pl. 2 to 3 feet.

12 D. LANA'TA (Ehrh. beitr. 7. p. 153. Waldst. et Kit. 1. p. 76. t. 74.) leaves oblong; rachis woolly; lip of corolla ovate. ♃. H. Native of Hungary, in vineyards. Sims, bot. mag. 1159. Lindl. dig. p. 19. t. 15. D. Wintérli, Roth, catal. 1. p. 71. D. ferrugínea, β, Lam. dict. 2. p. 280. R. Br. hort. kew. 4. p. 29. D. orientàlis, Elm. mon. 45. t. 1. D. eriostàchya, Fisch. ex Loud. hort. brit. p. 251.? Leaves deep green, ciliated with wool. Racemes dense, many-flowered. Bracteas shorter than the flowers. Calycine segments villous, acute. Corolla downy, grey, reticulated; lip white, naked, sometimes purplish.

Woolly-spiked Foxglove. Fl. July, Aug. Clt. 1789. Pl. 2 to 3 feet.

13 D. ORIENTA'LIS (Lam. dict. 2. p. 280. but not of Mill.) quite glabrous; leaves linear; flowers scattered; lip of corolla oblong. ♃. H. Native of the Levant. Lindl. dig. p. 19. t. 16. Ker. bot. reg. 554. Sims, bot. mag. 2253. D. orientàlis, tragapogi folio, flore albido, Tourn. inst. p. 166. Stem glabrous. Leaves linear-lanceolate, recurved, 3-nerved. Rachis naked. Calycine segments obtuse, ciliated. Corolla campanulate, grey, pale outside, reticulated with purple inside, pilose: lateral and superior segments minute; lip white, obtuse.

Eastern Foxglove. Fl. June, July. Clt. 1820. Pl. 2 to 3 feet.

§ 3. *Corolla funnel-shaped, a little ventricose; upper segment bifid. Stamens equal in length to the tube.*

14 D. PARVIFLÒRA (Jacq. vind. 6. t. 17. Ker. bot. reg. t. 257.) leaves oblong-lanceolate, undulated, deflexed, ciliated with wool, entire; racemes dense, cylindrical; segments of corolla, as well as those of the calyx, roundish. ♃. H. Native country unknown. Lindl. dig. p. 20. t. 17. R. Br. in hort. kew. ed. 2d. vol. 4. p. 29. D. ferrugínea, var. γ, Lam. dict. 2. p. 280. Leaves margined with wool: radical ones obovate. Corollas small, brownish purple, pilose.

Small-flowered Foxglove. Fl. June, Aug. Clt. 1798. Pl. 1½ to 3 feet.

15 D. VIRIDIFLÒRA (Lindl. dig. p. 21. t. 18.) clothed with glandular hairs; leaves oblong, toothed; segments of corolla ovate; sepals subulate. ♃. H. Native of Greece, on Mount Athos. Racemes long, not dense. Corolla small, green; segments ovate, veiny.

Green-flowered Foxglove. Fl. June, July. Clt.? Pl. 2 to 3 feet.

16 D. RI'GIDA (Lindl. dig. p. 21. t. 19.) plant clothed with glandular hairs; leaves oblong-lanceolate, wrinkled, undulated, toothed; racemes secund, many-flowered; corolla downy, with ovate, obtuse, glandular segments. ♃. H. Native country unknown. Corolla small, yellow, purplish above.

Stiff Foxglove. Fl. June, Aug. Clt.? Pl. 1½ to 2 feet.

17 D. PURPURA'SCENS (Roth, catal. 2. p. 62. D. C. fl. fr. 5. p. 411. exclusive of the var. Lindl. dig. p. 22. t. 20.) leaves linear-lanceolate, serrated, glabrous; racemes secund; corolla glabrous, with roundish segments. ♃. H. Native of Germany and Italy, in stony places on mountains. D. erubéscens, Dry-and. mss. R. Br. in hort. kew. 4. p. 29. Habit of *D. lùtea*. Radical leaves obovate, pilose on the nerves beneath. Corolla reddish, spotted inside; segments ciliated: upper one entire.

Purplish-flowered Foxglove. Fl. June, Aug. Clt. 1776. Pl. 2 to 3 feet.

18 D. LUTE'SCENS (Lindl. dig. p. 22. t. 21.) leaves cordate-oblong, flat, crenated, glabrous; racemes secund; corolla glabrous, with very blunt segments; bracteas all shorter than the flowers. ♃. H. Native country unknown. Stem slender, nearly naked. Bracteas, calyxes, and ovaria beset with a few hairs. Corolla long, tubular, glabrous; segments ciliated; upper lip bifid. Anthers yellow, spotted with blood colour. Corolla pale yellow.

Yellowish-flowered Foxglove. Fl. July, Aug. Clt.? Pl. 2 to 3 feet.

19 D. TUBIFLÒRA (Lindl. dig. p. 22. t. 22.) segments of corolla ovate, obtuse; flowers declinate. ♃. H. Native country unknown. Nearly allied to *D. lùtea*. Corolla pale yellow, long, narrow.

Tube-flowered Foxglove. Fl. June, Aug. Clt.? Pl. 2 to 3 feet.

20 D. LU'TEA (Lin. spec. 867.) leaves lanceolate, toothed, glabrous; racemes secund; corolla glabrous, with ovate, bearded segments; lower bracteas longer than the flowers. ♃. H. Native of the temperate parts of Europe, as of France, Switzerland, Silesia, Carniola, Piedmont, Italy, &c. Bull. herb. t. 373. Jacq. vind. 2. p. 47. t. 105. Ker. bot. reg. t. 251. R. Br. hort. kew. 4. p. 29. Lindl. dig. p. 23. t. 23. D. parviflòra, All. pedem. 1. p. 70. D. C. fl. fr. 3. p. 597.—Riv. mon. t. 105. D. mìnor luteo parvo flore, Tourn. inst. p. 165.—Lob. icon. t. 573.—Mor. hist. 1. p. 479. sect. 5. t. 8.—Sabb. hort. rom. 2. t. 98. Stem simple, smooth, angular, glabrous, or downy. Superior leaves subcordate at the base. Racemes dense. Peduncles glabrous, or downy. Corolla pale yellow, downy towards the top. Anthers pilose.

Var. β, micrántha (Lindl. dig. p. 23.) calycine segments about equal in length to the corolla. ♃. H. Native of Europe. D. micrántha, Elm. mon. 46. t. 2.

Var. γ, hýbrida (Lindl. dig. p. 23. t. 24.) flowers large, pale; stem more erect. ♃. H. Native of Auvergne, and the Pyrenees. D. hýbrida, Salv. nov. bull. 3. p. 337. t. 6. Journ. phys. 1782. p. 285. t. 1. f. 1, 2. D. intermèdia, Lapeyr. abr. D. purpuráscens, var. β and δ, D. C. fl. fr. 5. p. 411. Elm. mon. p. 45.

Var. δ, fucàta (Lindl. dig. p. 23. t. 25.) flowers larger, brownish purple; stem more erect. ♃. H. Native of Europe. D. fucàta, Ehrh. beitr. 7. p. 151. Pers. ench. 2. p. 162. D. purpuráscens, D. C. fl. fr. 5. p. 411.

Yellow-flowered Foxglove. Fl. July, Aug. Clt. 1629. Pl. 1½ to 3 feet.

21 D. LACINIA'TA (Lindl. bot. reg. 1201.) leaves lanceolate, acuminated, jagged, glabrous; raceme subsecund; corolla downy, with ovate, bearded segments: lower lobe or lip ovate, acute; bracteas all much shorter than the pedicels. ♃. H. Native of Spain, on the mountains about Malaga, P. B. Webb. Corolla yellow. It differs principally from *D. lùtea* in the cut leaves.

Jagged-leaved Foxglove. Fl. June, July. Clt. 1827. Pl. 1½ to 2 feet.

22 D. OBSCU'RA (Lin. spec. 867.) suffruticose; leaves linear-lanceolate, quite entire, glabrous; corolla ventricose. ♃. G. Native of Spain. Jacq. hort. vind. 1. p. 40. t. 91. Sims, bot. mag. t. 2157. Lindl. dig. p. 24. t. 25. R. Br. hort. kew. 4. p. 30. D. Hispánica angustifòlia, flore nigricante, Tourn. inst. p. 166.—Bocc. mus. p. 136. t. 98. Stem simple, glabrous. Leaves deep green. Racemes loose, few-flowered. Calyx downy. Corolla arched, downy, rufous outside, golden yellow inside, veined with dark brown lines; upper lip emarginate, villous inside at the base. Anthers ciliated with glands.

Obscure Foxglove. Fl. July, Aug. Clt. 1778. Shrub 1 to 2 feet.

† *Species hardly known.*

23 D.? COCHINCHINE'NSIS (Lour. coch. 378.) leaves lanceolate, rough; flowers sessile, solitary, axillary; calyxes acute; corollas obtuse, emarginate at top. ♃. G. Native of Cochinchina. Leaves quite entire, opposite. Calyx 5-cleft. Corolla pale violet, bell-shaped, ventricose at bottom; segments obtuse: the upper one emarginate. Capsule ovate, acute, 2-celled. Certainly not a species of *Digitàlis*.

Cochinchina Foxglove. Pl. 1½ foot.

24 D.? SINE'NSIS (Lour. coch. p. 378.) leaves ovate, hairy; flowers solitary, axillary; segments of calyx awl-shaped; segments of corolla obtuse, all entire. ♃.? G. Native of China. Stems tufted, smooth. Leaves opposite, serrated. Upper segment of the calyx larger, and sometimes bifid. Corolla dusky purple, bell-shaped, ventricose, 4-cleft: its upper segment the largest. Stigma screw-shaped. Capsule ovate-conical, 2-grooved, 2-celled. Certainly not a species of *Digitàlis*.

China Foxglove. Pl. 1 foot.

25 D. MILLE'RI; leaves ovate-lanceolate, nerved; calyxes acute. ♃. H. Native of Tartary. D. orientàlis, Mill. dict. no. 7, but not of Lam. Leaves smooth: cauline ones half stem-clasping. Corolla yellow, size of those of *D. ambígua*.

Miller's Foxglove. Fl. May, July. Clt. 1759. Pl. 1 foot.

Cult. Most of the species of Foxglove are showy, and well fitted for decorating flower borders. They all grow freely in common garden earth, and are readily increased by seed. Some of the more tender species require protection in winter.

II. ISOPLE'XIS (from ισος, *isos*, equal; and πλεκω, *pleco*, to plait; the upper segment of corolla is equal in length to the lip.) Lindl. dig. p. 25. Digitàlis species, Lin.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx unequal. Corolla tubular at the base, campanulate; limb obliquely 4-lobed; upper segment equal in length to the lip, and, like it, incumbent in æstivation. Stigma bilamellate.? Capsule ovate, acuminated.—Stems shrubby. Racemes pedunculate.

1 I. CANARIE'NSIS (Lindl. dig. p. 25. t. 27.) segments of the corolla acute. ♄. G. Native of the Canary Islands. Digitàlis Canariénsis, Lin. spec. p. 868. Mill. fig. 1. t. 120. Ker. bot. reg. t. 48. R. Br. hort. kew. ed. 2d. vol. 4. p. 30.—Plukn. mant. t. 325. f. 2.—Comm. hort. 2. p. 105. t. 53. Stem simple, downy. Leaves permanent, lanceolate, serrated, pilose on the edges. Calycine segments subulate: upper one the largest. Flowers dense, golden yellow: superior lip obovate, emarginate; lateral segments subulate.

Canary-Island Isoplexis. Fl. June, July. Clt. 1698. Shrub 4 to 6 feet.

2 I. sce'ptrum (Lindl. dig. p. 26. t. 28.) segments of corolla obtuse; racemes comose. ♄. G. Native of Madeira, in shady woods. Digitàlis scéptrum, Lin. suppl. 282. Lher. angl. p. 21. t. 24. Smith, exot. bot. 2. p. 27. t. 73. R. Br. in hort. kew. 4. p. 31. Trunk di-trichotomous. Young branches fleshy, pilose. Leaves obovate-lanceolate, denticulated, pilose beneath, crowded at the tops of the branches. Racemes thyrsoid. Flowers dense, pendulous, of a yellowish brown colour. Calycine segments pilose, spatulate, the 3 upper the shortest. Corolla pilose, reticulated; segments oblong-roundish: superior one flat, bipartite: lateral ones spreading a little smaller: lower one concave.

Sceptre Isoplexis. Fl. July, Aug. Clt. 1777. Shrub 3 to 4 feet.

Cult. Both species of *Isoplèxis* are very showy when in blossom. A light rich soil answers them well; and they may be either increased by cuttings under a hand-glass, or by seed, which ripen plentifully.

III. SCROPHULA'RIA (so named from its supposed use in the cure of scrofula.) Tourn. inst. p. 166. t. 74. Lin. gen. no. 756. Schreb. gen. no. 1014. Juss. gen. p. 119. ed. Usteri. p. 133. Gærtn. fruct. 1. p. 249. t. 53. Neck. elem. 1. p. 343. Lam. dict. 7. p. 27. ill. t. 533. Scrofulària, Spreng. anleit. ed. 2d. 1. p. 394. Wydler. mon. scrof.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, or usually 5-cleft, nearly equal. Corolla with a ventricose subglobose tube, and a short 5-lobed limb: segments short, roundish: the 2 upper ones combined with the upper lip. Stamens 4, fertile, didynamous, declinate, the rudiment of a fifth often present; anthers 1-celled. Style simple, thickened at the apex. Stigma emarginate. Capsule almost globose, or ovoid, often acuminated; valves entire, but often also shortly bifid at apex. The fifth filament, when present, is adnate, bearing a sessile, lamelliform, or emarginately spatulate anther or tip.—Herbs or under-shrubs with a fetid smell. Leaves opposite; or the superior ones are sometimes alternate, entire, or deeply pinnatifid, sometimes full of pellucid dots. Inflorescence thyrsoid; peduncles opposite, or alternate, cymosely many-flowered, rarely 1-flowered.

Sect. I. Veni'lia (in myth. the wife of Neptune.) Rudiment of a fifth stamen none.

§ 1. *Thyrse leafy.*

1 S. verna'lis (Lin. spec. p. 864.) hairy; leaves roundish-cordate, coarsely and multiplicately serrated, acute; peduncles opposite; lobes of calyx without a membrane, lanceolate; lobes of corolla short, connivent; genitals exserted. ☉. H. Native of Europe, in shady, humid places; particularly on the Caucasian Alps. It is to be found in woods and hedges in some parts of England, but is hardly indigenous. Schkuhr, handb. 2. t. 173. Smith, engl. bot. t. 567. Hook. fl. lond. t. 70. Oed. fl. dan. t. 411. S. cordàta, Waldst. et Kit. hung. 1. p. 75. t. 73.—Barrel. icon. t. 273.—Mor. hist. p. 482. sect. 5. t. 8. f. 2. —Riv. mon. irr. t. 107. f. 2. Upper leaves alternate and smaller. Size and form of bracteas variable. Lobes of calyx obtuse, or acute, full of pellucid dots. Corolla yellow. Ovarium clothed with stipitate glands. Capsule oblong, pear-formed.

Vernal Figwort. Fl. March, May. Britain. Pl. 2 feet.

§ 2. *Thyrse leafless.*

2 S. pauciflòra (Benth. scroph. ind. p. 17.) glabrous; stem hardly angular; leaves roundish-ovate, coarsely, acutely, and doubly serrated; thyrse elongated, few-flowered, with short, remote cymes; calycine segments lanceolate, acute, without membranes, shorter than the capsule; genitals inclosed. ♃. H. Native of Gosaingsthan, Wall. Corolla yellowish, with nearly equal segments. Capsule ovate, obtuse.

Few-flowered Figwort. Pl. 2 to 3 feet?

3 S. orienta'lis (Lin. spec. 864.) glabrous; lower leaves pinnatifidly cut: superior ones lanceolate, all regularly and sharply serrated; peduncles subverticillate; lobes of calyx membranous, ovate; genitals exserted. ♃. H. Native of the Levant, Siberia, and Caucasus. Schkuhr, handb. 2. p. 196. t. 175. Wydler. scrof. p. 26. S. ebulifòlia, Bieb. fl. cauc. 2. p. 77. and 3. p. 415.? but not of Link. S. orientàlis foliis cannábinis, Tourn. cor. p. 9. Lower leaves 3-4 in a whorl, pinnatifid, or appendiculate at the base; segments petiolate, all acuminated. Corolla greenish yellow outside, striped lengthwise with purple inside: lobes of the upper lip shorter than the others. Stigma pilose. Capsule oblong-conical, acuminated.

Eastern Figwort. Fl. July, Aug. Clt. 1710. Pl. 3 to 4 feet.

Sect. II. Scorodònia (from σκορδον, *scorodon*, the Greek name of garlic; in reference to the fetid smell of the species.) Sterile stamen present, adnate at the base, but free at the apex, dilated and spatulate, or emarginate and reniform. Calycine lobes roundish, or ovate, usually with membranous edges. Corollas purplish-green, greenish, purplish white, rarely yellowish. Genitals inclosed, or exserted. Fertile anthers yellow. Roots fibrous, rarely tubercular and woody. Stem usually herbaceous, but in a few species shrubby. Thyrse loose.

§ 1. *Thyrse leafy.*

4 S. grandiflòra (D. C. cat. hort. monsp. p. 143. Wydler, scroph. p. 26.) leaves clothed with soft villi: lower ones interruptedly and lyrately pinnatifid: lobes alternate, ovate, acute, toothed: terminal one large, broad, lanceolate; upper leaves ovate-lanceolate; calyx membranous; genitals inclosed. ♃. H. Native of South America.? Leaves sometimes doubly toothed; teeth ciliated, mucronate; petioles villous. Peduncles 5-flowered, much shorter than the leaves. Pedicels and calyxes villous. Corolla large, deep red. Anther or top of sterile filament reniform. Capsule almost globose.

Great-flowered Figwort. Fl. June, Aug. Clt. 1820. Pl. 2 to 3 feet.

5 S. sambucifòlia (Alp. exot. 203. t. 202. Lin. spec. p. 865.) glabrous; lower leaves deeply pinnate: upper ones ternate, or undivided; leaflets ovate, acute, deeply toothed: terminal one large; calyxes membranous; genitals inclosed. ♃. H. Native of Spain, Portugal, Corsica, North of Africa, Levant, &c. Hill. veg. syst. 19. t. 48. Mirb. elem. bot. (1815.) t. 30. f. 7. S. mellífera, Vahl, symb. 2. p. 68. Desf. fl. atl. 2. p. 53. t. 143. S. viridiflòra, Poir. voy. barb. 2. p. 194. S. Hispánica sambuci folio, glabro, Tourn. inst. p. 166. —Mor. hist. 2. p. 483. sect. 5. t. 8. f. 6.—Munt. phyt. 45. f. 238. Mill. fig. 2. t. 231. Leaflets sometimes petiolate. Anther or top of sterile stamen reniform. Capsule acuminated. Corolla purple; lower lip greenish.

Var. β, hirsùta (Wydler, scroph. p. 27.) plant hairy in every part, canescent. ♃. H. Native of Portugal. S. sambucifòlia, Willd. enum. 645. Link, fl. port. p. 272. S. grandiflòra, Rchb. icon. cent. 1. t. 98. but not of D. C. S. maxima Lusitanica, sambucifólio lanuginoso, Tourn. inst. p. 166. S. Lusitanica, maximo flore, foliis dissectis, Ray, hist. suppl. 396. This is very like the species, but differs in all its parts being hairy.

Var. γ, thýrso aphýllo (Wydler, l. c.) thyrse leafless.

Elder-leaved Figwort. Fl. May, July. Clt. 1640. Pl. 2 to 3 feet.

6 S. peregri'na (Math. comm. in Diosc. Cam. hort. p. 157. t. 43. Lin. spec. p. 866.) glabrous; leaves cordate, shining,

glabrous; peduncles alternate, 2-5-flowered; lobes of calyx not membranous, glabrous, acute; genitals inclosed. ⊙. H. Native of Greece, Italy, Crete, Balearic Islands, and Provence, along way-sides, in hedges, and shady places. D. C. fl. fr. 3. p. 580. in add. p. 729. S. geminiflòra, Lam. fl. fr. 2. p. 336. S. sexangulàris, Mœnch. meth. p. 445. S. mìnor, Sav. fl. pis. 2. p. 81. S. argùta, Ait. hort. kew. ed. 1st. vol. 2. p. 342.—Mor. hist. 2. p. 481. sect. 5. t. 8. f. 1.—Chabr. sciagr. 470. icone Γαλίοψις, Diosc. Stem acute-angled at the base, but obtuse angled at apex, dark purple. Leaves full of pellucid dots. Corollas small, purple, veiny; lobes all denticulated. Anther or tip of sterile stamen reniform. Capsule almost globose.

Foreign Figwort. Fl. July, Aug. Clt. 1640. Pl. 1 to 2 feet.

7 S. Scorodònia (Lin. spec. p. 864.) pilose; leaves cordately triangular, doubly toothed, acute, wrinkled, all opposite; edges of the lobes of calyx white and membranous, clothed with glandular hairs outside; genitals inclosed. ♃. H. Native of the Island of Jersey, Siberia, Galicia, Portugal, Tunis, in humid places and hedges. Hill. veg. syst. 19. t. 45. Lam. ill. t. 533. Smith, engl. bot. 2209. S. scordiifòlia, Grisl. vir. lus. p. 75. S. melissæfòlia, Tourn. inst. p. 166. Petiv. brit. 2. p. 35. f. 11. S. scorodoniæfòlia, Mor. hist. 2. p. 482. sect. 5. t. 35. f. 6. Plukn. phyt. t. 59. f. 5. S. foliis cordatis, duplicato-serratis; racemo composito, Gmel. sib. 3. p. 195. Corolla small, brownish purple. Anther or tip of sterile stamen reniform. Capsule roundish. The plant of Desfontaines, under this name, differs from that of Linnæus in the thyrse being leafless, and the size of the corolla.

Var. β. Leaves jagged at the base.

Balm-leaved Figwort. Fl. July, Aug. Britain. Pl. 2 to 3 feet.

8 S. Castagnea'na (Wydler, scroph. p. 29.) angles of stem rather downy; leaves oblong-cordate, doubly and deeply toothed, acute, rather downy: lower ones opposite: upper ones alternate; edges of the lobes of the calyx red, membranous, glabrous outside; genitals inclosed. ♃. H. Native of Turkey, about Constantinople, Castagne. Stem simple, striated. Leaves full of pellucid dots; teeth finely ciliated. Peduncles bifid; pedicels equal. Lobes of calyx ovate. Corollas larger than those of *S. nodòsa*, purple. Anther or tip of the fifth stamen roundish, emarginate.

Castagne's Figwort. Pl. 1½ to 2 feet.

9 S. urticæfòlia (Wall. cat. no. 3922. Benth. scroph. ind. p. 18.) downy, but at length nearly glabrous; leaves roundish-ovate, coarsely and doubly toothed, cordate at the base; peduncles opposite, 3-7-flowered; segments of the calyx broad ovate, obtuse, with membranous edges; genitals inclosed. ♃. H. Native of Nipaul and Gosaingsthan, Wall. Corolla greenish: upper lip longer than the lower segments. Anther or tip of sterile filament dilated, spatulate, and emarginate.

Nettle-leaved Figwort. Pl. 1 to 2 feet?

10 S. Himalaye'nsis (Royle, mss. ex Benth. scroph. ind. p. 18.) downy, tall; stem obtuse-angled; leaves ovate-lanceolate, somewhat doubly-toothed, subcordate at the base; thyrse ample, panicled, leafy at the base; segments of the calyx ovate, roundish, hardly membranous; genitals exserted. ♃. H. Native of the Himalaya, common. Corolla greenish. Anther or tip of sterile stamen dilated, spatulate, and emarginate.

Himalaya Figwort. Pl. 3 to 4 feet?

§ 2. *Thyrse leafless.*

11 S. polya'ntha (Royle, mss. ex Benth. scroph. ind. p. 18.) downy, tall; stem rather angular; leaves ovate-lanceolate, somewhat doubly toothed, narrowed unequally at the base, or furnished with a few lanceolate segments; thyrse elongated, large, panicled; segments of calyx ovate-roundish, with membranous edges; genitals exserted. ♃. H. Native of Mussooree, Royle. Corolla greenish.

Many-flowered Figwort. Pl. 2 to 4 feet?

12 S. ela'tior (Wall. cat. no. 3921. Benth. scroph. ind. p. 18.) glabrous, tall; stem angular, or winged; lower leaves ovate, cordate at the base: superior ones ovate-lanceolate, all doubly-toothed; thyrse large, panicle-formed, almost leafless; segments of calyx deep, lanceolate, acute, not membranous; genitals exserted. ♃. H. Native of Gosaingsthan, Wall. Anther or tip of sterile stamen dilated, spatulate, and emarginate.

Tall Figwort. Pl. 3 to 4 feet?

13 S. lanceola'ta (Pursh. fl. amer. sept. 2. p. 419. Nutt. gen. amer. 2. p. 44.? Wydler, scroph. p. 29.) glabrous; lower leaves ovate-lanceolate: superior ones lanceolate, all acute, serrated; peduncles bifid, 2-5-flowered; calycine segments with membranous edges; capsule roundish. ♃. H. Native of Carolina, Pennsylvania, &c. S. Marylándica, herb. D. C. et Desf. Stem very simple. Leaves not cordate at the base. Petioles shorter than the leaves. Corolla greenish yellow. Genitals inclosed.

Lanceolate-leaved Figwort. Fl. July, Aug. Clt. 1820. Pl. 2 to 3 feet.

14 S. nodòsa (Lin. spec. p. 863.) root tubercular; stem acute-angled, glabrous; leaves glabrous, cordately triangular, doubly serrated: teeth drawn out at the base; segments of calyx not membranous; genitals inclosed. ♃. H. Native of shady, humid places, and edges of ditches, throughout Europe; plentiful in some parts of Britain, particularly in the north. Schkuhr, handb. 2. p. 194. Smith, engl. bot. 1544. Oed. fl. dan. 1167. Gunn. fl. norv. 2. p. 87. no. 732. t. 4. f. 1—3. Hayne, arz. 5. t. 35.—Petiv. 193. f. 194.—Mor. hist. p. 482. sect. 5. t. 8. f. 3.—Riv. mon. irr. t. 107. f. 1.—Blackw. herb. t. 87.—Lob. icon. 533. Roots knobbed. Leaves full of small pellucid dots, sometimes not cordate at the base. Corollas greenish; lip purplish. Anther or tip of sterile stamen reniform. Capsule nearly globose. This species has the name Figwort and formerly Kernelwort from its knobbed roots, and Brownwort from the brown tinge of the leaves. In medicine the plant is hardly known in modern practice, but the rank smell, like elder, and bitter taste of the leaves, seem to indicate some active properties. Swine that have the scab are cured by washing them with a decoction of the leaves. Wasps resort greatly to the flowers. Goats eat the plant; but cows, horses, sheep, and swine refuse it.

Var. β; leaves 3 in a whorl.

Var. γ; flowers green.

Knotty-rooted Figwort. Fl. May, July. Britain. Pl. 2 to 3 feet.

15 S. Maryla'ndica (Lin. spec. p. 863.) stem obtuse-angled; leaves cordate, serrated, acute, rounded at the base. ♃. H. Native of North America and Siberia. S. nodòsa, β, Americàna, Michx. fl. bor. amer. 2. p. 21. S. Marylándica, longo profunde serrato urticæ folio, Ray, hist. suppl. p. 396. This species hardly differs from *S. nodòsa*, unless in the stem being taller, in the teeth of the leaves being deeper; but the calyx, corolla, and capsule are the same as those of *S. nodòsa*.

Maryland Figwort. Fl. May, July. Clt. 1759. Pl. 3 to 4 feet.

16 S. Scopòlii (Hoppe. cent. exsic. D. C. fl. fr. suppl. 406. Wydler, scroph. p. 31.) downy; leaves ovate-cordate, regularly and doubly crenated, or serrated, acute, wrinkled; lobes of calyx broad, ovate, with whitish, membranous edges; genitals inclosed. ♃. H. Native of the Alps of Hungary, Carniola, Pyrenees; in hedges, orchards, gardens, and waste places; north of Caucasus, in groves; and south of Tauria. Bertol.

amœn. ital. p. 382. S. auriculàta, Scop. carn. ed. 2d. vol. 1. p. 446. t. 32. S. rugòsa, Willd. enum. suppl. p. 42.? S. nepetefòlia, Smith, in Rees' cycl. 32. no. 7.—Barrel. icon. 274. S. màjor hirsùta, Tourn. inst. 166. Lower leaves very large, all full of pellucid dots, without any auricles. Anther or tip of sterile stamen reniform. Capsule nearly globose.

Var. β; pedicels elongated, filiform. Wydler, scroph. p. 31.

Scopoli's Figwort. Fl. May, Sept. Clt. 1816. Pl. 2 feet.

17 S. grandidenta'ta (Tenore, fl. nap. suppl. 2. p. 69. Guss. pl. rar. p. 255.) stems and petioles villous; leaves cordate-oblong, downy beneath, deeply bidentate; teeth diverging; thyrse panicled; peduncles trichotomous. ♃. H. Native of Naples, Calabria, and Hungary, on the mountains. S. glandulòsa, Waldst. et Kit. hung. 3. p. 238. t. 214. S. Scopòlii, β, glandulòsa, Wydler, scroph. p. 31. Leaves 3-nerved, downy. Peduncles and bracteas clothed with glandular hairs.

Large-toothed-leaved Figwort. Fl. May, Sept. Clt. 1806. Pl. 2 to 3 feet.

18 S. Califórnica (Cham. et Schlecht, in Linnæa, 2. p. 585. Hook. et Arn. in Beech. voy. pt. bot. p. 153.) stem acute-angled, glabrous, the floriferous part clothed with glandular down; leaves oblong-triangular, acute, cordate at the base, doubly serrated, glabrous above, but sparingly beset with glandular down beneath; thyrse leafless; calycine segments ovate, acute, mucronate, the margins furnished with a narrow membrane; capsule ovate, conical. ♃. H. Native of California. Said to be nearly allied to *S. nodòsa* and *S. Marylándica*.

Californian Figwort. Pl. 2 feet.

19 S. betonicæfòlia (Tourn. inst. 166. Lin. mant. p. 87. Wydler, scroph. p. 31.) rather pilose; leaves cordate-oblong, acute, unequally toothed, wrinkled; lobes of calyx roundish, with rusty, membranous edges; genitals inclosed. ♃. H. Native of Portugal, Canary Islands; in Madeira, at the altitude of from 2500 to 4000 feet. Hill. veg. syst. 19. t. 46. Spreng. syst. 2. p. 785, exclusive of the syn. of Horn.—Barrel. icon. 274.? S. rugòsa, hort. lugd. ex herb. Balb. Stem purplish. Petioles ciliated. Leaves unequally and doubly toothed, or rarely crenated; the teeth ciliated with glandular hairs. Thyrse usually leafless, but sometimes leafy. Corolla greenish purple, or of a rusty green, size of those of *S. nodòsa*. Anther or tip of sterile stamen green, marked with purple, reniform. Capsule globose. *S. betonicæfòlia*, of Brotero and Link, a native of Portugal, is quite distinct from this.

Var. β, *glàbra* (Wydler, scroph. p. 31.) plant glabrous.

Var. γ, *thýrso foliòso* (Wydler, l. c.) thyrse leafy.

Betony-leaved Figwort. Fl. June, Aug. Clt. 1752. Pl. 2 to 3 feet,

20 S. Hermi'ni (Link, et Hoffm. fl. port. 1. p. 266.) stem hairy; leaves cordate and subcordate, oval, and somewhat doubly crenate-toothed, not wrinkled, downy; capsule conical, long. ♃. H. Native of Portugal, on Serra Estrella. Leaves on long petioles. Lobes of calyx small, margined a little. Upper lip of corolla pale brown, lower one green. Stamens and anthers yellow.

Hermin's Figwort. Pl. 2 to 3 feet.

21 S. Alta'ica (Murr. in comm. gœtt. 1781. p. 35. t. 2.) plant clothed with glandular villi; leaves cordate, doubly toothed, downy beneath, acute; lobes of calyx broad-lanceolate, acute, not membranous; capsule roundish. ♃. H. Native of Altaia. Leaves sinuately toothed; teeth acute: lower teeth reverse. Thyrse beset with glandular villi. Lobes of calyx lanceolate, acuminated, ciliated. Anther or tip of sterile stamen reniform. Genitals sub-exserted. Corolla whitish yellow.

Altaian Figwort. Fl. May, June. Clt. 1786. Pl. 1 foot.

22 S. Smi'thii (Horn. hort. hafn. suppl. 68. Link, enum. 2. p. 139. Wydler, scroph. p. 33.) hairy; leaves ovate-cordate, multiplicately and deeply crenated, acute; lobes of calyx roundish, with red or yellowish membranous edges; capsule somewhat ovate. ♃. G. Native of the Canary Islands. Stem quadrangular, dark purple, branched. Corolla yellow. Genitals inclosed. Anther or tip of sterile stamen reniform.

Smith's Figwort. Fl. April, Aug. Clt. 1815. Pl. 2 to 3 feet.

23 S. glabra'ta (Ait. hort. kew. 2. p. 341. and ed. 2d. vol. 4. p. 22.) glabrous; stem suffruticose; leaves cordate-lanceolate, acute, doubly and triplicately toothed; lobes of calyx with white membranous edges; genitals exserted; capsule ovate-globose. ♂. G. Native of Teneriffe, among rocks on the Pic de Teyde, at the altitude of 7000 or 8000 feet, where it is called *Yerba de Cumbre*. Jacq. hort. schœnbr. 2. p. 44. t. 209. Willd. spec. 3. p. 272. exclusive of the syn. of Vahl. Wydler, scroph. p. 33. Leaves full of pellucid dots. Lobes of calyx roundish ovate. Corolla purple, veined, size of that of *S. canìna*. Anthers margined with red.

Var. β, ? *pubéscens* (Wydler, scroph. p. 33.) stem and leaves downy. ♃. H. S. betonicæfòlia, D. C. in herb. Balb. This differs from *S. betonicæfòlia*, Lin. in the lobes of the calyx not being margined with rust colour.

Smooth Figwort. Fl. April, May. Clt. 1779. Pl. 2 to 3 feet.

24 S. biserra'ta (Willd. enum. p. 644. Wydler, scroph. p. 33.) leaves oblong-lanceolate, deeply cordate, sharply and doubly serrated, glabrous. ♃. H. Native country unknown. Very like the preceding, and probably only a variety of it.

Doubly-sawed-leaved Figwort. Fl. June, Aug. Clt. 1816. Pl. 2 to 3 feet.

25 S. fœ'tida (Wydler, scroph. p. 34.) glabrous; leaves ovate-oblong, deeply and multiplicately crenated. ♃. H. Native country unknown. Plant fetid. Stem simple, or a little branched, striated. Leaves full of pellucid dots. Peduncles alternate, bifid. Lobes of calyx broad-ovate, sometimes glandular outside, with membranous, chestnut-coloured edges. Corolla size of those of *S. nodòsa*, yellow, ex. D. C.

Fetid Figwort. Pl. 2 to 3 feet.

26 S. trifolia'ta (Lin. spec. p. 865.) glabrous; stem almost simple; leaves ovate, or roundish, cordate, deeply-toothed, or lobately crenated, often appendiculate at the base, according to several authors, or deeply cut; lobes of calyx roundish, with reddish white membranous margins; capsule ovate-conical. ♂. H. Native of Corsica, in mountainous places; and of Portugal, and the north of Africa. D. C. fl. fr. 3. p. 581. Wydler, scroph. p. 34. S. lævigàta, Vahl, symb. 2. p. 67. S. appendiculàta, Jacq. schœnbr. 3. p. 19. t. 286.—Plukn. alm. 338. t. 313. f. 6.? but the thyrse is leafy.—Bocc. mus. t. 60.? Stem tetragonal. Corolla globose: lower lip whitish, the other reddish. Filaments white. There is probably two species confounded; the one having the leaves never appendiculate, or ternate, and downy beneath.

Trifoliate Figwort. Fl. May, Sept. Clt. 1731. P. 2 feet.

27 S. hi'spida (Desf. fl. atl. 2. p. 55. Wydler, scroph. p. 35.) hispid; leaves pinnate at the base, doubly crenated: terminal lobe large, cordate; cymes dense flowered; lobes of calyx margined with white. ♃. H. Native of Mount Atlas, in the fissures of rocks near Tlemsen. Genitals inclosed.

Hispid Figwort. Fl. June, Aug. Clt. 1824. Pl. 2 feet.

28 S. auricula'ta (Lin. spec. p. 864. exclusive of the synonymes. Wydler, scroph. p. 35.) leaves cordate-oblong, appendiculate at the base, tomentose beneath. ♃. H. Native of Nice and Algiers, on the sides of ditches. D. C. fl. fr. 3. p. 580. Desf. fl. atl. 2. p. 56. exclusive of the syn. of Lob. Stem tetragonal, rather pilose; angles membranous. Leaves rather pilose, crenated; crenæ broad, mucronulate. Segments of calyx roundish, with red membranous edges, glandular outside.

Corolla, stamens, and sterile anther and capsule as in *S. aquática*. Smith considers this to be a variety of *S. Scorodònia*, but Wydler considers it a variety of *S. aquática*.

Auricled-leaved Figwort. Fl. June, Aug. Clt. 1772. Pl. 2 to 3 feet.

29 S. AQUA'TICA (Lin. spec. p. 864.) glabrous; angles of stem acute, membranous; leaves ovate, or elliptic, subcordate at the base, crenate-toothed: lower leaves usually appendiculate; lobes of calyx margined with red; genitals inclosed. ♃. H. Native throughout Europe, and in Caucasus, in moist places by the sides of ditches, &c.; plentiful in Britain. Blackw. herb. t. 86. Schkuhr, handb. 2. p. 195. t. 173. Smith, engl. bot. t. 854. Oed. fl. dan. 507. Hayne, arz. 5. t. 36. Chaumet, fl. med. t. 321. S. Balbìsii, Horn. hort. hafn. 577. Balb. cat. hort. taur. 1813. p. 69. exclusive of the syn. of All. S. appendiculàta, Balb. herb. S. auriculàta, Loefl. itin. p. 292.? Asso. arr. p. 81.? Schkuhr, handb. 2. p. 195. t. 173. Water Figwort, Petiv. brit. 2. t. 33. f. 10.—Mor. hist. pract. p. 147. t. 68. f. 1.—Mor. hist. 2. p. 482. sect. 5. t. 78. f. 4.—Loes. pruss. p. 248. t. 75.—Lob. icon. t. 533. Leaves sometimes without auricles, but always full of pellucid dots. Cymes usually dense-flowered. Corolla blood red. The plant is called *Water Betony*, *Brownwort*, and *Bishop leaves*. The leaves are recommended medicinally for the same purposes as those of *S. nodòsa*; in taste and smell they are similar, but weaker. M. Marchant has reported, in the memoirs of the French Academy, that this plant is identical with the Equetaia of the Brazilians, celebrated as a corrector of the ill flavour of senna: the Edinburgh college, in their common infusion of that drug, directed two thirds of its weight of water Figwort leaves to be joined; but as they have since discarded this ingredient, we may presume that it was not found to be of much use. The disagreeable smell which attends this plant when bruised makes it rejected by cattle in general. Bees collect much honey from the flowers.

Var. β; stem simple; leaves lanceolate-elliptic; flowers less dense. ♃. H. Native of ditches about Geneva. Wydler, scroph. p. 37.

Var. γ; thyrse leafy. ♃. H. Wydler, scroph. p. 37.

Water Figwort, or Water Betony. Fl. May, Sept. Britain. Pl. 3 to 5 feet.

30 S. LYRA'TA (Willd. enum. p. 545. hort. berol. t. 55.) leaves hairy on both surfaces: lower ones lyrately and interruptedly pinnate: superior ones ternate: upper ones simple, auricled; terminal lobe large, oblong-ovate, subcordate, bluntly and doubly toothed. ♃. H. Native country unknown. Bracteas beset with glandular hairs. Corolla brownish purple. Genitals inclosed.

Lyrate-leaved Figwort. Fl. June, Aug. Clt. 1816. Pl. 2 to 4 feet.

31 S. EBULIFÒLIA (Hoffm. et Link, fl. port. 1. p. 270. Wydler, scroph. p. 37. but not of Bieb.) glabrous; lower leaves lyrate: segments somewhat duplicately, acutely, and deeply crenated: superior leaves deeply pinnatifid: segments dentately crenated. ♃. H. Native of Portugal, on the seashore near Setuval. Nearly allied to *S. lyràta*.

Var. β; leaves shining. ♃. H. Native of Portugal, on Serra de Gerrez.

Danewort-leaved Figwort. Pl. 2 to 3 feet.?

32 S. TANACETIFÒLIA (Willd. hort. berol. t. 56. Link, enum. 2. p. 140.) glabrous; leaves interruptedly pinnate; leaflets petiolate, oblong-ovate, deeply toothed, the terminal lobe the largest; genitals exserted. ♃. H. Native of North America. Anther or tip of sterile stamen nearly orbicular. Fertile anthers dark purple. Segments of calyx with white membranous edges, usually shining. Root and stem often woody. Leaves more or less fleshy, rarely undivided, but usually pinnatifid, or pinnate. Corolla brownish purple.

Tansy-leaved Figwort. Fl. July, Sept. Clt. 1804. Pl. 2 to 4 feet.

33 S. VERBENÆFÒLIA (Desf. cat. hort. par. p. 77. Poir. suppl. 5. p. 117. Wydler, scroph. p. 38.) stem simple, glabrous, herbaceous; leaves cordate-oblong, laciniately pinnatifid, unequally crenated and serrated, lower segments the deepest, often auricled; genitals exserted. ♃. H. Native of Croatia, on calcareous rocks. S. laciniàta, Waldst. et Kit. hung. 2. p. 185. t. 170. Segments of calyx margined with white. Corolla size of that of *S. nodòsa*, greenish; upper lip purple.

Vervain-leaved Figwort. Fl. June, July. Clt. 1806. Pl. 1½ to 2 feet.

34 S. PATRINIA'NA (Wydler, scroph. p. 39.) stem simple, glabrous, herbaceous; leaves ovate, acute, deeply and acutely toothed: lower ones pinnatifid at the base: lobes acute. ♃. H. Native of Dauria. Stem striated. Leaves glabrous, on short petioles. Peduncles 2-3-flowered. Lobes of calyx broad, ovate. Corolla as in *S. canìna*. Sterile anther roundish, white.

Patrin's Figwort. Pl. 2 to 3 feet.

35 S. INCI'SA (Weinm. ind. pl. hort. dorp. 1810. p. 136. Ledeb. fl. ross. alt. ill. t. 156. fl. alt. 2. p. 442.) leaves oblong, attenuated at both ends, petiolate, deeply serrated, thickish, glabrous; panicle elongated, clothed with glandular villi: lower branches 3-5-flowered: superior ones 2-3-flowered. ♃. H. Native of Altaia, on rocks among the mountains of Arkaul and Tschingistau; and on the borders of the river Tschuja, &c. Said to be nearly allied to *S. laciniàta*, but the leaves are never cordate at the base. Stem and branches bluntly quadrangular. Corolla and anthers dark purple. Genitals exserted. Margins of calyxes white, and membranous.

Cut-leaved Figwort. Fl. May, June. Pl. 2 feet.

36 S. DIVARICA'TA (Led. ind. sem. hort. dorp. 1822. p. 17. Led. fl. ross. alt. ill. t. 121. fl. alt. 2. p. 440.) leaves cordate, acuminated, doubly serrated, downy on both surfaces; racemes axillary, dichotomous; calycine segments acutish, adpressed; genitals inclosed. ♃. H. Native of Iberia, near Tiflis. Stem and branches bluntly tetragonal, beset with glandular hairs, and longer simple ones. Margins of the segments of the calyx membranous. Corolla yellowish-green. Capsule nearly globose, acuminated. The thyrse of this species being leafy, it ought to have been placed in the preceding section: the leaves of the thyrse are deeply jagged.

Divaricate Figwort. Fl. May, Oct. Pl. 4 to 6 feet.

37 S. OLIVIERIA'NA (Wydler, scroph. p. 39.) stem glabrous; leaves ovate, deeply and dentately crenated, more or less pinnate at the base; segments or leaflets petiolate, roundish. ♃. H. Native of the Levant. Stem nearly simple, woody at the base, striated, dark purple. Upper leaves roundish, subcordate. Lobes of calyx roundish. Corolla form, size, and colour of *S. canìna*. Sterile anther white. This is very nearly allied to *S. Urvilleàna*, but differs in the lobes of the calyx being broader, and in the petioles being dilated.

Olivier's Figwort. Pl. 1 to 2 feet.

38 S. MICRA'NTHA (D'Urv. enum. arch. p. 75.) stem branched at the base, glabrous, ascending; branches weak; leaves petiolate, oblong, obtuse, auricled at the base, coarsely toothed; flowers small. ♃. H. Native of the Island of Ferasia, near Thera. Wydler, scroph. p. 39.

Small-flowered Figwort. Pl. 1 to 2 feet.

39 S. URVILLEA'NA (Wydler, scroph. p. 40. t. 11.) stem simple, glabrous; leaves roundish-cordate, lobed, rarely crenated. ♃. H. Native of the Island of Melos, and at Thera, on walls and on rocks, d'Urville. Stems numerous, dark purple. Lower bracteas like the leaves. Peduncles alternate; cymes 3-6-flowered. Segments of calyx margined with white. Corolla small, purple. Capsule roundish. This species hardly differs from the preceding, and might with propriety be joined to it.

Var. β, *lyràta;* lower leaves ovate: superior ones cordate-ovate, all lyrately pinnate; leaflets cuneate, ovate, sometimes petiolate: terminal one large, all deeply crenated. ♃. H. Native along with the species. Wydler, scroph. p. 40. t. 3.

D'Urville's Figwort. Pl. 1 to 1½ foot.

40 S. VARIEGA'TA (Bieb. casp. 177. app. no. 48. fl. cauc. 3. p. 416.) stem suffruticose; leaves ovate, lobately toothed: lower ones pinnatifid at the base, and rather downy. ♃. H. Native of Caucasus, in stony places. Rchb. icon. cent. 3. t. 257. Corolla purple; lower lip white, as well as one of the segments of the upper lip. Genitals exserted.

Variegated-flowered Figwort. Fl. June, Aug. Clt. 1816. Pl. 2 feet.

41 S. RUPE'STRIS (Bieb. fl. cauc. 2. p. 79. and 3. p. 417.) stems nearly terete, clothed with hoary down; leaves oblong-ovate, attenuated at both ends, toothed, glabrous. ♃. H. Native of the South of Tauria, among rocks. Willd. spec. 3. p. 274. Rchb. icon. cent. 3. t. 258. S. orientàlis, Habl. taur. p. 164. ex Bieb. There is a variety of this having the lower leaves cut at the base, and downy on the nerves beneath, which is probably a variety of *S. variegàta.* Genitals exserted.

Rock Figwort. Fl. July, Aug. Clt. 1818. Pl. 2 feet.

42 S. LI'VIDA (Smith, prod. fl. græc. 1. p. 437. fl. græc. t. 601.) leaves pinnate: leaflets pinnatifid; thyrse twiggy; genitals inclosed. ☉. H. Native of Asia Minor, Sibthorp. Calyx edged with white. Corolla greenish yellow; upper lip purple.

Livid Figwort. Pl. 1 to 2 feet.

43 S. BI'COLOR (Sibth. et Smith, fl. græc. t. 602.) leaves bipinnate; racemes panicled; peduncles many-flowered; capsule globose, mutic; stamens exserted. ♃. H. Native of Sicily. Calyx edged with white. Corolla blood-coloured, with a white base; lateral segments short, white; the rest blood-coloured, edged with white.

Two-coloured-flowered Figwort. Pl. 3 feet.

44 S. MULTI'FIDA (Willd. enum. p. 646. hort. berol. t. 58.) stem simple? glabrous, herbaceous; lower leaves bipinnate; segments or leaflets lanceolate, deeply toothed, acute: superior ones pinnate, or pinnatifidly cut: uppermost ones tripartite, the middle segment long and toothed. ♃. H. Native of Sicily and Asia Minor. S. silaifòlia, Clark. voy. ex Spreng. syst. Corolla brownish-purple.

Multifid Figwort. Fl. June, Aug. Clt. 1816. Pl. 2 to 3 feet.

45 S. LU'CIDA (Lin. spec. p. 865.) stem simple, glabrous, shrubby; leaves thickish, shining, pinnate; leaflets pinnatifid, roundish or acute, toothed; thyrse short, dense. ♃. H. Native of Italy, Greece, Levant, Iberia, and the North of Africa. D. C. fl. fr. 3. p. 582. Willd. hort. berol. t. 57. S. glauco folio in amplas lacinias diviso, Tourn. cor. 9. voy. 1. t. 85. (ed. 1717.) 1. t. 221.—Bocc. mus. t. 117.—Mor. hist. 2. p. 483. sect. 5. t. 9. f. 7. Σιδηριτις τριτη, Diosc. This species is readily distinguished from the rest in the peduncles and pedicels being thick; the calyx larger, and the membranes broader. Stems always leafy at the base. Corolla pale, with a red upper lip; but according to Miller dark brown. Genitals inclosed.

Var. β; leaves narrower. ♃. H. Wydl. scroph. p. 42.

Shining Figwort. Fl. June, Sept. Clt. 1596. Pl. 1 to 2 feet.

46 S. FILICIFÒLIA (Mill. dict. ed. 8th. no. 10. Sibth. et Smith, prod. fl. græc. 1. p. 436. Rees' cycl. vol. 32. no. 26.) radical leaves interruptedly pinnate; leaflets pinnatifid, lanceolate; lobes acutely toothed: teeth mucronate; flowers distant. ♃. H. Native of Greece. S. Crética, Riv. mon. irreg. t. 94. Trev. in Linnæa, 2. p. 53. Radical leaves a foot long. Thyrse 1½ foot long, not short as in *S. lùcida;* and the peduncles are not thickened as in *S. lùcida.* Segments of calyx margined with white. Corollas small, purple, edged with white, ex Mill. Genitals exserted.

Fern-leaved Figwort. Fl. July, Aug. Clt. 1700. Pl. 2 to 3 feet.

47 S. DECOMPÓSITA (Royle, mss. ex Benth. scroph. ind. p. 18.) glabrous, shining; leaves opposite, thickish, pinnate; leaflets deeply pinnatifid, lanceolate: lower ones petiolate; thyrse strict; lower peduncles opposite: superior ones alternate, short, stiff, 3-5-flowered; segments of calyx with white margins, and rufous membranes; genitals exserted. ♃. H. Native of Kinnour, Royle. Perhaps only a variety of *S. lùcida.* Sterile stamen with an orbicular tip.

Decompound-leaved Figwort. Pl. 2 to 3 feet.

SECT. III. CANI'NA (so called on account of the species agreeing in character and habit with *S. canìna.*) The fifth or sterile stamen deficient of an anther; that is to say, the free part or tip is acute. The rest as in the last section.

§ 1. *Thyrse compound; cymes many-flowered.*

48 S. DESE'RTI (Delile. fl. d'egypt. p. 96. t. 33. f. 1.) stem suffruticose at the base, and branched; leaves cut, glabrous, with cartilaginous edges: lower ones sublyrate: superior ones pinnatifid; segments narrow-obovate, toothed. ♃. F. Native of the deserts of Egypt. Margins of calyx cartilaginous.

Desert Figwort. Pl. 1 to 2 feet.

49 S. FRUTE'SCENS (Lin. spec. p. 866.) stem shrubby; leaves usually alternate, cuneate-ovate, or lanceolate, running into the short petioles, toothed. ♄. F. Native of Portugal, in the sand by the sea side; Greece, and the North of Africa. Hill, veg. syst. 19. t. 46. Herm. lugdb. 545. t. 547. S. Lusitanica verbenacæ folio, Tourn. inst. 167. Stem quadrangular. Corollas small, dark purple, with the lateral segments white.

Var. β; leaves cut or jagged. ♄. F. Wydler, scroph. 43.

Shrubby Figwort. Fl. June, Aug. Clt. 1768. Shrub 2 feet.

50 S. PINNATI'FIDA (Brot. fl. lus. 1. p. 202. Hoffm. et Link, fl. port. 1. p. 269.) stem suffruticose; leaves sessile, lanceolate, deeply crenate-toothed, or cut and pinnatifid at the base. ♄. F. Native of Portugal, in sandy places.—An intermediate plant between *S. frutéscens* and *S. canìna*, and probably only a variety of the first. Stem erect, much branched, glabrous. Leaves usually alternate, sometimes opposite, narrowed at the base.

Pinnatifid-leaved Figwort. Fl. July, Aug. Clt. 1819. Shrub 2 feet.

51 S. HETEROPHY'LLA (Willd. spec. 3. p. 274. d'Urv. enum. arch. 75.) stem shrubby; leaves on long petioles, rather fleshy: lower ones pinnate: superior ones 3-lobed and elliptic, all remotely and deeply toothed; thyrse very long. ♄. F. Native of Candia, and the Island of Melos; and of Ferasia, near Thera. Sibth. et Smith, fl. græc. t. 603. S. frutéscens, var. β, Smith, prod. 1. p. 437. S. Sibthorpiàna, Spreng. syst. 2. p. 786. S. crética frutéscens folio vario et carnoso, Tourn. cor. p. 9. Very nearly allied to *S. frutéscens;* but the leaves are all on long petioles. Branches bluntly tetragonal. Corolla scarlet. Genitals exserted.

Various-leaved Figwort. Shrub 2 to 3 feet.

52 S. CANI'NA (Lin. spec. 865.) root woody; stems herbaceous; lower leaves pinnate: superior ones pinnatifid or bipinnatifid; segments roundish or lanceolate, toothed. ♃. H. Native of the South of Europe, in dry, sandy, or gravelly places; Greece, and the Balearic Islands; North of Africa, on the Mediterranean sea. Hill. veg. syst. 19. t. 48. D. C. fl. fr. 3. p. 582. S. multífida, Lam. fl. fr. 2. p. 337. S. chrysanthemifòlia, Balb. herb.—Mor. hist. 483. sect. 5. t. 9. f. 8. Σιδηριτις ἑτερα, Diosc. Thyrse sometimes leafy, strict, *long;* branches of cyme kneed. Corollas purple, with a mixture of green. Genitals exserted.

Var. β, *chrysanthemifòlia* (Wydler, scroph. p. 44.) flowers small, purple, margined with white. ♃. H. Native of Tauria. S. chrysanthemifòlia, Bieb. fl. cauc. 2. p. 78. and 3. p. 416. Willd. hort. berol. t. 59. S. canìna, β, Willd. spec. 3. p. 277. exclusive of the syn. of Tourn. S. pinnàta, Mill. dict. no. 155.? S. orientàlis, chrysanthemifòlia, flore minimo variegato, Tourn. cor. 9.

Var. γ, *nàna* (D. C. fl. fr. 3. p. 582.) stem more humble; leaves very narrow; racemes short; flowers dense. ♃. H. Native of Mount Jura, in many places. S. praténsis, Schleich. cent. exsic. no. 67.

Var. δ, *pubéscens*; stems downy. ♃. H. Native of the valley of Boden, near Windisch-Bleiberg, Hoppe. S. canìna, Hoppe, cent. 4. S. canìna, var. γ, D. C. fl. fr. 3. p. 582.

Var. ε, *albiflòra* (Wydler, scroph. p. 45.) flowers white; leaves broader, with rounded segments. ♃. H.

Dog's Figwort. Fl. June, Aug. Clt. 1683. Pl. 2 to 3 feet.

53 S. PYRAMIDA'LIS (Wydler, scroph. p. 45.) stems very long; leaves alternate: lower ones lanceolate, denticulated: upper ones pinnatifid; thyrse very long. ♃. H. Native about the Black Sea, near Donnums Bercy. Perhaps only a variety of *S. canìna*; the peduncles are longer, and the capsule ovate-roundish, acuminated, small.

Pyramidal-flowered Figwort. Pl. 2 to 3 feet.

54 S. CALYCI'NA (Benth. scroph. ind. p. 18.) glabrous or downy; stem angular; leaves broad-ovate, toothed: lower ones cordate at the base: rameal ones roundish; thyrse short, dense, almost leafless; calyx 5-parted, with lanceolate, acuminated, downy segments, which are longer than the capsule; genitals inclosed; anther or tip of sterile filament ovate-acute. ♃. H. Native of Kamaon. Verónica thyrsiflòra, Wall. cat. no. 6393. Leaves wrinkled. Calyxes not membranous. Segments of the corolla short, nearly equal. Capsule large, acuminated.

Large-calyxed Figwort. Pl. 1 foot.

§ 2. *Thyrse simple; cymes few-flowered from the abortion of the pedicels.*

55 S. RAMOSI'SSIMA (Lois. fl. gall. 2. p. 381. D. C. fl. fr. suppl. 406. exclusive of the synonymes) stems rather woody, much branched; leaves opposite, subpetiolate, ovate-oblong, deeply toothed or pinnatifid; peduncles 1-2-flowered. ♃. H. Native of Corsica, by the sea side; also of Provence, by the sea side, &c. S. frutéscens, D. C. fl. fr. 3. p. 729. but not of Lin.

Much-branched Figwort. Fl. June, Aug. Clt. 1821. Pl. 2 to 3 feet.

56 S. CÆ'SIA (Sibth. et Smith, fl. græc. t. 604. prod. 1. p. 438.) stems humble, numerous, tufted; leaves opposite, glaucescent, lyrately pinnatifid, cut; peduncles simply dichotomous, 2-3-flowered. ♃. H. Native on rocks about Athens, &c. S. orientàlis minor melissæ fòlio, Tourn. cor. p. 9.—Buxb. cent. 5. 10. t. 17. f. 2. ex Smith. Stems a span high, glabrous. Perhaps distinct from the preceding. Corolla greenish; upper lip dark purple. Genitals exserted.

Grey Figwort. Pl. ½ to 1 foot.

57 S. DENTA'TA (Royle, mss. ex Benth. scroph. ind. p. 19.) humble, tufted, downy; leaves alternate, thick, oblong, narrowed at the base, deeply toothed at the apex; thyrse simple, few-flowered; peduncles 1-3-flowered; genitals exserted; tip of sterile stamen oblong, acute. ♃. H. Native of Kinnour. Margins of the calyxes membranous. Very nearly allied to *S. cretàcea*, but distinct.

Toothed-leaved Figwort. Pl. ½ to 1 foot.

58 S. CRETA'CEA (Fisch. in Spreng. syst. 2. p. 788. Wydler, scroph. p. 46. t. 4.) leaves alternate, on short petioles, lanceolate, serrated, attenuated at both ends; peduncles 1-2-flowered. ♃. H. Native of Siberia, on cretaceous mountains, at the river Don. Stem simple, clothed with white, glandular, powdery down. Leaves ½ inch long, generally running into the petioles, glabrous. Corolla small, dark purple. Capsule brown, size of a pea.

Cretaceous Figwort. Fl. July, Aug. Clt. 1827. Pl. 1 to 2 feet.

59 S. HYPERICIFÒLIA (Wydler. scroph. p. 46. t. 5.) stem woody; leaves opposite, ovate, quite entire, running into the short petiole; peduncles 1-2-flowered. ♃. H. Native of Arabia, in deserts. Branches with whitish bark, sometimes spinescent. Leaves small, glabrous, full of pellucid dots. Abortive pedicels spinescent. Segments of calyx roundish, with white margins. Corolla small, purple. Genitals exserted. Capsule roundish, large in respect to the size of the flower.

St. John's-wort-leaved Figwort. Shrub.

§ 3. *Flowers capitate.*

60 S. MI'NIMA (Bieb. fl. cauc. 2. p. 79.) humble; stems quite simple; leaves petiolate, ovate, sublobate, toothed; heads of flowers terminal, dense, nearly globose. ♃. H. Native of Iberia. S. orientàlis minima, folio subrotundo, Tourn. cor. p. 9. ex Bieb. Flowers size of those of *S. vernàlis*, rose-coloured; the lip paler. Tip of sterile stamen unknown.

Least Figwort. Pl. ½ foot?

† *Species not sufficiently known.*

61 S. MICRA'NTHA (Herb. Desv. ex Hamilt. prod. fl. ind. occ. p. 47. but not of d'Urv.) stem nearly simple; leaves ovate, acute, deeply toothed, quite glabrous; flowers in loose almost terminal spikes. ♃.? H. Native of Hispaniola.

Small-flowered Figwort. Pl.?

62 S. SUBVERTICILLA'TA (Moris, stirp. sard. fasc. 3. p. 8.) stem tetragonal, full of glandular dots; leaves oblong-lanceolate, doubly toothed: lower ones pinnate; racemes terminal, almost leafless; peduncles opposite, distant, short, densely cymose. ♃. H. Native of Sardinia, near rivulets about Ozieri and Bono, &c. Corolla deep purple. Leaves pilose beneath.

Whorled Figwort. Fl. May, July. Pl. 2 to 3 feet.

63 S. RIVULA'RIS (Moris, l. c. p. 7.) stem tetragonally winged; lower leaves ovate: upper ones oblong-lanceolate, crenate toothed, glabrous, running into the petioles; racemes terminal, nearly naked; peduncles branched. ♃. H. Native of Sardinia, on mountains, near rivulets. Corolla obscure purple; lip green. Habit of *S. aquática*, but the stems and petioles are more conspicuously winged; the leaves are bluntish, and more bluntly toothed.

Rivulet Figwort. Fl. May, June. Pl. 3 to 4 feet.

64 S. OBLONGIFÒLIA (Lois. not. in mem. soc. Lin. par. vol. 6.) glabrous; stem tetragonal; leaves oblong-lanceolate, serrated, tapering into the petioles; racemes terminal, naked; peduncles branched. ♃. H. Native of Corsica.

Oblong-leaved Figwort. Pl. 2 to 3 feet.

65 S. NUDICAU'LIS (Wydler. scroph. p. 48.) stem almost simple, leafy at the base, but almost leafless above; leaves pinnatifid, strigose; racemes simple. ♃. H. Native of Asia Minor, on Mount Elwend. Root woody. Stem clothed with stipitate glands. Lower leaves deeply pinnatifid, beset with adpressed hairs, rather glaucous; segments alternate, acute, toothed, finely ciliated. Cauline leaves small, pectinately pinnatifid. Calyx glandular; segments ovate-lanceolate, acuminated, not membranous. Corolla and capsule not seen. Perhaps belonging to a distinct genus.

Naked-stemmed Figwort. Pl.?

66 S. SCKE'LLII (Spreng. syst. 2. p. 783.) stem quadrangular, smooth; leaves lanceolate, acute, glabrous, equally serrated,

on short dilated petioles; panicle terminal, with trichotomous branches. ♃. H. Native country unknown.

Sckell's Figwort. Pl. 2 to 3 feet?

67 S. NEPETÆFÒLIA (Presl. del. prag. 1. p. 73.) stem shrubby; branches quadrangular; leaves cordate, obtuse, doubly toothed, glabrous on both surfaces; peduncles dichotomous, 3-flowered. ♄. F. Native of the South of Spain. S. glabràta, Spreng. syst. 2. p. 784.? Leaves almost like those of *Népeta catària*. Flowers of a livid yellow, like those of *S. aquática*, but not half the size. Capsule ovate.

Cat-mint-leaved Figwort. Fl. May, July. Pl. 2 to 3 feet?

68 S. MELISSÆFÒLIA (D'Urv. enum. pl. arch. p. 75.) stem erect, quadrangular, quite glabrous; cauline leaves petiolate, ovate-lanceolate, sharply serrated; bracteas lanceolate, erectish; peduncles downy, many-flowered; panicle elongated. ♃. H. Native about Trebizond, on hills. Flowers small, purple. Peduncles 3-4 times forked. Nearly allied to *S. Scorodònia*.

Balm-leaved Figwort. Fl. July, Aug. Clt. 1823. Pl. 2 to 3 feet.

69 S. HASTA'TA (Rafin. fl. ludov. p. 44.) leaves opposite, on long petioles, oblong, hastate, serrated, canescent, hoary beneath; flowers loose, panicled. ♃. H. Native of Louisiana.

Hastate-leaved Figwort. Pl. 2 feet?

70 S. ADSCE'NDENS (Willd. enum. p. 644.) leaves lanceolate, attenuated at both ends, deeply, unequally, and doubly toothed, glabrous; racemes terminal. ♃. H. Native country unknown.

Ascending Figwort. Fl. June, July. Clt. 1816. Pl. 2 feet.

71 S. CHINE'NSIS (Lin. mant. 250. Smith, in Rees' cycl. 32.) leaves ovate-oblong, serrated, downy. ♃. H. Native of China. Perhaps belonging to a distinct genus.

China Figwort. Pl. 2 feet.

72 S. HIRSU'TA (Schott, ex Steud. nom.) ♃. H. Nothing of the plant is known but the name.

Hairy Figwort. Fl. June, Aug. Clt. 1816. Pl. 2 feet.

73 S. INCI'SA (Weim. ex Steud. nom.) ♃. H. Nothing of this plant is known but the name.

Cut-leaved Figwort. Pl. 2 to 3 feet?

Cult. The species of Figwort are plants of the most easy culture and propagation, will grow in any soil, but prefer a moist situation. All are readily increased by seeds. The shrubby species require protection in winter, by being kept in a frame. Some of the species are handsome border flowers, as *S. mellífera, canìna, grandiflòra, sambucifòlia*, &c.

IV. ALONSO'A (named by Ruiz. et Pavon, after Zanoni Alonso, formerly Spanish secretary for Santa Fe de Bogota.) Ruiz. et Pav. fl. per. syst. p. 152. Hemímeris species of authors.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla subrotate, resupinate; the superior segment the largest. Stamens 4, didynamous, glabrous, declinate; anthers cordate; cells confluent at top. Stigma capitate. Capsule 2-celled, one of the cells more gibbous than the other. Seeds angular.—Small shrubs and herbs, with opposite or verticillate leaves: floral ones alternate. Flowers racemose, scarlet or vermillion-coloured.

§ 1. *Shrubby. Stems and branches quadrangular.*

1 A. LINEA'RIS (Ruiz. et Pav. syst. fl. per. p. 154. fl. per. t. 503. f. b.) glabrous; leaves opposite, or 3 in a whorl, linear, entire, or remotely denticulated. ♄. G. Native of Peru. Sweet, fl. gard. n. s. 240. Hemímeris coccínea, Willd. spec. 3. p. 283. Célsia linèaris, Jacq. icon. 3. t. 497. Curt. bot. mag. 210. Hemítomus fruticòsus, Lher.? Hemímeris linariæfòlia, H. B. et Kunth, nov. gen. 2. p. 377. Young leaves fascicled in the axils of the old ones. Corolla scarlet, with a dark bottom, like most of the species. There is a variety of this with opposite leaves and peduncles. There is also a hybrid between this and *A. incisifòlia* figured in Lodd. bot. cab. 1456, called *A. intermèdia*.

Linear-leaved Alonsoa. Fl. May, Oct. Clt. 1790. Shrub 1 to 2 feet.

2 A. QUADRIFÒLIA; leaves 4 in a whorl, ovate; flowers verticillate, racemose. ♄. G. Native of Vera Cruz. Scrophulària coccínea, Lin. spec. 866. Smith, in Rees' cycl. 32. no. 10.

Four-leaved Alonsoa. Shrub 1 to 2 feet.

3 A. INCISIFÒLIA (Ruiz. et Pav. syst. fl. per. p. 154.) glabrous; leaves opposite, ovate, acute, deeply toothed, or serrated. ♄. S. Native of Chili, about Conception. Hemímeris urticifòlia, Willd. spec. 3. p. 282. Célsia urticifòlia, Curt. bot. mag. 417. Peduncles long, alternate, disposed in terminal racemes like the others. (f. 46.)

FIG. 46.

Cut-leaved Alonsoa. Fl. May, Oct. Clt. 1795. Shrub 1 to 2 feet.

4 A. PROCU'MBENS (Ruiz. et Pav. l. c.) stems procumbent; leaves opposite, ovate, serrated. ♄. G. Native of Peru, in waste places, where it is called Ricaco. Hemímeris procúmbens. Pers. ench. 2. p. 162. Corollas scarlet.

Procumbent Alonsoa. Shrub procumbent.

5 A. ACUTIFÒLIA (Ruiz. et Pav. l. c. p. 153.) leaves opposite,? ovate-lanceolate, deeply serrated. ♄. S. Native of Peru, on hills. Hemímeris acutifòlia, Pers. ench. 2. p. 162.

Acute-leaved Alonsoa. Fl. May, Oct. Clt. 1790. Shrub 1 to 2 feet.

§ 2. *Herbaceous. Stems and branches quadrangular; angles winged.*

6 A. CAULIALA'TA (Ruiz. et Pav. l. c. p. 152.) leaves ovate, acute, serrated; stems and branches winged. ♃. G. Native of Peru. Hemímeris caulialàta, Pers. ench. 2. p. 162.

Wing-stemmed Alonsoa. Fl. year. Clt. 1823. Pl. 1 foot?

7 A. PARVIFLÒRA (H. B. et Kunth, nov. gen. amer. 3. p. 376. under Hemímeris) stem herbaceous, 4-winged; leaves opposite, ovate, acute, serrated; flowers axillary, racemose. ♃. G. Native of Caraccas, in temperate places on Mount Bonavista, near Los Teques, at the altitude of 830 hexapods. Stem branched, panicled at top. Leaves glabrous, nearly an inch long. Middle segment of the lower lip of the corolla larger, and obcordate.

Small-flowered Alonsoa. Pl. 2 to 4 feet.

8 A. MUTI'SII; stem herbaceous, somewhat 4-winged; leaves opposite, oblong, acute at both ends, serrated; flowers racemose. ♃. G. Native near Santa Fe de Bogota. Hemímeris Mutísii, H. B. et Kunth. l. c. p. 376. Schrophulària Meridionàlis, Mutis and Lin. Stem panicled. Leaves glabrous, an inch long, and 5 lines broad. Corolla and stamens unknown.

Mutis's Alonsoa. Pl. 1 to 2 feet?

Cult. The species are all very showy when in blossom, and on that account are general favourites. They grow freely in any rich light soil, and are readily increased by cuttings and seeds.

V. RUSSE'LIA (so named by Jacquin, in honour of Alex-

ander Russel, M.D. F.R.S., author of a Natural History of Aleppo. London, 1756. He died in 1768. There is a second edition revised by his brother, Patrick Russel, M.D. F.R.S. 1794. Patrick Russel published a fine work upon serpents collected on the coast of Coromandel.) Jacq. amer. p. 178. t. 113. Schreb. gen. no. 1041. Juss. gen. p. 118. ed. Usteri, p. 132. H. B. et Kunth, nov. gen. amer. 2. p. 358.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx deeply 5-parted; segments acuminately subulate. Corolla tubular, swollen, and widened at top; limb bilabiate; upper lip emarginately 2-lobed: lower lip tripartite, segments nearly equal; palate convex, bearded. Stamens 4, didynamous, inclosed; cells of anthers spreading. Stigma undivided. Capsule inclosed in the calyx, nearly globose, attenuately beaked, 2-celled, 2-valved; valves bipartible; placentas central, at length free. Seeds numerous, small.—Shrubs or herbs with angular branches, and opposite, or verticillate leaves. Corymbs and racemes axillary. Flowers scarlet.

§ 1. *Leaves opposite. Stems and branches quadrangular.*

1 R. sarmentòsa (Jacq. amer. 178. t. 113. H. B. et Kunth, nov. gen. amer. 2. p. 358.) stem and branches quadrangular, glabrous; leaves opposite, ovate, rounded at the base, rather pilose above; corymbs axillary, pedunculate, 3-5-flowered. ♄. S. Native of Cuba, near Guanavacoa, in shady places, and about the Havannah. Leaves nearly sessile, crenately serrated, 8 lines long, and 5 lines broad. Corolla flesh-coloured, or fine red, about half an inch long.

Sarmentose Russelia. Shrub 4 to 6 feet.

2 R. multiflòra (Sims, bot. mag. t. 1528.) stem quadrangular, glabrous; leaves opposite, ovate, acuminated, serrately crenated; peduncles cymose, many-flowered, verticillate. ♄. S. Native of the mountainous tract between Vera Cruz and Mexico. Racemes terminal, verticillate. Leaves glabrous. Corollas scarlet.

Many-flowered Russelia. Fl. June, Aug. Clt. 1812. Shrub 4 to 6 feet.

3 R. rotundifòlia (Cav. icon. 5. p. 9. t. 415. Pers. ench. 2. p. 164.) downy or tomentose; stem and branches erect, tetragonal; leaves opposite, sessile, cordate-roundish; peduncles racemose, subsecund, many-flowered. ♄. S. Native of Mexico, near Acapulco. Corollas scarlet. Leaves crenately serrated.

Round-leaved Russelia. Shrub 4 to 6 feet.

4 R. syringæfòlia (Cham. et Schlecht. in Linnæa, 6. p. 376.) scandent, glabrous; branches tetragonal: angles acute; leaves opposite, on short petioles, cordate-ovate, acuminated, acute, mucronulate; cymes terminal and axillary, many-flowered. ♄. ⏑. S. Native of Mexico at Papantla. Leaves $2\frac{1}{2}$ to 3 inches long. Branches and pedicels of cyme downy. Calyx glabrous, with ovate, acuminated, acute, short segments. Corolla 8 lines long, scarlet; throat bearded. Capsule ovate, acute.

Syringa-leaved Russelia. Shrub climbing.

5 R. floribu'nda (H. B. et Kunth, nov. gen. 2. p. 359.) stem and branches quadrangular, glabrous; leaves opposite, ovate, cordate, smoothish; corymbs axillary, sessile, many-flowered. ♄.? ♃.? S. Native of Mexico, between the river Papagallo and Venta de Tierra Colorado, at the altitude of 120 hexapods, Humb. et Bonpl.; near Hacienda de la Laguna, Schiede and Deppe. Leaves on short petioles, serrately crenated, downy on the midrib beneath, 9-10 lines long, and 8-9 lines broad. Corymbs about the length of the leaves, downy, sessile, ex Kunth, l. c.; pedunculate, ex Cham. et Schlecht, in Linnæa, 5. p. 106. Corolla scarlet. Seeds minute, oblong, angular, brown, a little wrinkled.

Bundle-flowered Russelia. Fl.? Clt. 1824. Shrub 4 to 6 feet.

6 R. ala'ta (Cham. et Schlecht, in Linnæa, 3. p. 3.) stem quadrangular, winged, pilose; leaves opposite, acuminated, running into the short, winged, ciliated petioles; peduncles axillary, solitary. ♃. S. Native of tropical Brazil, Sello. Old stems decumbent, rooting at the joints, from which rise erect branches about 1 or $1\frac{1}{2}$ foot high. Wings of stem ciliated. Leaves bluntly serrated, pilose beneath, $2\frac{1}{2}$ inches long, and $1\frac{3}{4}$ broad. Limb of corolla ciliated.

Winged-stemmed Russelia. Pl. 1 to 2 feet.

§ 2. *Leaves verticillate. Stem and branches many-angled.*

7 R. ternifòlia (H. B. et Kunth, nov. gen. amer. 2. p. 359.) stem and branches 6-angled, hairy, or downy; leaves 3 in a whorl, obovate, or ovate, cuneated at the base, hairy above, and pubescent beneath; corymbs pedunculate, many-flowered. ♄.? ♃.? S. Native of Mexico, on the declivities of the burning mount Jorulla, at the altitude of 450 hexapods. Leaves on short petioles, coarsely serrate-toothed, 2 or $2\frac{1}{2}$ inches long, and 16-24 lines broad. Corolla scarlet.

Tern-leaved Russelia. Fl.? Clt. 1818. Shrub 4 to 6 feet.

8 R. verticilla'ta (H. B. et Kunth, l. c. p. 360.) branches somewhat 10-angled, glabrous; leaves and corymbs verticillate. ♄. S. Native of New Spain, in temperate places near Puente de la Madre de Dios, at the altitude of 880 hexapods. Branches verticillate. Floral leaves roundish-ovate, obtuse, cuneated at the base, serrately crenated, hairy. Corollas scarlet.

Whorled-leaved Russelia. Shrub 4 to 6 feet.

9 R. equisetifórmis (Cham. et Schlecht. in Linnæa, 6. p. 377.) suffruticose; branches twiggy, almost leafless, angular, verticillate, or opposite; flowers pedicellate at the tops of the branches; leaves elliptic, acute, coarsely serrated. ♄. S. Native of Mexico, at Papantla. Stem 12-8-angled. Leaves 4 lines long, and one broad. Calycine segments triangular, acute. Throat of corolla beardless. Corolla scarlet, 6 lines long. Genitals equal in length to the corolla. Capsule globose.

Horsetail-formed Russelia. Shrub 3 to 4 feet.

Cult. All the species are showy when in blossom. Any light rich soil answers them; and they are readily propagated by cuttings, which strike root freely in heat under a hand-glass.

Tribe II.

ANTIRRHI'NEÆ (this section agrees with the genus *Antirrhìnum* in the characters given below.) Chav. antirrh. D. Don, in edinb. phil. journ. 19. p. 110. Calyx deeply 5-parted, imbricate in æstivation. Corolla tubular; limb 5-lobed, personate or ringent, bilabiate. Stamens 4, didynamous, sometimes with the rudiment of a fifth. Cells of anthers distinct at apex. Stigma 2-lobed. Capsule crustaceous; dissepiment undivided. Placentas spongy, adnate. Seeds with a thick, spongy, corrugated, or cellular testa. Albumen fleshy. Embryo almost the length of the seed.—Herbs or shrubs inhabiting the temperate regions of the globe. Leaves opposite, or alternate. Flowers disposed in terminal, spicate racemes, or axillary and solitary.

VI. ANTIRRHI'NUM (*ανδιρρινον*, of Theophrastus and Dioscorides; from *αντι*, *like*; and *ῥίν*, rhin, a snout; in allusion to the form of the flowers; hence also it is called in English Snap-Dragon, and Calves' Snout.) Juss. gen. 120. ed. Usteri. p. 134. Vent. tabl. 2. p. 362. D. C. fl. fr. p. 592. t. 3. Gærtn. fruct. 1. p. 249. t. 53. Chav. mon. p. 79.—Antirrhìnum species, Lin. gen. no. 750. Schreb. gen. no. 1007. Lam. ill. t. 531. f. 1—2. Antirrhìnum and Asarìna, Tourn. inst. p. 167. and 171. t. 75 et 76. Oróntium, Pers. ench. 2. p. 158. Ten. fl. neap. 2. p. 53, but not of Lin.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted, oblique. Corolla personate; tube ample, a little compressed, saccate at the base, and furnished with 2 parallel and interrupted lines of hairs inside beneath the palate; lobes of the upper lip erect, and often adpressed to the back by turns: lower lip spreading, having the middle lobes smaller than the lateral ones, with an ample bearded palate, which closes the throat. Stamens compressed, rather hairy at the base, having the sterile or fifth one very short or wanting. Stigma 2-lobed. Capsule 2-celled, woody, ovate, or pear-formed, incurved at top, opening by 3 holes, or an irregular foramen, under the top. Seeds oblong, truncate, minute; testa black, more or less engraven, or wrinkled.—Perennial or annual, rarely suffruticose plants. Stems or branches erect or procumbent. Leaves feather-nerved and entire, rarely palmate-nerved and lobed, sessile or petiolate: lower leaves opposite, but sometimes 3 in a whorl: superior ones usually alternate. Flowers showy, in terminal racemes, or solitary and axillary.

SECT. I. ASARI'NA (meaning unknown to us.) Tourn. inst. 171. t. 76. Chav. antirrh. p. 80. t. 3. f. 12. Leaves palmate-nerved, lobed, opposite. Capsule membranous, sub-globose; each cell opening by a broad, irregular foramen under the apex.

1 A. ASARI'NA (Lin. spec. 860.) plant clammy and villous; branches procumbent; leaves opposite, on long petioles, 5-nerved, 5-lobed, cordate, and crenated; flowers axillary, solitary; calycine segments linear-lanceolate, acute, hairy. ♃. H. Native of the South of France, Eastern and Central Pyrenees; near Montpelier, Cevennes, &c. Sims, bot. mag. 902. Orón-tium Asarìna, Pers. ench. 2. p. 159. Asarìna cordifòlia, Mœnch, meth. suppl. p. 172. Antirrh. asarìnum, Lam. fl. fr. 2. p. 348. Asarìna procúmbens, Mill. dict. edit. 8. no. 1. Asarìna, Lob. icon. t. 601. f. 2.—Mor. hist. 3. p. 432. sect. 11. t. 21. f. 1. Sabb. hort. rom. 3. t. 3. Asarìna Lobèlii, Dalech. hist. p. 915. *χαμαικισσος*, Diosc. 4. p. 126. Plant canescent. Corolla 1½ inch long, white, sometimes tinged with red; palate yellow; tube glabrous, compressed on the back, marked by purple spots on the ventre, and bearded by yellow hairs inside.

Asarina or Heart-leaved Snap Dragon. Fl. June, July. Clt. 1699. Pl. trailing.

SECT. II. ANTIRRHINA'STRUM (from Antirrhìnum and astrum, an affixed signification, like.) Chav. antirrh. p. 81. Antirrhìnum, Tourn. inst. p. 167. t. 75. Leaves pinnate-nerved, quite entire: lower ones opposite, rarely 3 in a whorl: superior ones for the most part alternate. Capsule woody, or chartaceous, nearly pear-shaped, very oblique at the base, incurved at top, and opening by 3 holes.

§ 1. *Lobes of calyx much shorter than the corolla.*

2 A. MÓLLE (Lin. spec. p. 860.) villous; branches procumbent, slender, clothed with woolly villi; leaves opposite, petiolate; flowers few, at the tops of the branchlets; calycine lobes lanceolate, erect. ♃. F. Native of the Pyrenees, on the confines of Spain; on rocks in the valley de La Segre, between Bellwor and La Seo d'Urgel; in the valley of Andorrea; and on the mountains of Granada. Lam. dict. 4. p. 366. exclusive of the syn. of Tourn. Chav. antirrh. p. 81. Leaves clothed with glandular and clammy hairs, 5-6 lines long, and 4-5 broad. Corolla an inch long, whitish, with a yellow palate; the upper lip striped with purple. Capsule ovate-globose, pilose.

Soft-leaved Snap Dragon. Fl. July, Oct. Clt. 1752. Pl. procumbent.

3 A. SEMPERVI'RENS (Lapeyr. fl. pyr. 1. p. 7. t. 4. abr. p. 354. Chav. antirrh. p. 82.) stem short, suffruticose, ascending, branched; leaves petiolate, opposite, elliptic, or oblong-ovate, evergreen, rather downy; flowers few, in loose racemes; calycine lobes lanceolate, acute, reflexed at top. ♄. F. Native of the South of France; of the Pyrenees, in calcareous places near Gerdres; in the valleys of Oo, and Venas, &c.; and in Portugal, near Oporto. A. mólle, St. Am. bouq. pyr. no. 151. but not of Lin. A. meonánthum, Hoffm. et Link, fl. port. 1. p. 261. t. 51. Branches nodose. Leaves decussate: floral ones usually alternate, all obtuse, and rather fleshy. Corolla smaller than that of *A. mólle*, white, having the upper lip and tube marked with purple, and the palate yellowish; tube beset with short hairs. The plant is usually rather downy in every part, but sometimes entirely glabrous.

Evergreen Snap Dragon. Fl. June, Sept. Clt. 1817. Shrub 1 to 3 feet.

4 A. HISPA'NICUM (Chav. antirrh. p. 83.) villous; branches erect, rather woody, and branched again; leaves oblong-lanceolate, contracted at the base, bluntish: lower ones opposite: superior ones alternate, narrower; bracteas linear-lanceolate, much longer than the pedicels; flowers in loose spikes; calycine segments oblong, acutish. ♃. F. Native of Spain. Antirrhìnum Hispánicum villosum origani folio, Tourn. inst. p. 168. Plant clothed with glandular hairs. Calycine segments reflexed a little at apex. Corolla hardly an inch long, purple, with a golden yellow palate; tube villous. Capsule small, ovate-oblong, elongated, downy.

Spanish Snap Dragon. Pl. 1 to 1½ foot.

5 A. LATIFÒLIUM (D. C. cat. hort. monsp. 7. fl. fr. 5. p. 411. Chav. antirrh. p. 84. t. 3. f. 28.) caudex thick, twisted; branches ascending, or erect, villous; leaves ovate, or ovate-lanceolate, petiolate, broadly mucronate at apex, downy; flowers racemose; rachis villous; lobes of calyx elliptic, pilose, ciliated. ♃. H. Native of the South of France; in the Eastern Pyrenees, near Villa Franca, and Saint Martin du Canigon; Nice; near Arti, in Piedmont. Nocc. and Balb. fl. ticin. 1. p. 28. t. 42. A. diffùsum, Bernh. A màjus, *β*, latifòlium, Duby, bot. gall. 1. p. 343. A. màjus, var. *α*, Lin. spec. p. 858. Vill. dauph. 2. p. 441. Willd. spec. 3. p. 256. D. C. fl. fr. 3. p. 593. Bertol. amœn. p. 382. Poll. fl. ver. 2. p. 336.—Lob. icon. 405.—Bocc. mus. p. 49. t. 41.—Barrel. icon. t. 655. A. luteo flore, Bauh. pin. 211. Branches fistular, beset with capitate pili. Leaves 1-2 inches long, and 6-10 lines broad, obsoletely spotted with purple. Bracteas and pedicels pilose. Corolla 1 to 1½ inch long, usually yellow, with a deeper coloured palate; tube villous, elongated, very gibbous at the base. Capsule pilose, elongated. Seeds ovate, truncate at apex; testa foveolate.

Var. β, hýbridum (Chav. antirrh. p. 84.) leaves longer; flowers purplish, or marked by purple lines; lobes of calyx ovate-elliptic. ♃. H. Native of the Pyrenees, betwixt Rousse and Rodome, &c.; and of Portugal, near Lisbon. A. hýbridum, Benth. pl. pyr. p. 60. A. latifòlium, *β*, striàtum, D. C. fl. fr. 5. p. 411. A. latifòlium, Mill. dict. ed. 8. no. 4. fig. 1. t. 28. Hoffm. et Link, fl. port. 1. p. 260. t. 50. exclusive of the syn. of Tourn. This appears to be a hybrid between *A. latifòlium* and *A. màjus*.

Broad-leaved Snap Dragon. Fl. July, Oct. Clt. Pl. 1 to 3 feet.

6 A. MA'JUS (Lin. spec. p. 859. var. *β*. Gærtn. fruct. 1. p. 249. Chav. antirrh. p. 86. t. 3. f. 26.) caudex thick, twisted; branches erect, usually branched again; leaves oblong-lanceolate, attenuated at both ends, glabrous; flowers racemose, approximate; rachis pubescent; lobes of calyx broad-ovate, obtuse, clothed with glandular pili. ♃. H. Native of South and middle Europe, indigenous every where, generally upon old

walls; also of Barbary, about Algiers, and near Mustapha-Pacha frequent; and in Persia. In Britain on old walls, as about London, and other places, but probably an escape from gardens. Smith, engl. bot. t. 129. Schkuhr, handb. 2. p. 193. t. 172. A. grandiflòrum, Stok. bot. mat. med. 3. p. 384. A. muràle, Sal. prod. p. 100. Oróntium màjus, Pers. ench. 2. p. 158.—Bauh. hist. 3. p. 162. with a figure.—Riv. mon. irr. t. 82. f. 1.—Lob. icon. t. 404. f. 2.—Besl. hort. eyst. 1. t. 9, 10. Branches glabrous, rarely downy. Leaves 1-3 inches long: upper ones narrower. Rachis leafless, beset with glandular hairs, as well as the calyxes. Corolla 1-2 inches long, purple, red, scarlet, or white, or variegated with these colours; palate yellow at top, very prominent; tube downy outside. Capsule downy, oblique at the base, incurved at apex. Seeds oblong, ovate. This is a very polymorphous plant, varying considerably in habit, and much in the colour of the flowers. There is also a variety with double flowers. The leaves in some varieties are variegated.

Var. β, angustifòlium (Chav. antirrh. p. 86.) leaves very narrow, often revolute, sometimes approximate by threes; corolla large, purple. ♃. H. Native upon walls about Constantinople. A màjus, Oliv. et Brug. herb. mus. par.

Var. γ, Montevidénse; leaves long, all opposite, dark green; flowers usually white, or yellow, and not so much crowded. ♃. H. Native of Monte Video. A. montevidénse, Hort. berol. This does not appear to be more than a slight variety of the species.

Greater, or Common Snap Dragon. Fl. June, Oct. Britain. Pl. 1 to 2 feet.

7 A. tortuòsum (Bosc, mss. Lam. dict. 4. p. 365. Chav. antirrh. p. 87.) plant altogether glabrous; branches erect or ascending, flexuous, twisted at the base; leaves linear, acute, opposite, or 3 in a whorl; flowers racemosely spicate, approximating by threes and fours, the raceme is therefore interrupted; lobes of calyx oblong-ovate, obtuse. ♃. H. Native of Italy, on rocks, and in waste places by the sea side, as near Rome; also in the South of France, near Fréjus; and of Sicily. Guss. fl. sic. 2. p. 169. exclusive of many synonymes. Ten. syll. p. 304. Oróntium Sículum, β. tortuòsum, Pers. ench. 2. p. 158. A. capitàtum, Presl. del. prag. p. 74.—Sabb. hort. rom. 3. t. 2.—Barrel. icon. 638. Leaves 1-nerved, 2 inches long, attenuated at both ends: upper ones very narrow. Corolla the largest of the genus, purple; tube short; upper lip large. Capsule smaller than that of the preceding, and glabrous. This species is often confounded with *A. Sículum*, but appears to be more nearly allied to *A. màjus*.

Twisted-branched Snap Dragon. Fl. June, Oct. Clt.? Pl. 1 to 1½ foot.

8 A. Sículum (Ucria pl. and Lin. op. addenda, no. 17. Chav. antirrh. p. 88. t. 3. f. 24.) branches erect, flexuous, downy at top, and branched; branchlets diffuse; leaves linear-lanceolate or linear, opposite, alternate, or 3 in a whorl, narrowed into the petioles at the base; flowers in loose racemes; lobes of calyx lanceolate, acute, downy. ♃. H. Native of Sicily, on walls, and in waste places about Palermo and Ragaza; of Calabria, on walls about Reggio and Trucoli, &c. Mill. dict. no. 6. Pers. ench. 2. p. 158. exclusive of var. β. Guss. pl. rar. p. 253. fl. sic. 2. p. 170. Tenor. syll. p. 304. A. angustifòlium, Poir. suppl. 4. p. 27. Branches woody. Leaves 1 to 1½ inches long. Flowers solitary, twin, or 3 in a whorl. Corolla hardly an inch long, white or yellowish, rarely purple; tube rather pilose; lobes of the upper lip, and the middle lobe of the lower lip emarginate. Capsule downy. Seeds oblong, subquadrangular.

Var. β, glandulòsum (Chav. antirrh. p. 88.) leaves broader; branches and calyxes beset with glandular hairs; corollas yellowish. ♃. H. Native of Sicily, Gussone. A. Sículum, var. γ. Guss. fl. sic. t. 309. f. 2.

Var. γ, elàtum (Chav. antirrh. p. 88.) plant taller and firmer; corolla purplish-yellow. ♃. H. Native of Spain and the Archipelago. A. angustifòlium, D'Urv. enum. pl. arch. no. 549. exclusive of the syn. of Lam. et Bocc. A. satureiæfòlio, Vaill. herb. A. Hispanicum, altissimum, angustissimo folio, Tourn. inst. p. 168.

Sicilian Snap Dragon. Fl. July, Aug. Clt. 1804. Pl. 1 to 2 feet.

§ 2. *Segments of the calyx exceeding the corolla, or about equal in length to it.*

9 A. Oróntium (Lin. spec. 860. Chav. antirrh. p. 89. t. 3. f. 18. and 19.) stem glabrous, erect or ascending, branched; leaves oblong-lanceolate or linear, acutish, attenuated at both ends, glabrous; flowers distant; calycine segments linear-lanceolate, large, and as if they were digitately pilose. ⊙. H. Native almost throughout Europe, along way sides and in waste fields and vineyards; of Barbary, abundant about Algiers; islands of Madeira, and Scio; Virginia, ex Pursh, but probably introduced from Europe; in Britain it is to be found in corn-fields, on a light soil; but hardly indigenous. Curt. fl. lond. fasc. 4. t. 45. Gærtn. fruct. 1. p. 249. t. 53. Lam. ill. t. 531. f. 2. Smith, engl. bot. 17. t. 1155. Schkuhr, handb. 2. p. 193. t. 173. A. hùmile, Salisb. prod. p. 98. Oróntium arvénse, Pers. ench. 2. p. 158.—Barrel. icon. t. 651. and 652.—Rivin. mon. irr. t. 83. f. 2.—Mor. hist. sect. 5. t. 14. f. 5.—Besl. hort. eyst. 1. p. 9. f. 3.—Lob. icon t. 405. f. 2. *Αντιρρίνον*, Theoph. hist. pl. 9. p. 23. Stem glabrous or pilose. Leaves 1-3-nerved, 2 inches long. Flowers axillary, distant. Corolla rose-coloured or white, striped with purple; tube furnished with a few glandular hairs; palate veined with purple. Capsule pilose. Seeds irregularly ovate, cuneiform, keeled on the back, and concave in front.

Var. β, I'ndicum (Chav. antirrh. p. 90.) leaves narrower; flowers reddish, smaller; bracteas and floral leaves very long, spreading a little. ⊙. H. Native of India, in the province of Delhi. A. I'ndicum, Royle, mss.

Var. γ, grandiflòrum (Chav. l. c. t. 4.) flowers larger, paler, and more approximate; leaves broader; plant firmer and more glabrous; corolla almost the length of the calyx, whitish, marked with purple or rose-coloured veins. ⊙. H. Native of Portugal, in fields. A. calycìnum, Lam. dict. 4. p. 365. Brot. fl. lus. 1. p. 100. Hoffm. et Link, fl. port. p. 262. t. 52. A. Oróntium, β, álbum, Roth, fl. germ. ed. 1st. vol. 2d. p. 65. Oróntium calycìnum, Pers. ench. 2. p. 158. A. Jamaicénse, Fisch. et Hort. A. élegans, Tenore, viag. in abbruz. 1830. p. 35. syll. p. 304.—Barrel. icon. 656. A. arvénse màjus, flore albo, Tourn. inst. p. 168.—Sabb. hort. rom. 3. t. 1.

Orontium Snap-Dragon, or Calves'-Snout. Fl. June, Sept. Britain; β. 1810. Pl. ½ to 1 foot.

10 A. rytidoca'rpum (Fisch. et Meyer. in ind. sem. hort. petrop. 1836. p. 27.) annual, rather pilose; leaves oblong or linear; flowers distant, nearly sessile; calycine segments linear, longer than the corolla; seeds prismatic, wrinkled on all sides. ⊙. H. Native of Caucasus, on the Talusch Mountains, in corn-fields. Corollas small, bluish. Capsule nearly globose. Seeds black, subtetragonally prismatic. This comes nearer to *Ant. Oróntium* than any other, but is very distinct.

Wrinkled-fruited Snap-Dragon. Clt. 1836. Pl. ½ to 1 foot.

† *Species doubtful, or not sufficiently known.*

11 A. corda'tum (De Buch. besch. der. can. ins. ex Chav. antirrh. p. 181.) Native of the Canary Islands. We know nothing of this plant but the name.

Cordate-leaved Snap-Dragon. Pl.

12 A. Ita'licum (Mill. dict. ed. 7th. no. 5.) ♃. H. Native of Italy. This is nothing but a variety of *A. màjus.*

Italian Snap-Dragon. Pl. 1 to 2 feet.

13 A. Osy'ris (Ræusch. Fisch. ex Steud. nom. ex Chav. antirrh. p. 181.) ☉. H. This is probably a variety of *A. Oróntium.*

Osyris Snap-Dragon. Pl. 1 foot.

14 A. varia'bile (Link, ex Steud. nom. ex Chav. antirrh. p. 181.) A. multibracteàtum, Brot. ex Steud. This is probably a variety of *A. Oróntium.*

Variable Snap-Dragon. Pl. 1 foot.

N.B. A. porcìnum, Lour. coch. 2. p. 467. A. aquáticum, Lour. l. c., and A. papilionàceum, Burm. fl. ind. p. 131. t. 39. f. 2. certainly do not belong to this genus, and it is difficult to say what they really are.

Cult. All the species of Snap-Dragon are showy, and worth cultivating for ornamenting flower-borders and rock-work. The species are readily increased, either by cuttings of the young branches or by seeds. The 4 first species will require protection in winter, by placing them in a frame or greenhouse. *A. Oróntium*, being an annual plant, the seeds only require to be sown in the open ground in spring.

VII. LINA'RIA (from λινον, *linon*, flax; similarity in the leaves.) Vent. tabl. 2. p. 360. Juss. gen. p. 120. edit. Usteri, p. 134. D. C. fl. fr. 3. p. 582. Chav. antirrh. p. 91. Linària and Elátine, Mœnch. meth. p. 522. and 524. Antirrhìnum, Lin. gen., Lam. ill. t. 531. f. 3—4. and other authors. Elátine, Dill. nov. gen. p. 116. t. 6. but not of Lin. Linària species, Tourn. inst. p. 168.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla personate, almost like that of *Antirrhìnum*, but furnished with a spur at the base; tube short, inflated; palate more or less bearded, usually prominent at the throat, but sometimes depressed, and not closing the throat; lobes of upper lip plicate at the base, often reflexed; lobes of the lower lip spreading, or a little deflexed: the middle lobe of the lower lip generally the smallest. The rudiment of the fifth stamen very small or wanting. Capsule ovate or spherical, a little compressed, 2-celled; each cell more or less drawn out into 3-5 valves, or dehiscing by a single operculum or one valve. Seeds egg-shaped, or somewhat prismatic, or compressed and discoid, girded by a membranous margin.—Annual or perennial plants, very rarely small shrubs. Roots of the perennial kinds rhizomatose. Leaves alternate, verticillate, or opposite, quite entire, or lobed. Flowers beautiful, racemose, or spicately racemose at the tops of the branches, or solitary and axillary.

Sect. I. Chænorrhìnum (from χαινω, *chaino*, to gape; and ῥιν, *rhin*, a snout; the palate of the flower is depressed, therefore the throat appears wider than in those of other sections.) D. C. fl. fr. 5. p. 410. Duby. bot. gall. 1. p. 343. Chav. antirrh. p. 92. Corolla having the palate more or less depressed; the upper lip drawn out in front, not erect; spur shorter than the corolla. Seeds oblong-ovoid, truncate; testa furrowed lengthwise, or foveolate or echinated.—Herbs usually clothed with pili. Leaves opposite and alternate, quite entire. Flowers axillary, or loosely racemose.

§ I. *Capsule chartaceous; superior cell usually much larger than the other, dehiscing by one valve at apex; the lower cell dehiscing slowly by a transverse chink towards the base, or altogether indehiscent.* Chav. antirrh. t. 5. f. 8.

1 L. tene'lla (D. C. fl. fr. 5. p. 410. Chav. antirrh. p. 92.) villous; branches procumbent, slender; leaves cordate-ovate, opposite, acute: floral ones alternate; calycine segments linear, acutish. ☉. H. Native of Spain, in the province of Valentia, near the top of Mount Ayora, in shady humid places, where it is generally hidden by other plants. Leaves distant, 3-4 lines long. Flowers axillary; pedicels capillary, much longer than the leaves. Corolla white, with a short, blunt, bent spur, and rounded, quite entire lobes. Seeds oblong; testa furrowed.

Slender Toad-Flax. Pl. procumbent.

2 L. villòsa (D. C. fl. fr. 5. p. 410. Chav. antirrh. p. 93.) villous; leaves ovate or orbicular, obtuse, on short petioles, all opposite; flowers opposite, on long pedicels; calycine segments linear-oblong, somewhat spatulate. ♃. F. Native of Spain, about Gibraltar; and near Vejez de la Frontera, not far from Gibraltar. Ait. hort. kew. ed. 2. vol. 4. p. 15. L. muràlis, Saltzm. in herb. D. C. Ant. oppositiflòrum, Poir. suppl. 4. p. 23. Ant. serpyllifòlium, Pourr. in herb. Desf. Ant. villòsum, Lin. spec. p. 852. Linària Hispánica nummulariæ folio villoso, Tourn. inst. p. 169.—Barrel. icon. t. 597. Branches diffuse, clothed with simple, spreading hairs, woody at the base, 5-10 inches high. Leaves villous. Pedicels hairy, 2 or 3 times longer than the leaves. Corolla white or pale blue, marked by more intense lines; lobes emarginate at top; spur straight, widened above the base. Capsule downy, ovate. Seeds oblong, truncate at top; testa furrowed lengthwise.

Villous Toad-Flax. Fl. July, Aug. Clt. 1786. Pl. diffuse.

3 L. origanifòlia (D. C. fl. fr. 3. p. 591. exclusive of the syn. of Magn. Chav. antirrh. p. 94. t. 6.) pubescent or glabrous; leaves oblong or obovate, on short petioles: lower ones opposite: upper ones alternate; flowers alternate, distant; calycine segments linear, or linear-spatulate, villous. ♃. F. Native of the South of France, on walls and rocks; in the Pyrenees; about Narbonne; on old walls near Bagneres-de-Luchon; in Sicily; in Portugal, on La Serra d'Arrabida, and on Monte Junto, among high rocks and in calcareous places. Ait. hort. kew. ed. 2d. vol. 4. p. 15. Benth. cat. pl. pyr. p. 96. exclusive of var. rubrifòlia. Ant. origanifòlium, Lin. spec. 852. Linària saxátilis serpyllifòlia, Tourn. inst. p. 169. This is a very polymorphous plant. Branches branched, ascending or procumbent. Flowers in the axils of the superior leaves, distant, forming a loose raceme. Calyx beset with glandular hairs. Corolla like the preceding, but smaller, bluish-violet, rarely white; throat yellow; lobes emarginate, striped with red. Seeds oblong, ovate, truncate at top; testa furrowed lengthwise.

Var. β, grandiflòra (Benth. cat. pl. pyr. p. 96. Chav. antirrh. p. 94.) plant more villous and larger; flowers larger. ♃. F. Native of the higher Pyrenees, at Font de Comps, Crabère, &c. Ant. villòsum, Lapeyr. fl. pyr. p. 353. but not of Lin.

Var. γ, crassifòlia (Chav. antirrh. p. 94.) leaves ovate, acutish, quite glabrous, thickish; flowers large. ♃. F. Native of Spain, on the mountains. L. crassifòlia, D. C. fl. fr. 5. p. 410. Anarrhìnum crassifòlium, Willd. spec. 3. p. 261. Pers. ench. 2. p. 159. Ant. crassifòlium, Cav. icon. 2. p. 11. t. 114.—Barrel. icon. t. 1313.

Marjoram-leaved Toad-Flax. Fl. June, Sept. Clt. 1785. Pl. ascending.

4 L. flexuòsa (Desf. fl. atl. 2. p. 47. t. 139. Chav. antirrh. p. 95.) quite glabrous; branches filiform, flexuous, interwoven, procumbent; leaves petiolate, spatulately-elliptic or oblong: lower ones usually opposite: upper ones alternate; flowers distant; pedicels twice or thrice as long as the leaves; calycine segments linear, bluntish. ♃. F. Native of Barbary, in fissures of rocks on Mount Hamamelif, near Tunis. Ant. flexuòsum, Willd. spec. 3. p. 250. Plant prostrate, diffuse. Corolla like that of *L. mìnor*, but longer, small, bluish; tube a little elongated; spur obtuse, recurved; lobes entire. Cells of cap-

sule nearly equal. Seeds ovate, truncate at both ends; testa black, full of small pits.

Flexuous Toad-flax. Pl. prostrate.

5 L. rubrifòlia (Robil. et Cast. diss. ined. ex D. C. fl. fr. 5. p. 410. Chav. antirrh. p. 96.) stem erect, branched from the base, flexuous, downy: lower leaves ovate, opposite, approximate, deep red beneath, glabrous; upper leaves oblong, alternate; calycine segments linear-spatulate, obtuse, villous. ⊙. H. Native of the South of France, near Draguignan, Duby; Marseilles, Robill; about Telon; Pyrenees; and Sardinia. L. origanifòlia, var. rubrifòlia, Benth. cat. pl. pyr. p. 96. Ant. filiforme, Poir. suppl. 4. p. 27. Ant. origanifòlium, Gouan, hort. monsp. 301. but not of Lin.—Magn. bot. 25. icon. t. 24. Stems beset with capitate pili; branches villous. Flowers loose; pedicels pilose, about equal in length to the flowers, but lengthening at last. Floral leaves ciliated. Corolla small, purplish blue, marked with 2 yellow spots at the mouth, downy; lobes entire; spur slender, acute, diverging.

Var. β, hùmilis (Chav. antirrh. p. 96.) leaves oblong, nearly sessile; calyx about equal in length to the corolla; corolla small, with a straight spur. ⊙. H. Native of Sicily, on arid rocks of Montallegro, Mineo, &c.

Red-leaved Toad-Flax. Fl. June, Aug. Clt. 1826. Pl. ½ to ¾ foot.

§ 2. *Capsule membranous; cells equal in size; each cell dehiscing by 3 teeth at apex.*

6 L. mi'nor (Desf. fl. atl. 2. p. 46. Chav. antirrh. p. 97.) stem erect, much branched, downy; leaves oblong-linear, obtuse, downy: lower ones opposite; pedicels twice or thrice as long as the calyx; flowers small, distant; calycine segments linear-spatulate, clothed with glandular hairs. ⊙. H. Native of Europe, in sandy corn-fields frequent; as of France, Switzerland, England, Germany, Barbary, and Caucasus, &c. D. C. fl. fr. 3. p. 591. L. Antirrhìnum, Chevall, fl. gen. des env. de Par. t. 2. L. víscida, Mœnch. meth. p. 524. Ant. mìnus, Lin. spec. p. 852. Oed. fl. dan. t. 502. Gærtn. fruct. 1. p. 249. t. 53. f. 1. Smith, engl. bot. 28. t. 2014.—Hall. hist. p. 335. Linària pumila vulgatior arvensis, Tourn. inst. p. 169.—Riv. mon. irr. 1. t. 85. f. 2.—Bauh. hist. 3. p. 465. icone. Plant beset with clammy glandular hairs. Flowers in the axils of the superior leaves. Corolla small, whitish, having the tube and upper lip pale violet; the palate beset with yellow hairs; lower lip white; spur very short, obtuse. Seeds truncate at apex; testa marked by longitudinal furrows.

Smaller Toad-Flax. Fl. June, Nov. England. Pl. ½ to ¾ foot.

7 L. littora'lis (Willd. enum. p. 641. Chav. antirrh. p. 98.) downy; stem erect, branched; leaves usually alternate, oblong, obtuse; pedicels shorter than the calyx; flowers in loose racemes; calycine segments linear, acutish. ⊙. H. Native of Austria, on the banks of rivers; and in the South of Istria. Ant. pubéscens, Pers. ench. 2. p. 156. but not of Tenore. L. pubéscens, Desf. herb. but not of Presl. Ant. littoràle, Bernh. ex D. C. fl. fr. 5. p. 410. Corolla bluish, with a straight spur. This is very nearly allied to *L. mìnor*, but the plant is larger, less branched, and the pedicels shorter.

Sea-shore Toad-Flax. Fl. June, Nov. Clt. 1820. Pl. ½ to 1 foot.

Sect. II. Cymbala'ria (from κυμβη, *kymbe*, a boat; in reference to the shape of the leaves.) Chav. antirrh. 98. Elátine species, Mœnch. Cymbalària species, Baumg. and Gray. Leaves palmate-nerved, usually lobed, on long petioles. Flowers axillary, supported by long pedicels. Corolla having the throat closed by the palate; spur obtuse, much shorter than the corolla. Capsule dehiscing by 6 valves at the apex. Seeds oblong; testa much wrinkled (Chav. antirrh. t. 5. f. 16.)—Hypocarpogeous perennial plants, usually growing in the fissures of rocks and walls.

8 L. Cymbala'ria (Mill. dict. ed. 8th. no. 17. Chav. antirrh. p. 98.) quite glabrous; leaves for the most part alternate, cordately reniform, 5-7-lobed: lobes rounded or cuneiform, mucronulate; floriferous pedicels longer than the leaves; calycine segments linear-lanceolate, acute, smaller than the capsule. ♃. H. Native of Europe, on old walls frequent; especially in Italy and Sicily, where it is alone indigenous; it is also found in France, Germany, Switzerland, Britain, apparently wild, but has probably been introduced. D. C. fl. fr. 3. p. 583. Tenore, syll. p. 302. Cymbalària hederàcea, Gray, brit. pl. 2. p. 322. Ant. hederàceum, Lam. fl. fr. 2. p. 338. Cymbalària muràlis, Baumg. trans. 2. p. 208. Elátine Cymbalària, Mœnch. meth. p. 525. Ant. quinquélobum, Stok. bot. mat. med. 3. p. 385. Ant. Cymbalària, Lin. spec. p. 851. Bull. herb. t. 395. Smith, engl. bot. 7. t. 502.—Hall. hist. no. 339. Linària hederaceo folio glabro seu Cymbalària vulgàris, Tourn. inst. 1. p. 169.—Lob. icon. t. 615.—Riv. mon. irr. t. 86. f. 2. Roots rhizomatose, emitting fibres. Branches prostrate, creeping and rooting, purplish-green. Corolla bluish-purple, with a yellow palate; spur a little curved. Capsule globose, ventricose, glabrous. There is a variety of this with white flowers, and pale green branches and leaves, and another variety with variegated leaves. Parkinson calls the plant Italian Bastard Navel-wort.

Var. β, acutángula (Chav. antirrh. p. 99.) leaves smaller, cordate, 5-9-lobed: superior leaves hastately 5-lobed: lobes cuneiform, acute; floriferous pedicels much longer than the leaves; calycine segments linear, bluntish; corolla a little smaller. ♃. H. Native of Italy, in the fissures of rocks, about Naples, Abruzzo, St. Angelo, &c. L. acutángula, Tenore, syll. p. 302. Ant. acutángulum, Tenore, cat. 1819. p. 52. fl. neap. 2. p. 47. t. 59.

Var. γ, hederæfòlia (Chav. antirrh. p. 99.) leaves usually 3-lobed, thick: lobes broader; calycine segments linear, obtuse; flowers a little larger than the species. ♃. H. Native of Auvergne, on the Golden Mountain. Ant. hederæfòlium, Poir. suppl. 4. p. 18. but not of Saltzm. under *Linària*.

Var. δ, Siebèri (Chav. l. c.) leaves smaller: some of the lower ones entire, and some cordate-roundish: lobes less obtuse; flowers smaller; spur twice as long, and thicker than in the species. ♃. H. Native of Candia, near Perivoglio, Sieber. Ant. Cymbalària, Sieb. herb. cret.

Cymbalaria, or Ivy-leaved Toad-Flax. Fl. May, Nov. Britain. Pl. creeping and trailing.

9 L. hepaticæfòlia (Duby, bot. gall. 1. p. 344. Chav. antirrh. p. 100.) glabrous; leaves opposite, usually reniform, 3-5-lobed: lobes rounded and mucronulate: intermediate lobe large; floriferous pedicels longer than the leaves; calycine segments linear, acutish, exceeding the capsule. ♃. H. Native of Corsica, on the mountains, Saltzm.; near Ajaccio, Thom.; and at Lake Iria. L. hederæfòlia, Saltzm. exsic. Ant. Cymbalària, var. β, Lois. fl. gall. 2. p. 373. Ant. hepaticæfòlium, Poir. suppl. 4. p. 19. Branches purplish, much shorter than those of *L. Cymbalària*. Leaves deep green, usually 3-lobed, but sometimes quite entire. Corollas almost twice the size of those of *L. Cymbalària*, bluish-purple; spur usually straight. Capsule globose, glabrous.

Liverwort-leaved Toad-Flax. Fl. June, Nov. Pl. trailing.

10 L. pa'llida (Tenore, fl. nap. 1. p. 32. et add. fl. nap. t. 159. f. 2. syll. p. 302. Chav. antirrh. p. 101.) pubescent; leaves opposite, cordately reniform, 3-5-lobed: lobes rounded, hardly mucronate; floriferous pedicels shorter than the leaves;

calycine segments linear-lanceolate, acutish. ♃. H. Native of Abruzzo, in gravelly places, and among rocks on the mountains; and on the mountains of Magella. Ant. pubéscens, Tenore, fl. neap. prod. p. 36. Branches slender, diffuse. Leaves sometimes quite entire, rarely crenated, dark green. Corolla pale blue, sweet-scented; spur straight. Capsule globose, smoothish.

Pale-flowered Toad-Flax. Fl. July, Sept. Clt. 1820. Pl. 4 to 6 inches.

11 L. pilòsa (D. C. fl. fr. 3. p. 584. Tenor. syll. p. 302. Chav. antirrh. p. 101.) leaves opposite and alternate, cordately rounded or reniform, villous, 5-11-lobed: lobes rounded, mucronulate; floriferous pedicels about equal in length to the leaves; calycine segments narrow-lanceolate, acute, shorter than the capsule. ♃. H. Native of Sicily, on the mountains, or in the fissures of shaded humid rocks, particularly near Palermo; and about Naples, &c. L. pubéscens, Presl. del. prag. p. 74. Guss. prod. fl. sic. 2. p. 158. Ant. pilòsum, Lin. mant. p. 749. Jacq. obs. 2. p. 29. t. 48.—Cup. pamph. sic. t. 214.—Mich. pl. ital. ed. germ. no. 108. Linària hederaceo folio villoso seu Cymbalària alpìna, Tourn. inst. 1. p. 169. Branches prostrate, radicant, clothed with white hairs. Leaves soft, villous, purplish beneath. Calyx pilose. Corolla purplish blue, with a yellow palate, and rather incurved spur. Capsule downy, globosely ventricose.

Var. β, *pùmila* (Chav. antirrh. p. 101.) leaves smaller, thick; plant hardly 4 inches long.

Pilose Toad-Flax. Fl. June, Sept. Clt. 1800. Pl. creeping.

12 L. æquitrí'loba (Duby, bot. gall. 1. p. 304. Chav. antirrh. p. 102.) plant rather pilose, very slender; leaves opposite, small, cordately reniform, 3-lobed: lobes rounded, shortly mucronulate; floriferous pedicels longer than the leaves; segments of calyx linear-lanceolate, shorter than the capsule. ♃. H. Native of Corsica, on Monte della Trinita, among rocks; about Saint Antoine, in high, shady, rocky places; and near Speluncato. Ant. æquitrílobum, Viv. fl. cors. p. 10. fragm. fl. lyb. p. 68. Hook. bot. mag. t. 2941. Branches slender, creeping or pilose. Leaves very numerous, shining, green, often smoothish: lower ones on long villous petioles. Corolla purplish-blue, with a short straight spur. Capsule small, globose. This species is very nearly allied to the preceding, but is readily distinguished by the smaller membranous leaves; by the filiform branches; and by the slender flexuous pedicels.

Equal-lobed-leaved Toad-Flax. Fl. June, Sept. Clt. 1829. Pl. creeping.

Sect. III. Elatinoi'des (this section contains species agreeing with *L. Elátine* in the characters indicated below.) Chav. antirrh. p. 103. Elátine species, Mœnch. and Gray. Cymbalària species, Baumg. Leaves feather-nerved, usually on short petioles, alternate (the lower ones sometimes opposite, rarely wanting), toothed or lobed, sometimes entire. Flowers axillary, distant. Corolla with a prominent palate at the throat; and an acute spur, which is about equal in length to the corolla, but never longer. Capsule nearly spherical, dehiscing at the sides by 2 lids, or operculi; or ovate, and dehiscing by 2 valves at the apex. Seeds ovate, truncate or roundish; testa full of irregular little pits, or granular from tubercles. (Chav. antirrh. t. 4. f. 19—21.) Annual or suffrutescent plants, commonly procumbent.

§ 1. *Capsule nearly spherical, dehiscing by 2 circular lids or operculi at the sides.* Chav. antirrh. t. 5. f. 9—10.

13 L. scariòsa (Desf. fl. atl. 2. p. 38. t. 131. Chav. antirrh. p. 103.) villous; leaves oblong, or ovate-oblong, petiolate: lower ones opposite, angularly toothed above the base: superior leaves alternate, quite entire; pedicels much shorter than the corolla; calycine segments ovate-oblong, scarious. ⊙. H. Native of Tunis, on arid hills; and in corn-fields near Kervan; and probably of Spain. Ant. dentàtum, Vahl, symb. 2. p. 66. t. 37. Willd. spec. 3. p. 234. but not of Poir. Ant. scariòsum, Lam. dict. 4. p. 349. Pers. ench. 2. p. 156. Branches prostrate, densely clothed with simple spreading pili, like the rest of the plant. Leaves 1-3 inches long. Flowers numerous, approximate. Corolla large, yellow, downy; spur arched; filaments rather hispid. Seed oblong-ovate; testa pitted.

Scarious Toad-flax. Pl. prostrate.

14 L. elatinoi'des (Desf. fl. atl. 2. p. 39. t. 132. Chav. antirrh. p. 104.) downy; leaves alternate, ovate and elliptic, obtuse: lower ones dentately angular, on short petioles: superior ones sessile, quite entire; pedicels shorter than the corolla; calycine segments oblong, acute, with membranous edges. ⊙. H. Native of Habra, in cultivated fields near Mascar. Ant. elatinoìdes, Willd. spec. 3. p. 235. Pers. ench. 2. p. 155. but not of Tenore. Branches 1-2 feet long, procumbent and prostrate; branchlets spreading, slender. Leaves glabrous or downy: lower ones 1-2 inches long. Flowers in the axils of the superior leaves. Corollas size of those of *L. vulgàris*, yellow; spur a little arched, sometimes straight. Capsule glabrous. Seeds a little curved; testa brown, foveolate.

Elatine-like Toad-Flax. Fl. July, Sept. Clt. 1821. Pl. prostrate.

15 L. dealba'ta (Hoffm. et Link, fl. port. p. 231. t. 34. Chav. antirrh. p. 104.) hairy; leaves ovate, or ovate-lanceolate, sessile, acute: lower ones toothed: superior ones entire; pedicels very short; calycine segments lanceolate, acute. ⊙. H. Native of Portugal, near Thomar; and in the Algarves and Alentejo, Brot. Ant. lanígerum, Brot. fl. lus. 1. p. 189. but not of Willd. Branches slender, 2-3 feet long; branchlets stiff, spreading. Lower leaves an inch long. Flowers small, in the axils of the superior leaves. Corolla small, referrible in shape to those of *L. spùrium;* upper lip violaceous: lower ones white; palate pale, and marked with blue dots. Seeds ovate; testa finely foveolate.

Whitened Toad-Flax. Fl. July, Sept. Clt. 1820. Pl. trailing.

16 L. lani'gera (Desf. fl. atl. 2. p. 38. t. 130. Chav. antirrh. p. 105.) clothed with woolly villi; leaves alternate, cordate, or cordately rounded, mucronulate, woolly: lower leaves on short petioles, and sometimes vaguely toothed: superior ones nearly sessile, quite entire; pedicels longer than the leaves; calycine segments linear-lanceolate, acute. ⊙. H. Native about ancient Carthage, in cultivated fields. Ant. lanígerum, Willd. spec. 3. p. 235. but not of Brot. Plant 1-3 feet long; branches prostrate, slender. Lower leaves 5-6 lines long. Corolla villous, small, yellowish, a little incurved. Capsule glabrous. Seeds egg-shaped; testa pitted.

Wool-bearing Toad-Flax. Fl. June, Sept. Clt. 1818. Pl. prostrate.

17 L. spu'ria (Mill. dict. ed. 8. no. 15. D. C. fl. fr. 3. p. 584. Chav. antirrh. p. 105.) plant pilose; leaves cordate-ovate or ovate, mucronate at apex: lower ones sometimes opposite, on short petioles, and obsoletely toothed: superior ones quite entire, nearly sessile; pedicels longer than the leaves; calycine segments ovate-lanceolate, cordate at the base, acute. ⊙. H. Native throughout Europe, in corn-fields. Ait. hort. kew. ed. 2d. vol. 4. p. 11. L. lanígera, Hoffm. et Link, fl. port. 1. p. 231. t. 34. exclusive of the syn. of Desf. Elátine ovàta, Gray, brit. pl. 2. p. 321. Ant. spùrium, Lin. spec. p. 851. Brot. fl. lus. 1. p. 188. Smith, engl. bot. 10. t. 691.

Oed. fl. dan. t. 913. Labr. et Heg. icon. helv. 5. t. 1. Cymbalària spùria, Baumg. trans. 2. p. 209.—Hall. helv. no. 341. Linària segetum nummulariæ folio villoso, Tourn. inst. 1. p. 169.—Bauh. hist. 3. p. 372. f. 1.—Tabern. 2. t. 413. f. 1.—Mor. hist. sect. 5. t. 14. f. 27. Plant a foot or more long, clothed with spreading articulated hairs. Branches usually procumbent. Leaves 1-3 inches long. Corolla yellow; upper lip dark purple; spur incurved. Capsule downy. Seeds ovoid, compressed; testa foveolate.

Var. β, dentàta (Chav. antirrh. p. 106.) lower leaves, and sometimes also the upper ones toothed; flowers larger; plant firmer, erectish. ⊙. H. Native of France and Switzerland, rather frequent.

Var. γ, microphýlla (Chav. l. c. t. 8.) leaves much smaller, roundish, woolly. ⊙. H. Native about Montpelier. Pelòria comm. gœtt. 1. p. 351. t. 15. f. 4. Stœhel, in act. helv. 2. p. 25. t. 4.

Spurious Toad-Flax. Fl. June, Sept. England. Pl. pros.

18 L. Ela'tine (Mill. dict. ed. 8. no. 16. Chav. antirrh. p. 107.) pilose; leaves usually ovate-hastate, mucronulate at top, alternate: lower ones sometimes opposite, and often denticulated; pedicels longer than the leaves; calycine segments lanceolate, very acute. ⊙. H. Native of Europe, North of Africa, frequent in corn-fields; and of the Island of Madeira. It is also to be found in North America, but has, most probably, been introduced from Europe. D. C. fl. fr. 3. p. 584. Tenore, syll. p. 302. L. commutàta, Bernh. in Reichb. pl. crit. 19. t. 815. f. 1101. Ant. elatinoìdes, Tenore, fl. nap. 2. p. 48. Ant. auriculàtum, Lam. fl. fr. 2. p. 339. Cymbalària Elátine. Baumg. trans. 2. p. 208. Elátine hastàta, Mœnch, meth. p. 524. Gray. brit. pl. 2. p. 321. Ant. Elátine, Lin. spec. p. 851. Oed. fl. dan. t. 426. Bull. herb. t. 245. Smith, engl. bot. 10. t. 692. Gaud. fl. helv. 3. p. 147. but not of Sibth, herb.—Hall. hist. no. 340. Linaria segetum nummulariæ folio aurito et villoso, flore luteo, Tourn. inst. 1. p. 169.—Mor. hist. 2. sect. 5. t. 14. f. 28.—Lob. icon. 470.—Blackw. herb. t. 170. Ελατινη, Diosc. 4. p. 40. This species comes very near the preceding, but it is readily distinguished by its slender habit, and the usually smaller hastate leaves, with acute auricles; and in the segments of the calyx being less cordate at the base. The flowers are the same, but sometimes bluish.

Var. β, cærùlea (Chav. antirrh. p. 107.) flowers blue, larger; leaves broader, usually toothed. ⊙. H. Native of Egypt and Mauritania. Linària ségetum nummulariæ folio aurito et villoso, flore cæruleo, Tourn. inst. p. 169. Elátine folio acuminato, flore cæruleo, Bauh. pin. 253. Magn. bot. p. 89.

Var. γ, Siebèri (Chav. l. c.) very villous; leaves smaller, usually cordate-ovate, not hastate: calycine segments narrower. ⊙. H. Native of Candia.? L. Elátine, Sieb. in herb. Gay. L. Siebèri, Rchb. fl. germ. sect. 2. p. 374.

Var. δ, hamòsa (Chav. l. c. p. 108.) flowers pale blue, larger; spur hooked; calycine segments almost linear. ⊙. H. Native of the Island Ischia, on rocks; and of Calabria and Camaria. Ant. hamòsum, Passy, in herb. D. C. et Merat.

Var. ε, pelòria (Chav. l. c.) flowers shape of those of *L. vulgàris*, var. *pelòria*. ⊙. H. Hegets, in descript. *L. spúria*, in icon. helv. 5. no. 1.

Elatine, or Halbert-leaved Toad-Flax. Fl. June, Nov. Britain. Pl. trailing.

19 L. Græ'ca (Chav. antirrh. p. 108.) villous; lower leaves ovate-oblong, or ovate, opposite: superior ones ovate-lanceolate, hastate, alternate, on short petioles; pedicels capillary, much longer than the leaves; segments of calyx linear, very acute, hardly exceeding the capsule. ⊙. H. Native of the Grecian Islands, and the neighbouring continent; Corsica and Sardinia. Ant. Græ'cum, Bory, et Chaub. fl. pelop. no. 796. t. 21. L. Elátine, D. Urv. enum. p. 74. Sibth. et Smith, fl. græc. icone. but not of Mill. Branches slender at first, erectish, but at length prostrate, nearly simple. Pedicels stiff, bent, or twisted at apex, quite glabrous. Corolla downy, citron coloured; spur arched, at length straight, rather longer than the corolla. Capsule glabrous. Testa of seeds brown, granularly tubercled.

Grecian Toad-Flax. Fl. July, Oct. Pl. prostrate.

20 L. cirrho'sa (Willd. enum. p. 689. D. C. fl. fr. 5. p. 407. Chav. antirrh. p. 109.) pilose, very slender; leaves lanceolate, or linear-lanceolate, hastate, alternate, petiolate; pedicels longer than the leaves, here and there twisted like tendrils; calycine segments linear-lanceolate, acute, shorter than the capsule. ⊙. H. Native of the South of France, in corn fields; in Camaria; Stoechades; Corsica, near Ajaccio; and on the mountains about Bola; Island of Ischia, in hedges; Candia; and Egypt. Ten. syll. p. 302. Elátine tènuis, Mœnch, meth. suppl. 171. Ant. cirrhòsum, Lin. mant. 249. Jacq. hort. vind. t. 82. Tenore, fl. neap. 2. p. 49. Linaria supina villosa, folio sagittato, Till. pis. t. 32. f. 2. Habit of plant slender, prostrate. Corolla small, bluish; palate white, marked with purple dots; spur almost straight, shorter than the corolla. Capsule downy. Seeds ovate-truncate; testa black, tubercular.

Tendrilled Toad-Flax. Fl. June, Sept. Clt. 1771. Pl. prostrate.

21 L. alsinæfo'lia (Spreng. syst. 2. p. 729. Chav. antirrh. p. 110.) leaves quite entire, downy: lower ones ovate, opposite, on long petioles: superior ones ovate-cordate, mucronate, petiolate; pedicels shorter than the petioles; calycine segments linear-lanceolate, very acute, with membranous edges. ⊙. H. Native of the small Islands between Corsica and Sardinia; and on the north-west shore of Sardinia; and in the desert near the Red Sea. Ant. alsinifòlium, Viv. fl. cors. p. 10. The whole herb is clothed with short white glandular hairs. Branches erectish. Lower leaves 1 inch long. Calyx villous, ciliated. Corolla small, yellow, with a straight, short, acute spur. Capsule smoothish. Seeds roundish; testa brown, granularly tubercled.

Chickweed-leaved Toad-flax. Pl. 1 foot.

22 L. Ægypti'aca (Dum. Cours. bot. cult. ed. 1st. t. 11. p. 92. Chav. antirrh. p. 110.) suffruticose, downy; leaves alternate, ovate, usually tricuspidate, petiolate; pedicels bent at top, at length ending each in a spine; calycine segments linear-lanceolate, acute. ♄. F. Native of Egypt, in arid places near Cairo; and on the mountains of Cyrenaica. Ait. hort. kew. ed. 2d. vol. 4. p. 11. Del. fl. ægypt. p. 95. t. 92. Ant. spinéscens, Viv. fl. libyc. p. 22. t. 27. f. 2. L. spinéscens, Spreng. syst. 2. p. 789. Ant. Ægyptìacum, Lin. syst. p. 464. Lam. dict. 4. p. 350. Forsk. ægypt. p. 112. Ελξινη, Diosc. ex Sibth. The branches rise from the neck of the plant the first year, but afterwards the neck becomes the form of a caudex, and twisted; branches 1-3 feet long. Leaves glaucous, 2-3 lines long. Corolla small, yellowish; spur blue, hooked. Capsule downy. Seeds small; testa granulately tubercled. The *L. spinescens* of Viv. is only the old state of *L. Ægyptìaca*.

Egyptian Toad-Flax. Fl. June, Aug. Clt. 1771. Shrub trailing.

23 L. frutico'sa (Desf. fl. atl. 2. p. 39. t. 133. Chav. antirrh. p. 111.) stem suffruticose, villous, branched; leaves alternate, petiolate, ovate-oblong, acutish, downy, rarely furnished with one or two teeth at the base: superior ones entire; pedicels shorter than the leaves, erect; calycine segments narrow, acute. ♄. F. Native of Barbary, on calcareous mountains near Cafsa. Ant. fruticòsum, Willd. spec. 3. p. 237. Pers. ench. 2. p. 155. Stem woody, thick, twisted; branches erect, villous. Leaves acutish, or obtuse, 3-4 lines long. Pedi-

cels glabrous. Calyx downy. Corolla yellow; spur straight, or arched; upper lip emarginate, somewhat 2-lobed; lobes reflexed. Capsule downy. Seeds small; testa tubercled.

Shrubby Toad-Flax. Shrub 1 foot.

§ 2. *Capsule ovate, dehiscing by two oblong, valve-formed lids at apex.*

24 L. ramosíssima (Wall. pl. asiat. rar. 2. p. 43. t. 153.) smoothish; caudex thick; branches elongated, woody; leaves alternate, petiolate, quite glabrous, all triangularly hastate, or the lower ones are somewhat palmate nerved, and 5-7-lobed; pedicels stiff, longer than the petioles; segments of the calyx linear-lanceolate, very acute, with membranous margins. ♄. F. Native of India, in Hindostan and Burmah, in waste and stony places, Wall.; in the province of Delhi, Royle; Coromandel, Heyne; and at Patna, Hamilton. L. hastàta, Royle, mss. L. Róylei, Chav. antirrh. p. 112. Caudex twisted; branches erect, or ascending, downy. Pedicels glabrous, bent at top, and like the petioles becoming at length stiff and spine-like. Calyx glabrous. Corolla downy, yellow; upper lip short; spur short, arched. Capsule glabrous. Seeds nearly orbicular; testa black, finely tubercled.

Much-branched Toad-Flax. Shrub 1 to 1½ foot.

25 L. inca'na (Wall. cat. no. 3910. Benth. scroph. ind. p. 20.) clothed with hoary villi; stems prostrate, woody at the base; leaves ovate, villous, rather cordate at the base, quite entire, or sub-hastate; pedicels longer than the petioles; segments of calyx linear, acute. ♄. F. Native of Nipaul, in fields, and among rubbish in the valleys. Corolla pale brown, spotted with purple inside.

Hoary Toad-Flax. Shrub prostrate.

26 L. heterophy'lla (Spreng. syst. 2. p. 790. Chav. antirrh. p. 112. but not of Desf.) suffruticose; branches slender, glabrous; leaves petiolate: lower ones oblong-hastate: superior ones linear-lanceolate, and linear, sometimes hastate, or sagittate, sometimes quite entire; pedicels longer than the leaves; calycine segments nearly lanceolate, acute. ♄. F. Native near Mogodor; and of the Canary Islands. Webb, et Berthelet, fl. can. icon. ined. Ant. heterophyllum, Willd. spec. 3. p. 234. Ant. sagittàtum, Poir. suppl. 4. p. 20. Caudex woody; branches 1-2 feet, striated. Lower leaves 8-14 lines long, glabrous above, but rather downy on the back. Corolla large, yellow, with a woolly palate, and straight spur. Testa of seed granularly tubercled.

Variable-leaved Toad-Flax. Shrub procumbent.

27 L. circina'ta (D. Don, in Sweet. fl. gard. n. s. t. 235.) suffruticose, glabrous; leaves sagittate, circinately recurved, acute behind; calycine segments lanceolate, acuminated; spur subulate, straight, length of corolla; palate with 2 prominences, densely bearded. ♄. G. Native of the Canary Islands. Corollas of a sulphur colour, larger than those of *L. vulgàris*, clothed with glandular pubescence; palate deeper coloured, clothed with dark red hairs. Leaves alternate. Peduncles filiform, axillary, solitary, thickened at top.

Circinate-leaved Toad-Flax. Fl. June, Aug. Clt. 1824. Pl. procumbent.

28 L. spartioi'des (Brouss. ex Buch. besch. der. can. p. 163. Webb. et Berth. l. c. Chav. antirrh. p. 113.) suffruticose, glabrous; branches leafless at the base, twiggy; leaves linear-lanceolate, or linear, quite entire, alternate: lower ones petiolate: superior ones nearly sessile; pedicels longer than the leaves; calycine segments nearly lanceolate, very acute. ♄. F. Native of Teneriffe, and Grand Canary, on rocks by the seaside; and of Cape Verd, upon a hill called in French Les Mamelles, and by the English the Paps. L. scopària, Brouss. in herb. D. C. Spreng. syst. 2. p. 789. Root emitting many procumbent branches. Leaves 6-12 lines long. Pedicels bent at top. Corollas size of those of *L. Græ'ca*, downy, yellow; spur ascending. Seeds ovoid; testa brown, tubercled.

Broom-like Toad-Flax. Fl. June, July. Clt. 1816. Shrub procumbent.

Sect. III. Linaria'strum (from *Linària* and *astrum*, an affixed signification like; the name is given to the section of the genus from its containing the only legitimate species of the genus.) Chav. antirrh. p. 114. Linariástrum, the greater part Duby, bot. gall. 1. p. 344. Leaves sessile, alternate, or verticillate, rarely opposite, feather-nerved, quite entire, usually glaucous. Flowers terminal, racemose, spicately racemose, and sometimes somewhat capitate. Palate at the throat of the corolla, prominent. Capsule dehiscing by 4-10 small valves or teeth at the apex. Seeds angular; or discoid, girded by a membranous border or margin, emarginate at the hilum.

§ 1. *Leaves dilated, ovate, lanceolate, or oblong, verticillate or alternate. Flowers racemose, or spicately racemose. Corolla always beyond 3 lines long, with the spur.*

* *Leaves usually 4 in a whorl. Flowers usually verticillate.*

29 L. triornithóphora (Willd. enum. p. 639. Chav. antirrh. p. 114.) branches erect, decumbent at top; leaves lanceolate, acute, quite glabrous; flowers usually 3-4 in a whorl. ♃. G. Native of Portugal, especially in the province of Minho, in gravelly, mountainous, humid places. Hoffm. et Link, fl. port. p. 244. L. Lusitánica, Mill. dict. ed. 8. no. 3. but not of Brot. Ant. triornithóphorum, Lin. spec. p. 852. Vent. malm. p. 11. t. 11. Brot. fl. lus. 1. p. 198. Curt. bot. mag. 525. Linària latissimo folio Lusitánica, Tourn. inst. 1. p. 169.—Riv. mon. irr. 1. t. 84.—Herm. lugdb. 376. t. 377. Plant glaucous, glabrous. Leaves usually 4 in a whorl, rarely 3-5, 2-3 inches long, glaucous beneath, with purplish edges. Calyxes exceeding the capsule. Corolla an inch long, pale violet, or purple; spur straight, equal to the corolla in length; palate yellow; tube inflated, and striated. Capsule dehiscing by 8 teeth at apex. Seeds discoid.

Three-birds-bearing Toad-Flax. Fl. June, Sept. Clt. 1710. Pl. 2 to 4 feet.

* * *Leaves all 3 in a whorl, or only the lower ones, or opposite; the rest alternate.*

30 L. latifòlia (Desf. fl. atl. 2. p. 40. t. 134. Chav. antirrh. p. 115.) glabrous; branches erect, almost simple, twiggy; leaves broad-lanceolate: lower ones 3 in a whorl: superior ones alternate; flowers disposed in long spicate racemes; calycine segments linear-lanceolate, exceeding the capsule. ⊙. H. Native of Barbary, in corn fields near Mascar and Tlemsen. Ant. latifòlium, Willd. spec. 3. p. 238. Pers. ench. 2. p. 155. Leaves somewhat stem-clasping, 1½ to 3 inches long, rather glaucous. Corollas size of those of *L. vulgàris*, yellow; spur straight, or a little arched, length of corolla. Capsule dehiscing by 6 small valves at apex. Seeds discoid.

Broad-leaved Toad-Flax. Fl. June, July. Clt. 1800. Pl. 1 to 2 feet.

31 L. hi'rta (Mœnch, meth. suppl. p. 170. Chav. antirrh. p. 116.) villous, erect; leaves ovate-elliptic, acutish: the lower ones 3 in a whorl, or opposite, the rest alternate; flowers crowded; segments of the calyx ovate-oblong, obtuse; upper one the largest. ⊙. H. Native of Spain, near Madrid; and about Malaga; of Portugal, in cultivated fields between Serpa and La Guadiana. L. villòsa, Mill. dict. ed. 8. no. 10. but not of D. C. L. semiglàbra, Salzm. exsic. in herb. D. C. Ant.

viscòsum, Curt. bot. mag. t. 368. Ant. hírtum, Lin. syst. p. 446. spec. p. 857. Jacq. icon. rar. 1. p. 12. t. 117. Hoffm. et Link, fl. port. p. 246. Plant clothed with clammy, glandular hairs. Leaves half stem-clasping, 1-2 inches long. Corolla yellow, showy, marked by green stripes, 9-14 lines long, with the spur, which is straight, and equal in length to the corolla; palate fulvous. Capsule opening by 6 small valves at apex. Seeds compressed, sub-discoid, obscurely triquetrous; testa grey, scrobiculate.

Hairy Toad-Flax. Fl. June, Sept. Clt. 1759. Pl. ½ to 1½ foot.

32 L. Cavanille'sii (Chav. antirrh. p. 117.) villous, erect; leaves ovate, subpetiolate, usually 3 in a whorl; flowers crowded; calycine segments oblong, contracted at the base: superior one the longest. ⊙. H. Native of Spain, on the shady mountains of la Cova Alta, near Albayda and Palomera. Ant. triphýllum, Cav. icon. 2. p. 61. t. 179, exclusive of all the synonymes. Linaria Hispanica trifolia latifolia villosa, Tourn. inst. p. 169. Branches branched at top, clothed with capitate or glandular hairs, like the rest of the plant. Leaves ½ inch long and more, 3-nerved, bluntish. Flowers crowded into a spike-formed raceme. Corolla almost like that of the preceding, pale yellow; spur a little incurved; superior lip whitish, marked with brown lines. Capsule downy, opening by 6 teeth at apex. Seed almost similar to those of the last.

Cavanilles's Toad-Flax. Fl. April, July. Pl. 1 foot.

33 L. triphy'lla (Mill. dict. ed. 8. no. 2. Desf. fl. atl. 2. p. 40. Chav. ant. p. 118.) quite glabrous, glaucous, erect, or ascending; leaves ovate and elliptic, usually 3 in a whorl; flowers disposed in dense, spicate racemes; calycine segments oblong, or ovate-lanceolate, obtuse, shorter than the capsule. ⊙. H. Native of Italy, Calabria, Spain, Portugal, Sicily, Corsica, France, &c. Tenore, syll. p. 303. L. glabràta, H. B. et Kunth, nov. gen. amer. 2. p. 362. L. neglécta, Clarke and Guss. pl. sic. rar. p. 249. fl. sic. t. 305. f. 1. Tenore, syll. p. 303. Ant. trícolor, Hort. Ant. triphýllum, Lin. spec. 2. p. 85. Lam. fl. fr. 2. p. 344. Gærtn. fruct. 1. p. 249. t. 53. Curt. bot. mag. 324. Viv. fl. libyc. 33. Tenore, fl. neap. 2. p. 49.—Sabb. hort. rom. 3. t. 4.—Plukn. t. 96. f. 4.—Barrel. pl. rar. p. 44. t. 22.—Mor. hist. sect. 5. t. 12. f. 2.—Cup. pamph. 2. t. 57.—Clus. hist. 1. p. 320. icone.—Lob. icon. 408.—Clus. hisp. 351. icon. Linària triphylla minor lùtea, Bauh. pin. 212. Tourn. inst. p. 169. Lower leaves an inch long, obtuse, or acutish: upper ones smaller, 3 in a whorl, opposite, or alternate, attenuated at both ends. Upper segment of calyx rather the largest. Corolla variegated with three colours, blue, white, and yellow; spur arched, almost the length of the corolla: upper lip pale purplish blue, lower one smaller and whitish; the palate yellow; the spur blue, or violaceous, acute. Capsule furrowed, opening by 6 valves at apex. Seeds prismatic, subtriquetrous, angular; testa brown, reticulately excavated.

Var. β, cærùlea (Chav. antirrh. p. 118.) corollas nearly all blue; leaves narrower; plant more slender. ⊙. H. Linària triphýllos cærùlea, Bauh. pin. p. 212. Tourn. inst. p. 169. Mor. hist. sect. 5. t. 12. f. 23. Linària neglécta, var. β, Guss. icon. fl. sic. t. 305. f. 2.

Var. γ, Pelòria (Rœm. arch. bot. 1. p. 125.) corollas shaped like those of Peloria, var. of *L. vulgàris*.

Three-leaved Toad-Flax. Fl. June, Sept. Clt. 1596. Pl. 1 to 2 feet.

34 L. virga'ta (Desf. fl. atl. 2. p. 41. t. 135. Chav. antirrh. p. 119.) glabrous, glaucescent; branches erect, simple, twiggy; lower leaves ovate, 3 in a whorl: superior ones ovate-lanceolate, generally alternate; flowers disposed in spicate racemes; calycine segments linear, very acute, exceeding the capsule. ⊙. H. Native of Numidia, Poir.; in corn-fields of Algiers, Desf.; in fields near Tripoli; and in the Great Syrtus, Viv. Ant. virgàtum, Poir. itin. 2. p. 192. Lam. ill. t. 531. f. 4. Viv. fl. libyc. p. 33. Branches erect, or decumbent. Leaves mucronulate, 5-9 lines long. Bracteas and calyxes hairy. Corolla blue; spur subulate, twice as long as the corolla: upper lip elongated. Capsule opening by 6 teeth at apex. Seeds subtriquetrous, angular; testa brown, scrobiculate.

Twiggy Toad-Flax. Fl. June, July. Clt. 1817. Pl. ½ to 1 foot.

35 L. refle'xa (Desf. fl. atl. 2. p. 42. D. C. fl. fr. 3. p. 585. Chav. antirrh. p. 119.) glabrous, procumbent; leaves ovate, acute, glaucous: lower ones 3 in a whorl: superior ones alternate; flowers in loose racemes; pedicels longer than the leaves, reflexed after flowering; calycine segments sub-lanceolate, acute. ⊙. H. Native of Corsica, Sicily, Sardinia, Italy, Tunis, in corn-fields. Guss. prod. fl. sic. p. 162. Tenore, syll. p. 303. L. rhegìna, Spreng. syst. 2. p. 792. Ant. prostràtum, Cyr. in herb. Moricand. Ant. reflexum, Lin. syst. p. 557. spec. p. 857. All. misc. taur. 2. p. 205. t. 1. Sibth. et Smith, fl. græc. t. 593. Corolla pale blue, rarely white; palate yellow; spur straight, twice or thrice as long as the corolla, subulate, acute; upper lip erect, elongated. Capsule dehiscing by 6 valves at apex. Seeds subreniform; testa brown, pitted.

Reflexed-pedicelled Toad-Flax. Fl. May, Aug. Clt. 1810. Pl. procumbent.

36 L. pedunicula'ta (Spreng. syst. 2. p. 797. Chav. antirrh. p. 120.) quite glabrous, ascending; lower leaves ovate-lanceolate, obtuse, 3 in a whorl, and opposite: middle and upper ones oblong, alternate; flowers on long pedicels; pedicels at length firm, not reflexed; calycine segments linear-oblong, obtuse, shorter than the capsule. ⊙. H. Native of Spain, as about La Torre Gorda, Malaga, Gibraltar, &c. L. transtagàna, Spreng. syst. 2. p. 792, exclusive of the syn. of Link. Ant. spártium, Saltzm. exsic. in herb. D. C, et Gay, but not of Lin. Ant. pedunculàtum, Lin. spec. 2. p. 857. Lam. dict. 4. p. 363. Branches woody at the base, and often without leaves; young branches leafy and decumbent. Leaves 3-4 lines long, like those of *Polygònum aviculàre*. Corolla blue, marked with deeper veins, size of those of *L. origanifòlia*; palate yellow; spur straight, subulate, shorter than the corolla. Capsule opening by 6 small valves at apex. Seeds reniform; testa black, muricated. Flowers loose.

Pedunculate-flowered Toad-Flax. Fl. June, July. Clt. 1810. Pl. ½ to 1 foot.

37 L. fla'va (Desf. fl. atl. 2. p. 42. t. 136. D. C. fl. fr. 3. p. 729. Chav. antirrh. p. 121.) glabrous, erect; lower leaves ovate, or ovate-oblong, 3 in a whorl: superior ones oblong-linear, alternate: flowers terminal, few, on short pedicels; calycine segments broadly linear, obtuse, shorter than the capsule. ⊙. H. Native of Barbary, in corn-fields near La Calle; Numidia; Sardinia; Corsica, in sand by the sea near Ajaccio; and of Spain. Ant. flàvum, Poir. itin. 2. p. 191. Lam. dict. 4. p. 358. Lower leaves 4-6 lines long: superior ones smaller, all obtuse and glaucous. Corolla small, deep yellow; spur acute, about equal in length to the corolla. Capsule opening by 6 small valves. Seeds subreniform; testa black, pitted.

Yellow-flowered Toad-Flax. Fl. July, Aug. Clt. 1820. Pl. ½ to 1 foot.

38 L. creta'cea (Fisch. exsic. in herb. D. C. Spreng. syst. 2. p. 791. Chav. antirrh. p. 122.) glabrous; leaves ovate, acutish, glaucescent: lower ones 3 in a whorl: superior ones opposite and alternate; flowers spicately racemose, few; calycine segments linear-lanceolate, acute, very short. ⊙. H. Native in cretaceous places at the river Don. Branches branched at top. Leaves crowded, 4-6 lines long: upper ones smaller.

Racemes short. Flowers on short pedicels. Corolla yellow, with a short, sub-incurved spur; palate deep yellow. Capsule unknown.

Cretaceous Toad-Flax. Fl. June, Sept. Clt. 1827. Pl. ½ to ¾ foot.

39 L. thymifo'lia (D. C. fl. fr. 3. p. 587. Lois. fl. gall. ed. 2d. vol. 2. p. 792. t. 10. Chav. antirrh. p. 122.) glaucous, glabrous, procumbent, or ascending; lower leaves ovate, obtuse, 3 in a whorl: superior ones oblong, usually opposite; flowers few at the tops of the branches; calycine segments oblong-ovate, obtuse, shorter than the capsule. ⊙. H. Native of the south-west of France, on the sea-shore about Burdigala, and near Bayonne. Ant. thymifòlium, Vahl, symb. 2. p. 67. Willd. spec. 3. p. 243. Ant. glaúcum, Thore, clor. land. 265. but not of Lin. nor Lapeyr. Branches usually decumbent. Leaves 3-5 lines long: upper ones smaller. Flowers on short pedicels. Corolla like those of *L. supìnum*, yellow; spur a little arched, about the length of the corolla; palate orange-coloured. Capsule dehiscing by 6 deep valves at apex. Seeds discoid.

Thyme-leaved Toad-Flax. Fl. June, July. Clt. 1818. Pl. procumbent.

* * * *Leaves all alternate.*

40 L. Lusita'nica (Hoffm. et Link, fl. port. p. 247. t. 43. Chav. antirrh. p. 123. but not of Mill.) branches procumbent, glabrous; leaves crowded, obovate, or oblong: upper ones the larger; flowers disposed in dense racemes; calycine segments oblong, obtuse, pubescent. ♃. H. Native of Portugal, in sand by the sea side near Comporto, and at the mouth of the river Mondego. Ant. Lusitánicum, Lam. dict. 4. p. 361. Brot. fl. lus. 1. p. 193. Linària Lusitánica maritima polygalæ folio, Tourn. inst. p. 169. Root fibrous, yellowish. Leaves glabrous, glaucescent: lower ones 3-5 lines long. Corolla large, yellow; tube and spur marked with red lines; spur about equal in length to the corolla, straightish, acute. Capsule opening by 6 small valves. Seeds discoid.

Portugal Toad-Flax. Fl. June, July. Clt. 1819. Pl. proc.

41 L. Michau'xii (Chav. antirrh. p. 124. t. 7. f. B.) glaucous; branches ascending, branched; leaves broad-obovate, mucronate; flowers disposed in spicate racemes; calycine segments oblong, ovate, acutish. ♃. H. Native of Persia, near Ispahan. Plant quite glabrous. Branches furnished with a few sterile, filiform branchlets, which are sometimes reduced to spines. Leaves as if they were truncate at top, 5-7 lines long. Corolla large, purple; the spur hardly longer than it, and incurved at top; palate bearded. Capsule unknown.

Michaux's Toad-Flax. Pl. ¼ to ½ foot.

42 L. fastigia'ta (Chav. antirrh. p. 125. t. 7. f. A.) glaucous, glabrous, erect; branches fastigiate; leaves ovate-lanceolate, or oblong, adpressed to the stem at the base, mucronulate at apex; flowers disposed in dense spicate racemes, which taper to the top; calycine segments oblong-lanceolate, acute. ♃. H. Native of the Levant, Armenia, in cultivated fields near Bagdad and Kermancha, Oliv. Linària orientàlis latissimo folio, floribus linariæ vulgaris, Tourn. cor. inst. p. 9.? Leaves 1½ to 2 inches long, 5-nerved, somewhat stem-clasping at the base. Corolla yellow; spur shorter than the corolla, a little arched.

Fastigiate-branched Toad-Flax. Pl. 1 to 2 feet.

43 L. pyramida'ta (Spreng. syst. 2. p. 796. Chav. antirrh. p. 125, exclusive of the syn. of Lin.) erect; leaves oblong-lanceolate, attenuated at both ends, quite glabrous; flowers in spicate, pyramidal racemes; calycine segments ovate-oblong, obtuse, downy, much shorter than the tube of the corolla. ♃. H. Native of the Levant. Ant. pyramidàle, Lam. dict. 4. p. 360. Linària orientàlis lilii persici foliis, florum spica densissima et pyramidàta, Tourn. corol. inst. p. 9. Leaves 3-5 inches long, usually 5-nerved, a little stem-clasping at the base, mucronulate at apex. Corolla large, yellow; spur straight, acute, about equal in length to the corolla; palate densely bearded.

Pyramidal-spiked Toad-Flax. Pl. 2 to 3 feet.

44 L. grandiflòra (Desf. cor. inst. Tourn. p. 30. t. 21. Chav. antirrh. p. 126.) erect, glaucescent, glabrous; leaves ovate-lanceolate, acute, half stem-clasping; bracteas deflexed, longer than the pedicels; flowers approximate; calycine segments oblong-lanceolate, acute, quite glabrous. ⊙. H. Native of Armenia, in uncultivated fields very frequent. L. Dalmática, Rchb. pl. crit. 5. t. 438. f. 629. Ant. Dalmáticum, Lam. dict. 4. p. 360. exclusive of the syn. of Lin. and others.—Buxb. cent. 1. p. 15. t. 24. Linària orientàlis flore luteo maximo, Tourn. cor. inst. p. 9. Leaves approximate, 5-nerved, attenuated at both ends. Corolla large, yellow; spur a little shorter than the corolla, straight; palate deep yellow, villous. Capsule not seen.

Great-flowered Toad-Flax. Pl. 2 to 3 feet.

45 L. Dalma'tica (Mill. dict. ed. 8. no. 13. Chav. antirrh. p. 127.) glaucous, glabrous, branched; leaves oblong-lanceolate, acute, approximate; flowers few, and loose at the summits of the branches; segments of calyx oblong-lanceolate, or linear-lanceolate, acute, glabrous. ♃. H. Native of Candia, Armenia, and Dalmatia. Baumg. trans. 2. p. 205. Ant. Dalmáticum, Lin. spec. p. 857. exclusive of the syn. of J. Bauh. Pall. itin. p. 590. Linària latifòlia, Dalmática magno flore, C. Bauh. pin. p. 212. Tourn. inst. p. 169. Branches erect, or decumbent, densely clothed with leaves. Leaves 1-3 inches long, 3-5-nerved: upper ones 3-nerved. Flowers disposed in loose few-flowered racemes. Corolla yellow; spur straight, much shorter than the corolla; palate large, villous.

Dalmatian Toad-Flax. Pl. 3 to 4 feet.

46 L. genistæfo'lia (Mill. dict. ed. 8. no. 14. Chav. antirrh. p. 128.) glaucous, glabrous, erect; leaves lanceolate, acute, 3-5-nerved; flowers paniculately racemose; rachis flexuous, twiggy; segments of the calyx oblong-lanceolate, acute. ♃. H. Native of Austria, Hungary, Tauria, Caucasus, and Altaia; and about Constantinople, in sandy, dry places. Rchb. pl. crit. 5. t. 435. Ledeb. fl. alt. 2. p. 443. Meyer, verz. p. 109. Ant. genistæfòlium, Lin. spec. p. 858. Jacq. austr. 3. t. 244. Bieb. fl. cauc. 2. p. 74. exclusive of the syn. of Hall. Sibth. et Smith, fl. græc. t. 596. Pers. ench. 2. p. 158. but not of Sut. nor Lapeyr. Linària constantinopolitana lini sativi folio, flore luteo, Tourn. cor. p. 9. Buxb. cent. 1. p. 16. t. 25. Linària flore pallido rictu aureo, Tourn. inst. p. 170. Linària Pannónica, Clus. hist. 1. p. 321. pann. p. 308. Root white, rhizomatose. Stem branched; branches panicled. Leaves somewhat stem-clasping, an inch and more long. Flowers in loose racemes. Corolla a little smaller than those of *L. vulgàris*, pale yellow; palate yellow; spur straightish, equal in length to the corolla. Capsule opening by 6 teeth at apex. Seeds prismatic, subtriquetrous; testa brown, corrugately excavated.

Var. β, pròcera (Chav. antirrh. p. 128.) leaves broader, 5-nerved; plant larger and firmer. ♃. H. Native of Tauria, on cretaceous rocks about Karassubassa. L. chloræfòlia, Rchb. pl. crit. 5. t. 436. L. genistæfòlia, var. γ, pròcera, Hook. bot. mag. t. 2183. Ant. genistæfòlia, var. γ, Bieb. fl. cauc. 2. p. 74. Linària flore pallido rictu aureo, elatior, Tourn. inst. p. 170.

Var. γ, silenifòlia (Chav. antirrh. p. 128.) branchlets less flexuous; leaves more elongated; flowers a little larger; spur shorter than the corolla. ♃. H. Native not far from Constantinople. L. silenifòlia, Fisch. hort. gorenk. p. 25. Rchb. pl. crit. 5. t. 437.

Broom-leaved Toad-Flax. Fl. June, Aug. Clt. 1704. B. 1819. Pl. 2 to 4 feet.

§ 2. *Leaves narrow, linear, linear-lanceolate, or linear-oblong, all alternate. Flowers racemose, or spicately racemose, rather large.*

* *Seeds angular.*

47 **L. linifòlia** (Rchb. pl. crit. 5. t. 422. f. 609. fl. germ. sect. 2. p. 374. exclusive of the syn. of Rochel. Chav. antirrh. p. 129.) erect, glabrous, a little branched; leaves linear-lanceolate, acute, somewhat 3-nerved; racemes strict, rather loose; bracteas longer than the pedicels; calycine segments rather ovate at the base, acuminated, short. ♃. H. Native of the Levant, and Italy, by the sea-side. Ant. linifòlium, Lin. spec. p. 858. exclusive of the syn. of Tourn. et Buxb. Lam. dict. 4. p. 362, exclusive of the syn. Linària orientàlis, vulgari similis folio longissimo, Tourn. inst. p. 9. Leaves 1 to 1½ inch long. Corollas like those of *L. genistæfòlia*, but rather smaller, yellow, with a deeper coloured villous palate; spur straight, equaling the corolla in length. Capsule opening by 6 small teeth. Seeds subtriquetrous, scrobiculate.

Flax-leaved Toad-Flax. Pl. 1 to 1½ foot.

* * *Seeds discoid, marginate.*

48 **L. Ita'lica** (Trev. in nov. act. bonn. 13. p. 188. Chav. antirrh. p. 150.) branched; leaves linear-lanceolate or linear, 3-nerved; flowers crowded; segments of calyx linear, acute, often ciliated; capsule nearly ovate. ♃. H. Native of Switzerland, Italy, Piedmont, Tyrol, Hungary, on the alps. Rchb. pl. crit. 5. p. 13. t. 421. f. 608. L. genistæfòlia, D. C. fl. fr. 3. p. 591. exclusive of the synonymes. L. angustifòlia, Rchb. fl. germ. sect. 2. p. 375. exclusive of the syn. of Lang. L. paniculàta, Peyer et Vest. ex Rchb. l. c. L. linifòlia, Roch. pl. ban. rar. p. 60. t. 22. f. 47. and of many other authors. Ant. Bauhìni, Gaud. fl. helv. 3. p. 154. Ant. polygalæfòlium, Poir. dict. suppl. 4. p. 21. but not of Link, under Linària. Ant. genistifòlium, Vill. dauph. 2. p. 440. exclusive of the syn. of Lin. and Clus. All. pedem. no. 243. exclusive of many synonymes. Sut. fl. helv. 2. p. 34. exclusive of the syn. of Jacq. Chenal, act. helv. 8. p. 242. but not of Lin. nor Lapeyr. Ant. Linària, var. Lin. spec. p. 859.—Hall. hist. no. 337. Plant glaucescent. Leaves an inch and more long. Corollas like those of *L. vulgàris*, but not above half the size, deep yellow; palate bearded with white hairs; spur hardly exceeding the corolla, a little arched. Capsule opening by 6 small valves at apex. Seeds muricated in the centre, and girded by a broad margin.

Var. β, *angustifòlia* (Chav. antirrh. p. 131.) leaves exactly linear, very acute; capsule ovate-globose. ♃. H. Native of Piedmont, on the banks of the river La Stura, and near Superga.

Italian Toad-Flax. Pl. 1 to 2 feet.

49 **L. vulga'ris** (Mill. dict. ed. 8. no. 1.) simple or branched; leaves linear, or linear-lanceolate, usually 1-nerved; flowers disposed in dense spicate racemes; calycine segments almost lanceolate, acute; capsule almost cylindrical. ♃. H. Native throughout Europe, in sandy fields and in hedges; also of Podolia and Siberia; in America, but probably introduced from Europe. It is very plentiful in many parts of Britain. Mœnch. meth. p. 524. D. C. fl. fr. 3. p. 592. Chav. antirrh. p. 131. Ant. genistifòlium, Lapeyr, abr. p. 354.? Benth. cat. pyr. p. 69. with the leaves broader and erect, and the flowers smaller. L. Geblèri, Besser, in herb. D. C. L. ciliàta, Lang. in herb. Gay, with ciliated corollas. Ant. commùne, Lam. fl. fr. 2. p. 340. Ant. Linària, Lin. spec. p. 858. Bull. herb. t. 261. Gærtn. fruct. 1. p. 248. t. 53. f. 7. Lam. ill. t. 351. f. 3. Sturm, fl. germ. 1. fasc. 18. t. 13. Smith, engl. bot. 10. t. 63. Curt. lond. 1. t. 47. Oed. fl. dan. t. 982.—Hall. helv. no. 336.—Blackw. herb. t. 115.—Mor. hist. 2. p. 499. sect. 5. t. 12. f. 10.—Besl. hort. eyst. 1. t. 14. f. 3. Riv. mon. irr. t. 82. Osyris, Pliny, nat. hist. 349. Osyris Linària, Trag. hist. p. 357. Οσυρις, Diosc. 4. p. 138. Rhizoma creeping, tubercled. Plant glaucous. Leaves about an inch long. Corolla pale yellow or citron-coloured; palate copper-coloured; spur curved, about equal in length to the corolla. Capsule dehiscing by 6-8 teeth. Seed with tubercled centre and winged margin. In Worcestershire the plant is called Butter-and-Eggs. Gerard names it *Wild-Flax*, *Toad-Flax*, and *Flax-weed*. It abounds in an acrid oil, that is almost empyreumatic. Given inwardly it excites nausea. It is recommended in dropsical cases; but Haller and others do not much approve of it. The juice, mixed with milk, is a poison to flies.

Var. β, *glandulòsa* (Chav. antirrh. p. 132.) downy, usually procumbent; calyxes glandular. ♃. H. Native in woods about Malmedy. Ant. glandulòsum, Lejeune, fl. spa. p. 320. Ant. Linària, var. glandulòsum, Lejeune, revue, p. 124. L. prostràta, Bœnn. in Rchb. l. c. but not of Cyrill. under *Antirrhìnum*.

Var. γ, *speciòsa* (Chav. l. c.) leaves linear-lanceolate, rather coriaceous, obsoletely 3-nerved, glaucescent beneath; flowers larger; capsule elliptic-oblong. ♃. H. Native of Naples, in corn-fields on the mountains. L. speciòsa, Ten. fl. neap. 4. t. 159. f. 1. syll. p. 304.

Var. δ, *acutíloba* (Chav. l. c.) leaves narrow-oblong, or oblong-lanceolate, usually 3-nerved; calycine segments often acuminated; corolla pale yellow; palate deep orange-coloured; lobes sometimes acutish, sometimes obtuse; capsule subcylindrical. ♃. H. Native of Dahuria; and in shady dry places in the region of Altaia. L. acutíloba, Fisch. mss. Rchb. pl. crit. 5. p. 14. t. 424. f. 611.

Var. ε, *Pelòria* (Lin. amœn. 1. p. 280. Smith, engl. bot. 4. t. 260. nov. dict. sc. nat. veg. t. 31.) corolla almost regular, ending in 5 horns at the base.

Common Toad-Flax. Fl. June, Sept. Britain. Pl. 1 to 2 feet.

50 **L. Bieberste'inii** (Besser, enum. pl. pod. p. 25. Rchb. pl. crit. 5. t. 434. f. 624. and 625.) branched; leaves broad-linear, or linear-lanceolate, 3-nerved, mucronate; flowers disposed in a short crowded raceme; segments of the calyx oblong-linear, acutish, downy; capsule globose. ♃. H. Native of the South of Podolia; on the shores of the Black Sea, about Odessa; in Syria, about Damascus. Chav. antirrh. p. 134. Ant. Linària, Bieb. fl. cauc. 2. p. 75. exclusive of many synonymes. Stem furnished with fastigiate branches. Leaves 1-2 inches long. Corollas form of those of *L. vulgàris*, but a little smaller, pale yellow, with a deeper coloured, bearded palate. Capsule nearly globose, dehiscing by 6-8 valves at apex. Seeds margined, black.

Bieberstein's Toad-Flax. Fl. June, Aug. Clt. 1820. Pl. 1 to 3 feet.

51 **L. hepa'tica** (Bunge, in Led. fl. alt. 2. p. 445. fl. ross. alt. ill. t. 91. Chav. antirrh. p. 134.) branches spreading, elongated, strict; leaves oblong-linear, acute, glabrous, crowded; flowers racemose; calycine segments glabrous, obtuse, about equal in length to the pedicels; spur slender, straight, about equal in length to the corolla. ♃. H. Native of the Kirghisean steppe, on the mountains at the river Kurtschum, and on the mountains of Arkaul and Dolenkara. Plant glabrous, glaucous, rather procumbent at the base. Leaves somewhat 3-nerved. Flowers distant on the raceme. Calycine segments glabrous, rarely glandularly ciliated. Corollas rather large, liver-coloured, or dirty purple, almost like those of *Lòtus Jacobæ'us;* palate villous. Seeds black, discoid.

Liver-coloured-flowered Toad-Flax. Pl. 1 to 1½ foot.

52 **L. præ'cox** (Bunge, in Led. fl. alt. 2. p. 446. fl. ross. alt.

ill. t. 431. Chav. antirrh. p. 135. but not of Link, fl. port.) stem erect, strict, simple; leaves scattered: lower ones short, broader: superior ones linear, elongated, fleshy, glaucous; segments of the glandular calyx oblong, obtuse; spur straight, exceeding the corolla, which is also glandular; racemes subspicate. ♃. H. Native of Altaia, at the river Irtysch, and between Tscheremschanskoi and Krasnojarski, on dry mountains. Plant glabrous, glaucous. Leaves 1-2 inches long. Racemes 12-15-flowered, at length elongated. Calycine segments somewhat 3-nerved. Corolla violaceous, marked with deeper stripes; throat villous, white, furnished with 2 yellow confluent spots; the spur deeper violet. Seeds discoid.

Early Toad-Flax. Fl. April. Pl. 1 to 2 feet.

53 L. odòra (Fisch. cat. hort. gorenski, 1812. p. 25. Chav. antirrh. p. 136.) branched, erect or ascending; leaves linear-subulate, semiterete, channelled; flowers in loose racemes; calycine segments short, ovate or elliptic, obtuse; capsule globose. ♃. H. Native of Tauria, in the sand of the Ukraine; in the colony of Sarepta, Rchb.; Siberia, at the Oby, Demidow; on sandy hills between Schulbinsk and Oserski, at the river Irtysch, Ledeb.; in Calabria and Sicily rather frequent, Schouw.? L. Itálica, Fisch. mss. ex Ledeb. L. Loesèlii, Schweigg. Kœn. arch. 1. p. 228. Led. fl. alt. 2. p. 447. Spreng. syst. 2. p. 797. L. júncea, Rchb. pl. crit. 5. t. 425. f. 612—613. but not of D. C. nor Desf. L. marítima, Rchb. fl. germ. sect. 2. p. 375. but not of D. C. Ant. subulàtum, Cyrill. in herb. Ant. odoratíssimum, Giild. itin. 1. p. 111. Ant. odòrum, Bieb. fl. cauc. 2. p. 76. suppl. 414. Ant. júnceum, Pall. itin. 2. p. 332. et 3. p. 541. and 682. but not of Lin. nor Lam.—Lois. bor. p. 298. t. 39.—Buxb. cent. 4. p. 23. t. 37. Plant very polymorphous, with a slender habit, glaucescent. Leaves 1 to 1½ inch long. Racemes few-flowered, loose, clothed with white glandular hairs, and also the calyx. Corolla pale yellow, painted by 2 orange stripes beneath; palate orange-coloured; spur straight, or a little incurved, sometimes equal in length to the corolla, and sometimes shorter. Capsule large. Seeds discoid, subreniform. Ledebour gives three varieties of this species.

Sweet-scented Toad-Flax. Fl. July, Aug. Clt. 1823. Pl. 1 to 1½ foot.

54 L. macrou'ra (Rchb. pl. crit. 5. p. 20. t. 432. f. 621, 622. Chav. antirrh. p. 137.) erect, branched or simple; leaves linear, flat, glaucous, quite glabrous; those of the surculi crowded; raceme dense; segments of the calyx ovate-oblong, obtuse, clothed with glandular down, or smoothish. ♃. H. Native of Tauria and Caucasus, in dry places. Led. fl. alt. 2. p. 446. Ant. macroùrum, Bieb. fl. cauc. 2. p. 75. Ant. linifòlium, Pall. ind. taur. Habl. taur. p. 161. but not of Lin. Leaves 1-2 inches long. Flowers disposed in long, straight, dense racemes. Calyx beset with glandular hairs. Corollas large, glabrous or downy, yellow, with a more intense coloured, villous palate; spur straight, length of corolla, or a little longer. Capsule opening by 6 valves at apex.

Var. β, *Besseriàna* (Chav. antirrh. p. 137.) simple; raceme few-flowered; flowers larger; calycine segments broader and a little longer, rather downy, or sometimes quite glabrous; spur about equal in length to the corolla. ♃. H. Native of Bessarabia, in fields between Elisabetgrad and Nicolaèf; and in fields about the Don, and beyond the Volga; South of Tauria. L. Besseriàna, Rchb. pl. crit. 5. t. 433. f. 623. L. macroùra, Bieb. pl. rar. ross. 1. t. 27. Ant. macroùrum, β, Bieb. fl. cauc. suppl. p. 413. Corollas deeper yellow, and sometimes even purplish.

Var. γ, *ramòsa* (Chav. antirrh. p. 137.) branches again branched, thicker; flowers smaller, loose; calycine segments narrower; corolla golden yellow; spur long. ♃. H. Native of Altaia. L. macroùra, β, Ledeb. fl. alt. 2. p. 446. Flowers disposed in a loose, elongated raceme.

Long-tailed-racemed Toad-Flax. Fl. June, Sept. Clt. 1822. Pl. 1 to 1½ foot.

§ 3. *Leaves narrow, alternate or verticillate; those of the surculi broader, lanceolate or linear, verticillate. Flowers disposed in racemes, or spicate racemes. Corolla beyond 3 lines long, with the spur.—Usually erect herbs, furnished with sterile leafy surculi.*

* *Style forked at top; stigma 2-lobed* (Chav. antirrh. t. 5. f. 10. b.) *Seeds transverse, corrugated* (Chav. l. c. f. 28.)

55 L. aparinòides (Chav. antirrh. p. 138.) strict; leaves linear-subulate, usually alternate; those of the surculi flat, and 4-5 in a whorl; raceme villous; pedicels longer than the bracteas; segments of the calyx linear, acute. ⊙. H. Native of Sicily, on arid sandy hills and fields; and the Island of Cyprus. L. reticulàta, Rchb. pl. crit. 5. p. 19. t. 431. f. 620. but not of Desf. L. stricta, Guss. pl. rar. sic. p. 250. exclusive of the syn. of Spreng. prod. fl. sic. p. 166. Tenore, syll. p. 304. but not of Horn. nor Rchb. Ant. multicaúle, Tenore, fl. nap. prod. p. 36. but not of Lin. L. heterophýlla, Desf. fl. atl. 2. p. 48. t. 140. cat. par. 3. p. 108. exclusive of the syn. *Ant. pinifòlium*, but not of Willd. under Antirrhìnum. Ant. strictum, Sibth. et Smith, fl. græc. t. 594. Ant. aparinoìdes, Willd. spec. 3. p. 247. Poir. suppl. 4. p. 25. Pers. ench. 2. p. 157. Linària Sicula multicaulis molluginis folio, Bocc. sic. t. 19. f. 1. Tourn. inst. p. 171. Branches villous. Leaves 1-2 inches long, usually scattered: lower ones sometimes in whorls; those on the younger branches crowded, as if in fascicles. Racemes clothed with white glandular hairs. Corollas size of those of *L. vulgàris*, sulphur-coloured; palate copper-coloured, marked with brown lines; spur usually straight. Anthers ciliated. Capsule dehiscing by 6 teeth at the apex.

Var. β, *hùmilis* (Chav. l. c.) plant ascending, hardly half a foot high; sterile surculi villous. ⊙. H. L. stricta, var. β, Guss. icon. fl. sic. t. 308.

Cleaver's-like Toad-Flax. Fl. June, Aug. Clt. 1825. Pl. 1 to 3 feet.

56 L. reticula'ta (Desf. fl. atl. 2. p. 48. Chav. antirrh. p. 140.) erect, glaucous; leaves linear, channelled: lower and surculine ones verticillate: superior ones scattered; raceme short, downy, tapering upwards; bracteas longer than the pedicels; segments of the calyx broadly linear. ⊙.? H. Native of the North of Africa, on the sea shore; in Portugal, on the Douro, near Oporto, and especially about Faustua. Hoffm. et Link, fl. port. p. 251. exclusive of the synonyme of Brot. Willd. enum. 2. p. 796. Ait. hort. kew. ed. 2d. vol. 4. p. 15. but not of Rchb. Ant. reticulàtum, Smith, icon. rar. t. 2. Willd. spec. 3. p. 247. Pers. ench. 2. p. 157. exclusive of the syn. of Brot. Ant. pinifòlium, Poir. itin. 2. p. 193. Lam. dict. 4. p. 362. Plant glabrous, except the floriferous part. Leaves obtuse, an inch and more long; those of the surculi shorter and broader, 4-6 in a whorl. Flowers crowded. Corolla reticulately veined, deep purple; palate copper-coloured or yellow, marked with dark purple lines; spur shorter than the corolla. Capsule and seeds as in the preceding.

Reticulated-flowered Toad-Flax. Fl. May, July. Clt. 1788. Pl. 2 to 4 feet.

57 L. versi'color (Mœnch. meth. p. 523. D. C. fl. fr. 3. p. 586. Chav. antirrh. p. 141.) downy at top; leaves flat, broad-linear or linear-lanceolate, obtuse: lower ones usually 3 in a whorl: superior ones alternate: those of the surculi opposite, or 3 in a whorl; flowers racemose; segments of the calyx linear-oblong, bluntish. ⊙. H. Native of the South of France. Ant. bipunctàtum, Hort. but not of Lin. nor Cav. Ant. versícolor, Lin. syst. p. 466. Jacq. misc. 2. p. 336. icon. rar. 1. p. 12. t. 116. Racemes clothed with short glandular hairs. Leaves

1 to 1½ inch long. Corolla size of those of *L. vulgàris*, pale yellow, with a copper-coloured palate, which is often marked with 2 brown spots; spur violaceous or yellow, longer than the corolla. Capsule dehiscing by 6 teeth at apex. Seed a little curved, truncate at the base.

Party-coloured-flowered Toad-Flax. Fl. July, Sept. Clt. 1777. Pl. 1 to 1½ foot.

58 L. viscòsa (Dum. Cours. bot. cult. ed. 1st. p. 93. Spreng. syst. 2. p. 794. Chav. antirrh. p. 141.) downy; leaves linear, usually alternate, distant; those of the surculi linear-lanceolate or linear-oblong, 4 in a whorl; raceme short, crowded; segments of the calyx linear or linear-lanceolate, acute, vaguely ciliated. ⊙. H. Native of Spain, near Gades. Ant. viscòsum, Lin. amœn. 4. p. 319. spec. p. 855. Ait. hort. kew. ed. 2d. vol. 4. p. 14. exclusive of the syn. of Bot. mag. Root yellowish, with twisted, somewhat horizontal branches. Stem naked under the raceme. Leaves ½ to 1 inch, bluntish, quite glabrous: lower ones fascicled, or somewhat verticillate. Corolla yellowish-brown; upper lip large; spur straight, hardly exceeding the corolla. Capsule dehiscing by 6 teeth at apex. Seed black, a little curved.

Clammy Toad-Flax. Fl. July. Clt. 1786. Pl. 1 to 1½ foot.

59 L. Algarvia'na (Chav. antirrh. p. 142.) glabrous; branches almost leafless; leaves of the surculi very numerous, lanceolate or linear-lanceolate, 3-4 in a whorl; flowers on long pedicels, drooping; segments of the calyx nearly linear, acute. ⊙.? ♃.? H. Native of the Algarves. Root fusiform, fibrous, brown. Branches decumbent or erect. Leaves of the branches small. Flowers 2-4 together, at the ends of the branches. Corollas size of those of *L. alpìna*, pale yellowish-brown, or purplish, furnished with a long spur. Capsule dehiscing by 6 teeth at apex. Seeds irregular; testa variously twisted.

Algarves Toad-Flax. Pl. ¼ to ¾ foot.

60 L. spa'rtea (Hoffm. et Link, fl. port. p. 233. t. 30. Rchb. pl. crit. 9. t. 814. f. 1100. Chav. antirrh. p. 143.) plant strict, branched; leaves linear-lanceolate, erect, quite glabrous: lower ones often 3 in a whorl: superior ones alternate; those of the surculi flat, 3-4 in a whorl; flowers on long pedicels; calycine segments linear or linear-lanceolate, acute, glabrous or downy. ⊙. ex Ait. ♂. ex Willd. H. Native of Spain, near Madrid and Aranjuez; Portugal, in sandy places about Lisbon; South of France; Canary Islands; Morocco; Tripoli, on the sea shore. L. júncea, Desf. fl. atl. 2. p. 43. D. C. fl. fr. 3. p. 729. Duby, bot. gall. 1. p. 345. exclusive of *L. júnceum*, Lin. Rchb. pl. crit. 9. t. 813. f. 1099. L. præ'cox, Hoffm. et. Link, fl. port. p. 233. t. 37. exclusive of the syn. of Lin., but not of Ledeb. Ant. júnceum, Lam. dict. 4. p. 352. Pers. ench. 2. p. 156. but not of Lin. Ant. spárteum, Lin. spec. p. 854. Cav. icon. 1. p. 19. t. 32. Viv. fl. libyc. p. 33. Curt. bot. mag. t. 200. Linària ánnua angustifòlia, flore majore luteo, Mor. hist. part. 2. p. 499. Tourn. inst. 1. p. 171. Leaves 6-10 lines long. Racemes few-flowered, glabrous, or clothed with short clammy down. Corolla very variable, yellow; palate deep orange; spur straight. Capsule dehiscing by 6 small valves. Seeds oblong, truncate, black.

Broom-like Toad-Flax. Fl. June, Oct. Clt. 1772. Pl. 1 to 2 feet.

61 L. ju'ncea (Ait. hort. kew. ed. 2d. vol. 4. p. 17. Chav. antirrh. p. 144. but not of Desf. nor Rchb.) glabrous, much branched, slender; leaves linear-subulate, semiterete, usually alternate; those of the surculi linear-lanceolate, opposite or 3 in a whorl; flowers few, on long pedicels; calycine segments linear-lanceolate, short, acute. ⊙. H. Native of Spain and Portugal, near Coimbra. L. meonántha, Hoffm. et Link, fl. port. 1. p. 236. Ant. virgulàtum, Brot. fl. lus. 1. p. 193. Ant. júnceum, Lin. amœn. 4. p. 277. but not of Lam. Leaves sometimes 3-4 in a whorl, at the base of the branches. Corollas much smaller than those of *L. spártea*, yellow; palate orange-coloured; spur straight, hardly longer than the corolla. Capsule dehiscing by 6 valves. Seeds truncate, a little curved, black.

Rushy Toad-Flax. Fl. June, Sept. Clt. 1780. Pl. 1 to 1½ foot.

62 L. bipartì'ta (Willd. enum. 2. p. 640. Chav. antirrh. p. 145.) glabrous; leaves linear or linear-lanceolate, flat, alternate or verticillate: those of the surculi broader, and 3 in a whorl; flowers disposed in loose racemes; segments of the calyx almost lanceolate, acute, with membranous edges. ⊙. H. Native of Morocco, about Mogodor; Tangiers and Mauritania. Sweet. fl. gard. t. 30. L. speciòsa, Jacq. fil. eclog. 1. p. 140. t. 95. but not of Tenore. Ant. speciòsum, Donn. hort. cant. 1804. p. 178. L. cærùlea, Hort. Ant. orchidiflòrum, Hort. Ant. bipartìtum, Vent. hort. cels. t. 82. Poir. suppl. 4. p. 21. Root yellowish, branched. Leaves 1-3 inches long. Corollas showy, of a violet-purple colour; upper lip deeply bipartite; palate orange-coloured, whitish at the base; spur arched, hardly exceeding the corolla. Capsule opening by 6 teeth at apex. Seeds oblong, black, curved a little.

Bipartite-lipped Toad-Flax. Fl. June, Sept. Clt. 1815. Pl. 1 foot.

63 L. linogri'sea (Hoffm. et Link, fl. port. p. 240. t. 41. exclusive of the syn. of Tourn. Chav. antirrh. p. 146.) downy at top; leaves linear, flat, glabrous, alternate or 3 in a whorl; those of the surculi lanceolate, short, 3-4 in a whorl; flowers loose, on long pedicels; calycine segments linear, very acute, downy. ⊙. H. Native of Portugal, in sandy places about Coimbra. L. incarnàta, Spreng. syst. 2. p. 643. Ant. sapphirìnum, β, incarnàtum, Pers. ench. 2. p. 158. Ant. incarnàtum, Lam. dict. 4. p. 364. Very nearly allied to *L. bipartìta*, and perhaps only a variety of it. Leaves smaller, and more distant. Calyxes and bracteas much narrower; pedicels longer. Corolla blue; upper lip reddish; palate orange-coloured; spur arched, length of corolla.

Grey-linum Toad-Flax. Fl. June, July. Clt. 1819. Pl. 1 foot.

64 L. sapphiri'na (Hoffm. et Link, fl. port. 1. p. 241. t. 42. Chav. antirrh. p. 146.) leaves linear, flat, alternate; those of the surculi sublanceolate, 3 in a whorl; racemes very elongated; rachis downy; segments of the calyx linear, acute, downy. ⊙. H. Native of Portugal, near Coimbra, on Serra d'Arabida. Ant. sapphirìnum, Brot. fl. lus. 1. p. 197. Linària pùmila Lusitanica, floribus palato carentibus, Tourn. inst. p. 170. Leaves glabrous. Racemes loose. Corolla smaller than that of the preceding, deep blue; tube nearly cylindrical; lower lip spreadingly deflexed; palate orange-coloured, dotted; spur slender, long, arched. Capsule globose, dehiscing by 6 teeth at apex. Seeds like those of the preceding.

Sapphire Toad-Flax. Pl. ½ to 1 foot.

* * *Style thickened at the apex; stigma emarginate* (Chav. antirrh. t. 5. f. 10. a.) *Seeds angular, somewhat prismatic.*

65 L. Armeni'aca (Chav. antirrh. p. 147.) quite glabrous, firm, much branched above the base; leaves alternate, linear, obtuse, thick; flowers in loose racemes; segments of the calyx linear, acute. ♃.? H. Native of Armenia, Tourn. Root yellowish. Stem firm; lower part naked and woody. Leaves an inch long. Flowers distant. Corollas form of those of *L. Chalepénsis*, blue, with a long arched spur. Capsule a little compressed, emarginated, and dehiscing by 6 teeth at apex. Seeds large, subtriquetrous, a little curved, black, scrobiculate.

Armenian Toad-Flax. Pl. 1 foot.

66 L. Chalepe'nsis (Mill. dict. ed. 8th. no. 12. D. C. fl.

fr. 3. p. 539. Chav. antirrh. p. 148.) quite glabrous; leaves linear, flat, acute: lower ones and those of the surculi verticillate: superior ones alternate; flowers in loose racemes; segments of the calyx linear, longer than the corolla. ⊙. H. Native of the South of France, about Montpelier; Cevennes, near Florac; South of Italy; Sicily; Corsica; Dalmatia; in Syria, near Aleppo; Islands of Scio, and Cyprus; and the Peloponnesus. Tenor. syll. p. 303. Ant. álbum, Lam. fl. fr. 2. p. 345. L. álba, Mœnch. meth. p. 521. Ant. Chalepénse, Lin. spec. p. 859. Sibth. et Smith, fl. græc. t. 592. Ant. osyris, Cyr. pl. rar. 2. p. 22. t. 9. but not of Fisch. Linària ánnua angustifòlia, flosculis albis longius caudatis, Triumph. obs. 87. t. 87. f. 2. Tourn. inst. p. 171. Osyris álba, Lob. icon. t. 408.—Mor. hist. 2. p. 502. sect. 5. t. 35. f. 9.—Riv. mon. irr. t. 80. f. 2. Root white. Leaves 1-2 inches long. Flowers on short pedicels. Corolla small, white; spur slender, arched, longer than the corolla; palate yellowish, sometimes marked by a few violet lines. Capsule dehiscing by 6 deep teeth. Seeds subtriquetrous, truncate at apex, narrowed at the base, scrobiculate.

Aleppo Toad-Flax. Fl. June, July. Clt. 1680. Pl. 1 to 1½ foot.

67 L. Canade'nsis (Dum. Cours. bot. cult. ed. 1st. vol. 2. p. 96. Chav. antirrh. p. 149. Hook. bot. mag. t. 3474.) leaves linear, remote, glabrous, usually alternate; those of the surculi broader, opposite, or 3 in a whorl; raceme loose, slender, attenuated upwards; pedicels longer than the bracteas; calycine segments acute, downy. ⊙. H. Native of North America, from Canada to Florida; and South America, in Brazil, Peru, and Chili, &c. Ant. Canadénse, Lin. spec. p. 861. Vent. cels. t. 49. Ant. pauciflòrum, Poepp. in herb. D. C. with whitish flowers.—Gron. virg. p. 94. Plant with a slender habit. Leaves ½ to 1 inch, acute. Flowers distant, nutant. Pedicels downy. Corolla pale violet; lower lip deflexed; palate white, rather depressed; spur subulate, arched, acute, length of corolla. Capsule nearly globose, dehiscing by 6-8 teeth. Seeds prismatically tetragonal, furrowed, truncate at both ends, brown.

Canadian Toad-Flax. Fl. June, Aug. Clt. 1812. Pl. 1 to 1½ foot.

68 L. purpu'rea (Mill. dict. ed. 8th. no. 5. Mœnch. meth. p. 522. Chav. antirrh. p. 150.) quite glabrous, branched, erect; leaves linear, or linear-lanceolate; lower and surculine ones 4-9 in a whorl: superior ones 3 in a whorl, opposite or alternate; raceme elongated; calycine segments linear, acute, spreading a little. ♂. or ♃. H. Native of the South of Europe; at the bottom of Mount Vesuvius; Naples, in vineyards and on hills; South of Italy; Sicily; Greece; Tunis, in fields; Switzerland, but probably migrated from gardens. L. purpuráscens, Bernh. mss. Horn. hort. hafn. 2. p. 573. Ant. purpùreum, Lin. spec. p. 853. Gærtn. fruct. 1. p. 249. t. 53. Curt. bot. mag. t. 99. Sibth. et Smith, fl. græc. t. 589.—Riv. mon. irr. 82.—Mor. hist. sect. 5. t. 12. f. 16.—Barrel. icon. t. 1021. Linària purpùrea major odorata, Tourn. inst. p. 170. Root fibrous. Stems purplish-green, usually spotted with purple above. Leaves glaucescent, about an inch long. Flowers in loose racemes; pedicels 2-3 in a fascicle. Corolla purplish blue; upper lip short; spur arched, length of corolla; palate bearded with white hairs along the edges; tube striped with purple. Capsule compressed, emarginate at top. Seeds subprismatic, corrugated, black.

Purple-flowered Toad-Flax. Fl. July, Sept. Clt. 1694. Pl. 2 to 4 feet.

69 L. stria'ta (D. C. fl. fr. 3. p. 586. and 5. p. 407. Chav. antirrh. p. 152.) quite glabrous; branches erect or ascending, branched; leaves usually linear, verticillate or alternate; those of the surculi 4-5 in a whorl; flowers racemose; calycine segments linear-lanceolate or linear, acute. ♃. H. Native of France, in waste fields; Pyrenees; Switzerland; Piedmont; Dalmatia, &c. L. stricta, Horn. hort. hafn. 2. p. 675. ex Rchb. pl. crit. 5. t. 610. but not of Guss. with a yellowish corolla. Ant. striàtum, Lam. fl. fr. 2. p. 343. dict. 4. p. 351. exclusive of the syn. of Lin. Ant. rèpens, Lin. spec. p. 854. Smith, fl. brit. 2. p. 658. engl. bot. 1253. Ant. purpùreum, Schkuhr, handb. t. 172. ex Rchb. but not of Lin. L. decúmbens, Mœnch. meth. 523. Oróntium supìnum, Villem. phyt. 1. p. 408. Root rhizomatose, creeping, branched, tubercled, fibrous, yellowish. Leaves 1-2 inches long. Racemes loose. Corolla whitish-grey, rarely yellowish, striated with violet; palate yellow, bearded; spur bluntish, much shorter than the corolla. Capsule dehiscing by 6 valves at apex. Valves generally bifid. Seeds oblong, truncate, a little curved, keeled, tubercled, blackish.

Var. β, *Monspessulàna* (Chav. antirrh. p. 152.) leaves narrow, for the most part alternate, crowded, erect. ♃. H. Native of France, about Marseilles and Montpelier, in arid places. L. Monspessulàna, Mill. dict. no. 6. Dum. Cours. bot. cult. ed. 1st. vol. 2. p. 95. Ant. rèpens, β, Monspessulànum, Pers. ench. 2. p. 166. exclusive of the syn. of Lam.—Dill. elth. p. 198. t. 163. f. 197. Linària capillaceo folio odora, Tourn. inst. 170. Corollas deeper coloured than the species, and the plant much taller, and more erect.

Var. γ, *tristis* (Chav. antirrh. p. 152.) leaves stiff, triquetrous, acutely keeled on the back, and channelled in front; palate of corolla yellow; and both lips dirty white, and lined with violet. ♃. H. Native of Mauritania, near Termignon and Lans-le-Bourg.

Var. δ, *galioìdes* (Chav. antirrh. p. 152.) leaves 4-6 in a whorl; whorls sometimes distant and sometimes approximate. ♃. H. Native of the Pyrenees, in low places, &c. Ant. galioìdes, Lam. dict. 4. p. 351. Plant simple, or branched at top.

Striated-flowered Toad-Flax. Fl. July, Oct. α. England, β. and γ.? Pl. 1 to 3 feet.

70 L. corifòlia (Desf. cor. inst. Tourn. p. 32. t. 22. Chav. antirrh. 154.) quite glabrous; leaves linear-subulate, alternate; those of the surculi subverticillate; flowers racemose, on short pedicels; calycine segments linear, acute. ♃. H. Native of Asia Minor. Linària orientàlis cori folio, flore leucophœo, Tourn. cor. inst. p. 9. Root fibrous, elongated. Leaves 4-8 lines long. Corollas size of those of *L. purpùrea*, whitish-violet; lobes of the upper lip narrow; spur straight, short, acute, slender. Capsule unknown.

Coris-leaved Toad-Flax. Pl. 1 to 1½ foot.

* * * *Style thickened at top; stigma somewhat emarginate. Seeds discoid, with ciliated edges.* (Chav. antirrh. t. 5. f. 30.)

71 L. Pelisseria'na (D. C. fl. fr. 3. p. 589. Chav. antirrh. p. 154.) glabrous, nearly simple; leaves linear, usually alternate; those of the surculi ovate-lanceolate, 3-5 in a whorl; flowers subcapitate, crowded; calycine segments linear, very acute. ⊙. H. Native of the South and middle of France; Eastern Pyrenees; South of Italy, on dry hills; Sicily; Corsica, and Sardinia; Candia; Greece; about Constantinople; Syria, and Peloponnesus. Ait. hort. kew. ed. 2d. vol. 4. p. 14. Guss. prod. fl. sic. 1. p. 164. Ant. Pelisseriànum, Lin. spec. 855. Sibth. et Smith, fl. græc. t. 591.—Cup. pamph. 1. t. 229. Rafin. t. 101. f. 1. ex Guss.—Barrel. icon. 1162.—Buxb. cent. 1. p. 25. f. 2. Leaves beyond half an inch long. Corolla purplish-violet; palate white, with violet veins; spur straight, long, acute. Capsule emarginate at top, dehiscing by 6 teeth.

Var. β, *gràcilis* (Chav. antirrh. p. 155.) plant simple, very slender; flowers smaller, and pale blue. ⊙. H. Native about Montpelier and the Southern provinces of France, not far from

Hieres. L. Pelisseriàna, β, D. C. et Guss. l. c. Ant. gràcile, Pers. ench. 2. p. 156. Ant. Pelisseriànum, Mont. Font. ex Pers.

Pelisser's Toad-Flax. Fl. June, Sept. Clt. 1640. Pl. 1 foot.

§ 4. *Leaves quite glabrous, linear, linear-oblong, or nearly lanceolate: lower ones verticillate: upper ones alternate. Flowers small, usually subcapitate at the tops of the branches. Corolla hardly more than 3 lines long, with the spur.—Erect herbs.*

* *Calyx glabrous. Seeds ovate or oblong.*

72 L. minutiflòra (Meyer, verz. pflanz. p. 109.) quite glabrous, glaucous; leaves oblong, acutish, verticillate or alternate; flowers subspicate; calycine segments linear-oblong, acutish; corolla yellowish, small, hardly longer than the calycine segments; spur very short, conical, straight; seeds oblong, full of impressed dots. ⊙. H. Native of Caucasus, near Baku.

Minute-flowered Toad-Flax. Pl. 1 foot?

73 L. al'bifrons (Spreng. syst. 2. p. 793. Chav. antirrh. p. 156.) glaucous; leaves nearly lanceolate: lower ones 3-4 in a whorl: superior ones alternate; flowers subcapitate; calycine segments linear-oblong, obtuse. ⊙. H. Native of Greece, in the Island of Rhodes. Ant. álbifrons, Sibth. et Smith, fl. græc. t. 588. Leaves an inch long. Corolla white? a little longer than the calyx; spur very short, curved. Capsule opening by 6 small valves. Seeds obliquely ovoid; testa alveolate, blackish.

White-faced Toad-Flax. Pl. ½ to 1 foot.

* * *Calyx downy. Seeds discoid, marginate; disc smooth.*

74 L. micra'ntha (Spreng. syst. 2. p. 794. Chav. ant. p. 156.) glaucous; lower leaves oblong-lanceolate, 3-4 in a whorl: superior ones alternate; flowers spicately racemose; calycine segments linear-subspatulate, ciliated. ⊙. H. Native of Spain, in cultivated fields of Real Retiro; Sardinia, and Corsica; Algiers; Island of Rhodes; Levant; Caucasus, near Baku, and between Baku and Sallian. Ant. micránthum, Cav. icon. 1. p. 51. t. 69. f. 3. Willd. spec. 3. p. 246. Sibth. et Smith, fl. græc. t. 587. L. parviflòra, Desf. fl. atl. 2. p. 44. t. 137. Spreng. syst. 2. p. 793. Ant. parviflòrum, Willd. spec. 3. p. 245. Pers. ench. 2. p. 156, but not of Jacq. Plant sometimes furnished with surculi. Leaves somewhat 3-nerved, acute, an inch long. Flowers small. Calyx clothed with glandular down. Corolla pale blue; palate white; spur incurved. Capsule opening by 6 valves. Seeds somewhat kidney-shaped, surrounded by a broad margin.

Small-flowered Toad-Flax. Fl. May, July. Clt. 1820. Pl. ¼ to ¾ foot.

75 L. arve'nsis (Desf. fl. atl. 2. p. 45. D. C. fl. fr. 3. p. 588. Chav. antirrh. p. 157.) erect, branched or simple, downy at top; leaves linear, bluntish, glaucous: lower ones 4 in a whorl: upper ones usually alternate; flowers disposed in capitate racemes; bracteas deflexed; calycine segments linear-oblong, acutish, clothed with clammy down, as well as the pedicels. ⊙. H. Native of Europe, in sandy fields, particularly in the south; southern provinces of France, Sicily, Italy, Greece, Peloponnesus, Levant, Barbary. L. carnòsa, Mœnch. meth. p. 523. Ant. arvénse, Lin. spec. p. 855.? Schkuhr, handb. f. 172.—Linària arvénsis, cærulea erecta, Bauh. pin. p. 213. Tourn. inst. 170. Dill. elth. 199. t. 163. f. 198. Herb glaucescent, downy at top, and often furnished with surculi at the base. Leaves glabrous, 6-12 lines long, reflexed, and revolute: lower ones 4-6 in a whorl. Corolla small, blue; spur curved, slender; palate smoothish.

Var. β, simplex (Chav. antirrh. p. 157.) flowers subcapitate; corolla yellow, sometimes elegantly striped with purple, a little larger than the species; spur usually straight. ⊙. H. Native of the South of France, frequent; Lucania, Calabria, Spain, Sardinia; near Smyrna, and about Constantinople; Caucasus, about Baku; Barbary. L. símplex, D. C. fl. fr. 3. p. 588. L. arvénsis, var. Desf. fl. atl. 2. p. 45. Ant. símplex, Willd. spec. 3. p. 243. Tenore, fl. neap. 2. p. 50. but not of Link. Ant. parviflòrum, Jacq. icon. rar. 3. t. 499. but not of Desf. under Linària. Ant. arvénse, Lin. spec. p. 855. var. β, et γ, Sibth. et Smith, fl. græc. t. 590. var. β.—Cupan. pamph. 2. t. 159. Raf. t. 92. f. 2.—Column. ecphr. p. 299 and 300. icone.—Clus. hist. p. 321. icon.

Corn Toad-Flax. Fl. July, Aug. Clt.? β. 1816. Pl. 1 to 2 feet.

§ 5. *Leaves narrow, linear, linear-lanceolate, or nearly lanceolate, small: lower ones usually 4 in a whorl: superior ones alternate. Flowers usually capitately racemose at the tops of the branches, few; bracteas usually deflexed.—Commonly procumbent and diffuse herbs, furnished with numerous stem-formed branches.*

* *Seeds discoid, girded by broad, membranous margins; disk smooth.*

76 L. margina'ta (Desf. in act. soc. par. 1. p. 36. t. 7. fl. atl. 2. p. 43. Chav. antirrh. p. 159.) glabrous; leaves linear-lanceolate, or linear, glaucous: lower ones verticillate, the rest alternate; bracteas deflexed; segments of the calyx linear-oblong, acutish, quite glabrous. ♃. H. Native on Mount Atlas, in the fissures of rocks near Tlemsen. Ant. marginàtum, Lam. dict. 4. p. 355. Willd. spec. 3. p. 248. Branches decumbent. Lower leaves 4-6 in a whorl, 1 to 1½ inch long. Flowers on short pedicels. Corolla of a yellowish rust colour, striated, size of those of *L. vulgàris;* palate marked by 2 dark purple spots, bearded with white hairs on the lower margin; spur longer than the corolla, straight, acute. Seeds convex on one side, and concave on the other.

Margined-seeded Toad-Flax. Pl. decumbent.

77 L. trístis (Mill. dict. ed. 8th. no. 8. fig. 2. t. 166. Chav. antirrh. p. 160.) glaucous, downy at top; leaves linear, or linear-oblong: lower ones 3-4 in a whorl: upper ones opposite, or alternate; flowers approximate, sometimes nearly opposite; bracteas deflexed; calycine segments linear-subspatulate, obtuse, downy. ♃. F. Native near Gibraltar. Ant. tríste, Lin. syst. 465. Lam. dict. 4. p. 354. Curt. bot. mag. t. 74.—Mart. hist. pl. rar. dec. 35. f. 2.—Dill. elth. 201. t. 264. f. 199. Leaves glabrous,-obtuse. Corolla size of those of *L. vulgàris,* nearly the colour of those of *Lòtus jacobæ'us,* and all the shades from that to yellow; spur thick, striated, arched at the base, about equal in length to the corolla; palate brown at the base, or yellow; citron coloured at apex, bearded.

Var. β. tenuifòlia (Chav. antirrh. p. 160.) leaves very narrow; flowers crowded, a little smaller; corolla sometimes purplish. ♃. H. Native along with the species. Ant. ærugíneum, Gouan. ill. p. 38. Linària tenuifòlia æruginei coloris, Bauh. pin. p. 212. Tourn. inst. p. 170. Linària Hispánica II., Clus. hist. p. 320.

Sad-flowered Toad-Flax. Fl. July, Aug. Clt. 1722. Pl. decumbent.

78 L. supi'na (Desf. fl. atl. 2. p. 44. D. C. fl. fr. 3. p. 588. Chav. antirrh. p. 160.) diffuse, procumbent, or ascending; leaves linear, obtuse: lower ones 4-5 in a whorl: superior ones alternate; calycine segments linear, or linear subspatulate, pubescent. ♃. F. Native of the south and middle of France, in sandy places; Piedmont; Italy and Spain; Barbary. Ant. símplex, Link, in Schrad. journ. 1799. vol. 2. p. 300. but not of Willd. Ant. bipunctàtum, Thuill. fl. par. ed. 2. p. 311, but not of Lin. nor Cav. L. filifórmis, Mœnch. meth. p. 523, but not of Poir. under Ant. L. Thuillèri, Merat, fl. par. ed. 3d. vol.

2. p. 192. Ant. supìnum, Lin. spec. p. 856. Sibth. et Smith, fl. græc. t. 595. Linària pumila supina lutea, Bauh. pin. p. 213. Tourn. inst. p. 170.—Tab. 827.—Lob. icon. 110.—Clus. hist. 1. p. 321. icon. Plant pubescent. Leaves glaucous, green, 5-6 lines long. Corolla about the size of those of *L. vulgàris*, yellow; palate often marked with 2 brown lines or dots, bearded with white hairs; spur length of corolla, marked with blackish green stripes; middle lobe of the lower lip cut a little. Capsule obovate-globose, a little depressed at top.

Var. β, Pyrenàica (Dub. bot. gal. 1. p. 345. Chav. antirrh. p. 161.) lower leaves linear-lanceolate; tops of branches and calyxes beset with glandular hairs; flowers larger. ♃. F. Native of the Pyrenees. L. Pyrenàica, D. C. fl. fr. 3. p. 587, and 5. p. 408. icon. rar. gall. 1. t. 11. Hoffm. et Link, fl. port. p. 249. Spreng. syst. 2. p. 294, exclusive of the syn. of Forsk. et Merat. Ant. Pyrenàicum, Ramond, pyr. ined. ex D. C. Pers. ench. 2. p. 156. Ant. versícolor, Lapeyr. ex Benth, cat. pyr. p. 96, but not of Lin. Ant. glaúcum, Lapeyr. abr. p. 352, but not of Lin. nor Thore. Ant. supìnum, *β*, et *γ*, Lapeyr. abr. p. 252. Ant. dùbium, Vill. dauph. 2. p. 437.

Var. γ, marítima (Dub. l. c. Chav. l. c.) leaves generally verticillate; calycine segments ovate-oblong, much shorter than the capsule. ♃. F. Native of the west of France, and Lower Britany. L. marítima, D. C. fl. fr. 5. p. 408. icon. rar. gall. 1. t. 12, but not of Rchb. Ant. marítimum, Poir. dict. suppl. 4. p. 23.

Var. δ, glaucophýlla (Chav. l. c.) leaves linear-lanceolate, glaucous: lower ones 4 in a whorl. ♃. F. Native of Portugal, in the province of Traz dos Montes.

Trailing Toad-Flax. Fl. June, Sept. Clt. 1728. Pl. dec.

79 L. alpi`na (D. C. fl. fr. 3. p. 590. Willd. enum. p. 641. Chav. antirrh. p. 163.) quite glabrous, glaucous, diffuse; leaves linear, or linear-lanceolate, thickish, 4 in a whorl; flowers disposed in subcapitate racemes; segments of calyx linear, acute. ♃. F. Native of Switzerland, in gravelly places, and naked parts of the Alps, even to the limits of the snow; Alps of Jura; higher Pyrenees; South of Italy, on the higher mountains of Abruzzo; Austria; Transylvania. Ant. alpìnum, Lin. spec. p. 856. Jacq. austr. 1. t. 58. Curt. bot. mag. t. 207.—Manget. pharm. 2. p. 567. t. 15.—Tabern. 1208. icone. Leaves thickish, 3-5 lines long, usually leaning to one side, obtuse. Corolla fine violet, or purplish blue, rarely white; palate of a deep copper colour, seldom white; spur equal in length to the corolla, sometimes straight, and sometimes incurved, acute. Capsule dehiscing by 6 valves.

FIG. 47.

Var. β, erécta (Chav. antirrh. p. 163.) branches stem-formed, erect; leaves narrower, and more distant; flowers generally pale. ♃. H. Native of the Alps of Jura and Switzerland.

Alpine Toad-Flax. Fl. June, Nov. Clt. 1570. Pl. proc.

* * *Seeds reniform, or angular; testa wrinkled, or scrobiculate.*

80 L. Hæla`va (G. Don. in Loud. hort. brit. p. 249. Chav. antirrh. p. 164.) plant diffuse, glaucescent, branched; leaves linear, thickish: lower ones 3 in a whorl: superior ones alternate; flowers on short pedicels; bracteas deflexed; segments of the calyx oblong, acutish, ciliated, widening at last. ⊙. H. Native about Cairo, in deserts; and near Alexandria. Ant. Hælàva, Forsk. fl. ægypt. p. 111. Vahl, symb. 2. p. 66. Root yellowish. Plant glabrous. Flowers 2-4 together at the tops of the branches. Bracteas often ciliated. Pedicels more or less hairy. Corolla sulphur coloured, or bluish violet; palate copper coloured, or orange; spur straight, acute, longer than the corolla, and paler. Capsule dehiscing by 6 teeth at apex. Seeds reniform, scrobiculate. The specific name is an alteration of the Arabic name of the plant *Halàoah*.

Hælava Toad-Flax. Fl. July, Aug. Clt. 1803. Pl. proc.

81 L. laxiflòra (Desf. fl. atl. 2. p. 45. t. 138. Chav. antirrh. p. 165.) glabrous, decumbent, or ascending; leaves linear, glaucous: lower ones 4 in a whorl; the rest alternate; flowers on long pedicels; bracteas deflexed, much shorter than the pedicels; segments of the calyx ovate-lanceolate. ⊙. H. Native about Algiers, in corn-fields. Ant. laxiflòrum, Willd. spec. 3. p. 242. Viv. fl. libyc. p. 33. ? Branches decumbent at the base, and furnished with surculi. Leaves ½ an inch long, obtuse. Corollas size of those of *L. alpìna*, pale blue, or white; upper lip elongated; spur straight, nearly twice as long as the corolla; palate rather villous. Capsule dehiscing by 6 teeth at apex. Seeds angular, wrinkled.

Loose-flowered Toad-Flax. Pl. ¼ to ½ foot.

* * * *Seeds obliquely oval, attenuated at the base, convex on one side, and concave on the other, girded by a narrow margin; testa smooth, or tubercled.* (Chav. antirrh. t. 5. f. 35.)

82 L. Candóllei (Chav. antirrh. p. 165.) clothed with clammy down, procumbent, or ascending; leaves oblong-lanceolate, or ovate-lanceolate, acutish: lower ones 3-4 in a whorl; the rest alternate and opposite; flowers few, disposed in a subcapitate raceme; calycine segments ovate, acutish. ⊙. H. Native of the West of France, on rocks by the sea-side. L. saxátilis, D. C. fl. fr. 3. p. 590, and 5. p. 409. icon. rar. gall. p. 5. t. 13, but not of Lin. under *Antirrhìnum*, nor of Link, in *Flore Portugaise*. Branches glabrous at the base, and almost leafless, but downy and leafy at top. Leaves 2-3 lines long, rather downy. Corolla yellow, with a short spur; palate marked by 2 dots; lobes of upper lip obtuse.

De Candolle's Toad-Flax. Fl. June, Sept. Clt. 1819. Pl. procumbent.

83 L. arena`ria (D. C. fl. fr. 5. p. 409. icon. rar. gall. 1. p. 5. t. 14. Chav. antirrh. p. 166.) clothed with clammy down, much branched; lower leaves 4 in a whorl, oblong, obtuse: upper ones usually alternate, linear-lanceolate, acute; flowers few, disposed in racemose spikes, the raceme at length elongating; calycine segments lanceolate-linear, acute, exceeding the capsule. ⊙. H. Native of Britany, in sand by the sea-side, &c. Ant. arenàrium, Poir. suppl. 4. p. 26. Ant. pubéscens, Pers. ench. 2. p. 157, but not of Desf. cat. hort. par. Ant. saxátile, Bonam, pann. prod. p. 69, but not of Lin. Ant. viscòsum, Aubry, prog. morb. an. 9. p. 49, but not of Lin. Linària marítima, minima, viscosa, foliis hirsutis; floribus luteis, Mor. hist. 1. p. 499. Tourn. inst. p. 171. Very like the preceding species, but is much more branched, the leaves narrower, the flowers smaller, the palate of the corolla without dots, and in the whole habit. The plant is generally erect. Corolla small, yellow; spur short; lobes of the upper lip acute, pale coloured.

Sand Toad-Flax. Fl. June, July. Clt. 1823. Pl. procumbent, or erect, ½ foot.

84 L. saxa`tilis (Hoffm. et Link, fl. port. 1. p. 238. t. 40. Chav. antirrh. p. 167.) clothed with clammy down, procumbent; lower leaves 4 in a whorl, almost lanceolate: upper ones alternate, linear-lanceolate, acute; flowers subcapitate; calycine segments narrow-lanceolate, hairy. ♃. H. Native of the

middle and west of Spain, in stony sandy places; and of Portugal, in the province of Traz dos Montes, and near Setuval. L. glutinòsa, Hoffm. et Link, fl. port. 1. p. 238. t. 39, exclusive of all the synonymes. Ant. lagopodioìdes, Lin. fil. suppl. p. 279.? Pers. ench. 2. p. 158.? Ant. Tournefórtii, Poir. suppl. 4. p. 24. Ant. saxátile, Lin. mant. 416, exclusive of the syn. of Moris. amœn. 4. p. 277. spec. p. 835. Pers. ench. 2. p. 157, but not of Bonam. Linària Hispánica tenuifòlia villòsa et viscòsa, Tourn. inst. p. 171. All parts of the plant clothed with glandular hairs. Leaves thickish, 6-8 in a whorl, 6-8 lines long. Corolla yellow; palate marked with 2 fulvous spots, or lines, but sometimes without these spots or lines; spur short, arched, acute. Capsule dehiscing by 4-6 valves. Seeds compressed, blackish, tubercled.

Var. β, stricta (Chav. antirrh. p. 167.) branches erect, firm, simple; leaves strict, adpressed to the branches at the base, and nearly all alternate; flowers smaller. ⊙. H. Native of the province of Segovia.

Stone Toad-Flax. Pl. procumbent.

* * * * *Seeds discoid, orbicular, girded by a narrow margin; disk tubercled.* (Chav. antirrh. t. 5. f. 37.)

85 L. Fontanesia'na (Chav. antirrh. p. 168.) plant ascending, or erect; leaves linear, obtuse, glabrous: lower ones 3-4 in a whorl, the rest alternate; flowers subcapitate; bracteas deflexed; calycine segments ovate-oblong, acute, pilose. ⊙. H. Native of Spain, in Valentia, in sandy places. L. gràcilis, Desf. herb. but not of Spreng. Branches many from the same neck, pubescent at top; branchlets erect. Corollas size of those of *L. supìna*, deep yellow; spur pale coloured, length of corolla; palate glabrous. Capsule dehiscing by 6 valves at apex.

Desfontaines's Toad-Flax. Pl. ascending, ½ to ¾ foot.

86 L. polygonifòlia (Spreng. syst. 2. p. 795. Chav. antirrh. p. 169.) procumbent; leaves ovate-lanceolate, or oblong, glabrous: lower ones 4 in a whorl: superior ones opposite and alternate; flowers disposed in capitate racemes, on short pedicels; calyx oblique, with lanceolate, or linear-lanceolate, acute, rather hispid segments. ⊙. H. Native of Gibraltar. Ant. polygonifòlium, Poir. suppl. 4. p. 26. Branches naked, and downy under the racemes. Flowers few, on downy pedicels. Corolla white, or pale sulphur coloured; palate yellow; spur acute, straightish, about equal in length to the corolla. Capsule dehiscing by 4-6 valves at apex.

Polygonum-leaved Toad-Flax. Pl. procumbent.

87 L. Broussone'tii (Poir. suppl. 4. p. 23. Chav. antirrh. p. 169.) procumbent or ascending; leaves linear or linear-lanceolate: lower ones 4 in a whorl: superior ones alternate and opposite; flowers 2-3, at the tops of the branches; bracteas pendulous, much longer than the pedicels; segments of the calyx linear-oblong, acute. ⊙. H. Native of Barbary; and Portugal about Lisbon. Branches clothed with short glandular down at top; furnished with sterile surculi at the base. Leaves glabrous, 3-6 lines long: those on the floriferous branches the broadest. Calyx glabrous, or slightly downy. Corolla size of those of *L. alpìna*. Capsule dehiscing by 6 valves.

Broussonnet's Toad-Flax. Pl. procumbent.

88 L. pauciflòra (Bonpl. jard. malm. et nav. 1. p. 48. t. 18. Chav. antirrh. p. 170.) quite glabrous, glaucous; leaves linear, acutish: lower ones 4 in a whorl: superior ones alternate; flowers terminal, few; pedicels longer than the bracteas, which are small; segments of the calyx oval, with ciliated margins. ⊙.? H. Native country unknown; but probably of Spain or Portugal. Corolla violaceous, size of those of *L. vulgàris;* lobes of the upper lip narrow; palate white, marked with dark violet spots; spur arched, 3 times longer than the corolla. Bonpland says this species has some analogy with *L. laxiflòra*, Desf., but differs in the larger flowers; but according to Chavannes l. c. it approaches nearest to *L. amethystea*.

Few-flowered Toad-Flax. Pl.

89 L. amethy'stea (Hoffm. et Link, fl. port. 1. p. 253. t. 47. Chav. antirrh. p. 170.) plant ascending, downy at top; leaves almost linear, glabrous: lower ones 4-5 in a whorl: superior ones alternate; calyx oblique, with oblong-ovate, acute segments; racemes few-flowered, rather loose. ⊙. H. Native of Portugal and Spain, in corn-fields. Ant. bipunctàtum, Cav. icon. 1. p. 20. t. 33. f. 1. but not of Lin. nor hort. Ant. élegans, Hort. reg. par. Pers. ench. 2. p. 156. Ant. subalpìnum, Brot. fl. lus. 1. p. 196. Ant. amethýsteum, Lam. dict. 4. p. 353. Brot. fl. lus. 1. p. 196. Willd. spec. 3. p. 197. Branches clothed with short clammy hairs above. Leaves glaucescent, ½ an inch long. Corolla violaceous, and nearly white; palate pale yellow, marked with blue dots; spur purplish, straight, acute, longer than the corolla. Capsule dehiscing by 4-6 valves at apex.

Var. β, flàva (Chav. antirrh. p. 170.) corolla yellow; palate marked with dark purple spots. ⊙. H. Native of Portugal, about Lisbon, near the valley of Alcantara. L. multipunctàta, Hoffm. et Link, fl. port. 1. p. 254. t. 48. Ant. multipunctàtum, Brot. fl. lus. 1. p. 195.

Amethyst-flowered Toad-Flax. Fl. June, July. Clt. 1816. Pl. ½ to 1 foot.

90 L. glau'ca (Spreng. syst. 2. p. 796. Rchb. fl. germ. sect. 2. p. 375. Chav. antirrh. p. 171.) plant glaucous, grey, branched; leaves thickish, obtuse: lower ones linear-oblong, 4 in a whorl, the rest subulate, and for the most part alternate; flowers few, capitellate; calycine segments very short, linear-lanceolate, acute, downy. ⊙. H. Native of Spain, Portugal, and Italy, in fields. L. bipunctàta, var. glaúca, Hoffm. et Link, fl. port. 1. p. 255. Ant. glaúcum, Lin. amœn. 4. p. 277. spec. p. 856. exclusive of the syn. of Buxb. Lam. dict. 4. p. 354. exclusive of the synonymes. Willd. spec. 3. p. 248. exclusive of the syn. but not of Lapeyr. nor Thore. Linària foliis carnosis cinereis, Bauh. pin. p. 213. Tourn. inst. p. 170. Plant elegant, rather downy towards the top. Branches erect or ascending. Leaves 4-6 lines long. Calyxes downy at the base, a little ciliated. Corolla yellow; palate sometimes bipunctate; spur length of corolla, a little arched, pale, striped with violet. Capsule dehiscing by 6 valves.

Var. β, bipunctàta (Chav. antirrh. p. 172.) corolla yellow; the palate marked by 2 dark purple spots; branches and branchlets downy. ⊙. H. Native of the Algarves, between Villanova and Lagoa; also of Spain, about Aranjuez and Madrid. L. bipunctàta, Dum. Cours. bot. cult. ed. 1. vol. 2. p. 93. Ait. hort. kew. ed. 2d. vol. 4. p. 13. exclusive of the syn. of Bauh. Ant. capitellàtum, Lam. dict. 4. p. 358. Ant. glaúcum, Cav. icon. 1. p. 20. t. 33. f. 2. but not of Lin., nor Thore, nor Lapeyr. Ant. bipunctàtum, Lin. spec. p. 853. exclusive of the syn. of Bauh., but not of Cav. nor hort.

Var. γ, multicaúlis (Chav. antirrh. p. 172.) much branched; flowers a little smaller; corolla pale yellow; palate orange-coloured; spur purplish or violet. ⊙. H. Native along with the species; near Mediola, Cambess. L. multicaúlis, Mill. dict. ed. 8th. no. 7. Ait. hort. kew. ed. 2d. vol. 4. p. 14. exclusive of the syn. of Bocc. Spreng. syst. exclusive of the syn. of Brot. et Poir. Ant. trícolor, Pourr. in herb. Desf. Ant. multicaúle, Lin. spec. p. 856. exclusive of the syn. of Bocc. Lam. dict. 4. p. 357. Willd. spec. 3. p. 247. exclusive of the synonymes.

Glaucous Toad-Flax. Fl. June, Aug. Clt. 1800; β. 1749; γ. 1728. Pl. ½ to 1 foot.

91 L. diffu'sa (Hoffm. et Link, fl. port. 1. p. 257. t. 49.

Chav. antirrh. p. 173.) diffuse, downy; leaves linear, flattish: lower ones 3-4 in a whorl: superior ones scattered; flowers distant; segments of the calyx lanceolate, acute. ⊙. H. Native of Portugal, between Abrantes and Punpete. Down clammy. Leaves 6 lines long. Corolla small, blue; palate orange-coloured; spur acute, incurved, longer than the corolla.

Diffuse Toad-Flax. Fl. June, Aug. Clt. 1826. Pl. 1 foot.

† *The affinity of the two following species is uncertain, the capsules being unknown.*

92 L. Pe'rsica (Chav. antirrh. p. 175.) downy; stem erect, branched; leaves ovate-oblong, on short petioles: lower ones opposite: superior ones alternate; flowers distant, nearly sessile; calycine segments large, oblong, obtuse, ciliated. ⊙. H. Native of Persia. Stem branched from the base. Corollas form of those of *L. origanifòlium*, but larger, bluish, and striated with deeper lines; palate dotted; spur short, acute. Capsule not seen.

Persian Toad-Flax. Pl. ½ to 1 foot.

93 L. cæ'sia (D. C. mss. Chav. antirrh. p. 174.) plant glaucous, grey, quite glabrous; leaves linear, very narrow, alternate: those of the surculi somewhat verticillate, crowded; flowers spicately racemose; calycine segments short, lanceolate. ⊙. H. Native of Spain, near Cerro Negro; and on sterile hills about Madrid. Ant. cæ'sium, Lag. exsic. in herb. D. C. Pers. ench. 2. p. 157. Root brown. Branches ascending. Surculi prostrate. Leaves 2-4 lines long, obtuse. Pedicels shorter than the bracteas. Corolla size of those of *L. vulgàris*; palate much bearded. Capsule not seen.

Grey Toad-Flax. Pl. ½ to 1 foot, ascending.

† *Species hardly known.*

94 L. hia'ns (Spreng. syst. 2. p. 794.) leaves linear-lanceolate, 3 in a whorl, or scattered; stem strict, glabrous at top; flowers racemose; throat of corolla gaping; spur very short. ♃. H. Native of the South of Europe. Ant. linarioìdes, Lin. spec. p. 853. L. racemòsa, Steud. nom. Perhaps only a variety of *L. vulgàris*.

Gaping-flowered Toad-flax. Fl. June, July. Clt. 1818. Pl. 1 to 2 feet.

95 L. ocymifòlia (Spreng. syst. 2. p. 793.) lower leaves 4 in a whorl, ovate-oblong: superior ones linear-lanceolate; stem slender, humble, simple, villous, few-flowered; spur very short. ⊙. H. Native of Spain. Ant. ocymifòlium, Pourr. ex Spreng. l. c.

Basil-leaved Toad-Flax. Pl. ½ foot?

96 L. te'nuis (Spreng. syst. 2. p. 795.) leaves 3 in a whorl, and scattered, linear, rather downy; stem slender, simple, few-flowered; calyx hispid; lower lip of corolla 2-lobed; spur elongated. ⊙. H. Native of the North of Africa, in the Great Syrtus. Ant. tènue, Viv. fl. libyc. p. 33.

Slender Toad-Flax. Pl. ½ foot.

97 L. Cauca'sica (Mussin, ex Spreng. syst. 2. p. 790.) leaves scattered, oblong, mucronately toothed, pilose; peduncles axillary, elongated, filiform; calyx green, acute; stem procumbent, very pilose. ⊙. H. Native of Caucasus. Perhaps a variety of *L. spùria*.

Caucasian Toad-flax. Fl. June, Aug. Clt. 1818. Pl. procumbent.

98 L. pro'cera (D. C. hort. monsp. p. 121.) lower leaves verticillate: upper ones scattered, glabrous; stem almost simple; flowers densely racemose; spur exceeding the calyx. ♃. H. Native country unknown. Probably a variety of *L. striàta*.

Tall Toad-Flax. Fl. July, Aug. Clt.? Pl. 3 to 4 feet.

99 L. filifòlia (Lag. ex Spreng. syst. 2. p. 796.) leaves verticillate and crowded, linear-filiform, fleshy; flowers spicate; spur straight, subulate, elongated. ⊙. H. Native of Spain, about Madrid.

Thread-leaved Toad-Flax. Pl. dwarf?

100 L. dianthifòlia (Henk. adumb. pl. hort. hal. ex Chav. antirrh. p. 181.) Nothing is known of this plant but the name.

Pink-leaved Toad-Flax. Pl.?

101 L. polygonifòlia (Hoffm. et Link, fl. port. 1. p. 248. t. 44.) leaves subverticillate and opposite, sessile, ovate, glabrous as well as the prostrate stem; flowers subspicate; calyx hispid. ⊙. H. Native of Portugal.

Polygonum-leaved Toad-Flax. Pl. prostrate.

102 L. rupe'stris (Meyer, verz. pflanz. p. 110.) perennial, glabrous, glaucescent; stems slender, much branched, diffuse; leaves scattered, nearly linear, acutish; racemes few-flowered, loose; calycine segments nearly linear, obtuse, smoothish, much shorter than the corolla; spur subulate, almost erect, rather shorter than the corolla; seeds discoid, winged, very smooth. ♃. H. Native of Caucasus, on rocks at the falls of the Terek, near Darial, at the altitude of 600 to 650 hexapods. Corolla yellow.

Rock Toad-Flax. Pl. diffuse.

Cult. All the species of this genus are elegant, and therefore well fitted for decorating flower borders. They grow well in common garden earth, but prefer a dry sandy soil. The seeds of annual species require only to be sown in the open border, where they are intended to remain. The perennial kinds are readily propagated by division of the root, or by seeds. The *L. alpìna*, *L. supìna*, *L. trístis*, and some others, are well fitted for ornamenting rock-work, or to be grown on dry banks, or in pots, and placed among other alpine plants; these in winter require to be sheltered from the frost, as well as all those marked frame or greenhouse. A great part of the species are readily increased by the surculi, which will strike root readily if planted in sand; and all are to be increased by seed.

VIII. ANARRHI'NUM (from *ανα*, *ana*, without; and *ῥιν*, *rhin*, a snout; in reference to the corolla being without a spur, or furnished with a very short one.) Desf. fl. atl. 2. p. 51. D. C. fl. fr. 3. p. 594. Chav. antirrh. p. 175.—Dodártia species, Mill. dict. 1.—Antirrhìnum species, Lin. gen. Linària species, Tourn. inst. p. 169.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx deeply 5-cleft, cup-shaped at the base, contracted above the middle, incomplete in æstivation; lobes lying over each other at top. Corolla tubular, bilabiate; tube curved; spur very short or wanting; throat open; lobes of the upper lip erect, at length reflexed; lobes of the lower lip spreading, all more or less emarginate, and nearly equal. Stamens 4, fertile, with a short rudiment of a fifth; filaments equal. Anthers reniform, 1-celled from the confluence of the cells, filled with white pollen. Ovarium globose. Style thickened, and capitate at apex; stigma obtuse, conical, subemarginate, half immersed in the top of the style. Capsule chartaceous, compressedly spherical or globose; cells equal; each cell dehiscing by an oblong univalvate pore under the apex; the upper cell usually indehiscent. Seeds oval, small; testa granularly tubercled or muricated.—Biennial or perennial plants, with a slender habit. Radical leaves usually rosulate, rarely wanting; cauline and rameal leaves palmate-parted, or toothed at the apex: superior ones quite entire. Flowers small, beautiful, drooping, disposed in long spike-formed, twiggy, and interrupted racemes.

§ 1. *Corolla spurred. Rameal leaves divided.*

1 A. bellidifòlium (Desf. fl. atl. 2. p. 51. Chav. antirrh. p. 176. t. 10.) glabrous; radical leaves spatulate or obovate-lanceolate, deeply toothed, rosulate: rameal ones deeply 3-7-parted; divisions linear; racemes very slender, elongated. ♂.

H. Native of France, among rubbish, and in humid places; Pyrenees; Piedmont; Portugal; Switzerland; Germany; Syria, near Damascus; and Arabia, on Mount Kurma. Hoffm. et Link, fl. port. 1. p. 226. t. 32. Linària bellidifòlia, Dum. Cours. bot. cult. 3. p. 3. Antirrhìnum, bellidifòlium, Lin. spec. 860. mant. 417.—Hall. helv. no. 342. Dodártia, &c., Mill. dict. ed. 8th. no. 2.—Dodon. pempt. 184. f. 1.—Dalech. hist. lugd. 115. f. 2.—Bauh. prod. p. 106. icone.—Bauh. hist. 3. p. 459. f. 2.—Chabr. sciagr. 481. f. 5. Root fusiform. Bracteas linear. Corolla white or pale blue, variegated with violet; spur slender, acute, arched, very short. Testa of seed muricated.

Daisy-leaved Anarrhinum. Fl. June, Aug. Clt. 1629. Pl. 1 to 1½ foot.

2 A. Durimi'nium (Brot. fl. lus. 1. p. 199. Chav. antirrh. 177.) villous; radical leaves subspatulate, deeply toothed: rameal ones usually tripartite; middle lobe large, lanceolate, more or less denticulated. ♂. H. Native of the North of Portugal, in humid places. A. pubéscens, Hort.? A. hirsùtum, Hoffm. et Link, fl. port. 1. p. 224. t. 33. Linària Lusitánica bellidis folio ampliore et villoso, Tourn. inst. p. 169. Branches erectish, usually fastigiate. Radical leaves pubescent. Bracteas oblong-lanceolate, quite entire. Corollas a little larger than those of the preceding, rather pilose, of a whitish sulphur colour; spur incurved, about equal in length to the tube. Testa of seeds brown, wrinkled. Perhaps only a downy variety of the preceding.

Douro Anarrhinum. Fl. June, Sept. Clt. 1818. Pl. 1 to 1½ foot.

3 A. peda'tum (Desf. fl. atl. 2. p. 51. t. 141. Chav. antirrh. p. 178.) glabrous at bottom, villous above; radical leaves oblong, deeply toothed, pilose, erectish; rameal leaves deeply and palmately 5-9-parted (pedate, Desf.) glabrous: divisions broad-linear, acute; racemes short, tapering upwards. ♂.? H. Native of Algiers, on arid hills. Flowers on short pedicels, somewhat horizontal. Bracteas linear-lanceolate, villous, ciliated. Calyx hairy. Corolla hairy, white; spur short, slender, incurved.

Pedate-leaved Anarrhinum. Pl. 1 to 1½ foot.

§ 2. *Corolla without a spur. Rameal leaves quite entire or toothed.*

4 A. fruticòsum (Desf. fl. atl. p. 52. t. 142. Chav. antirrh. p. 179.) glabrous; stem short, suffruticose, branched; branches elongated, twiggy; lower leaves cuneiform or spatulate, for the most part tridentate at apex: superior ones oblong or oblong-linear, quite entire; raceme elongated, interrupted. ♄. F. Native of Mount Atlas, near Tlemsen, Mascar, and Cafsa. Stem sometimes reduced to a short caudex. Racemes twiggy. Flowers small. Bracteas linear, acute. Corolla white, glabrous. Seeds scabrous from elevated dots.

Shrubby Anarrhinum. Fl. July, Sept. Clt. 1826. Shrub 2 to 3 feet.

Cult. Plants of the most easy culture; except that, if the winter prove severe, they require protection from frost. They are all increased by seeds.

IX. GALVE'ZIA (named by Dombey, after D. Galvez, of Lima.) Domb. mss. Juss. gen. p. 119. but not of Ruiz. et Pav.—Dodártia species, Ruiz. et Pav. prod. fl. per. p. 56. Agassízia, Chav. antirrh. p. 180. t. 11.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx 5-parted; segments ovate-oblong, acute, with a quincuncial æstivation. Corolla tubular, bilabiate; tube elongated, subcylindrical, ventricose at the base; lobes of the upper lip erect, ovate; of the lower lip spreading, ovate-roundish, nearly equal. Stamens 4, fertile, didynamous, without any rudiment of a fifth; filaments terete; anthers 2-celled, replete with yellow pollen. Ovarium roundish; style terete, thickened at top; stigma emarginate, somewhat 2-lobed. Capsule globose, ventricose, a little depressed; each cell opening by an irregular hole towards the apex. Seed numerous, oblong, truncate, small, fixed to a round placenta; testa ribbed lengthwise, engraven by small pits.—Plant suffruticose. Leaves feather-nerved, petiolate, alternate and opposite, quite entire. Flowers beautiful, axillary, on long pedicels.

1 G. Lime'nsis (Domb. mss. ex Juss. gen. p. 119.) ♄. G. Native of Peru, near Lima. Agassízia Liménsis, Chav. antirrh. p. 180. t. 11. Plant much branched. Branches clothed with glandular down. Leaves ovate-lanceolate, referrible in form to those of *Mýrtus commùnis*, 1 to 1½ inch long, mucronate, downy: lower ones usually opposite: upper ones alternate, and more distant: those on the branches are nearly all opposite, more approximate, and much smaller. Pedicels bent above the middle. Corolla scarlet, 6-8 lines long, downy. Filaments furnished with glandular hairs, especially at base and apex. Anthers glabrous or downy.

Lima Galvezia. Shrub 1 to 3 feet.

Cult. This is a very curious and rather pretty shrub. It will grow well in light rich soil; and may be propagated by cuttings and seeds.

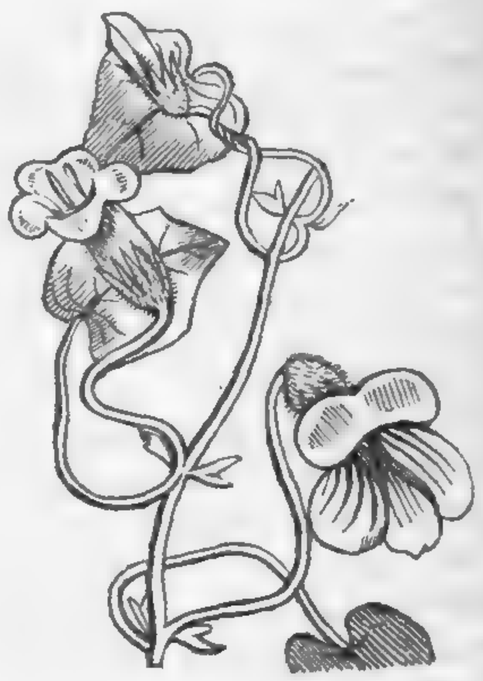
X. MAURA'NDYA (named in honour of Dr. Maurandy, the botanical professor at Carthagena.) Ortèga, nov. gen. hort. matr. dec. 11. p. 21. Jacq. schoenbr. 3. p. 20. t. 288. H. B. et Kunth, nov. gen. amer. 2. p. 291. Chav. antirrh. p. 77.—Ustèria, Cav. icon. 2. p. 15. but not of Willd.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx 5-parted, with a quincuncial æstivation. Corolla personate; tube obscurely tetragonal, saccate at the base, ventricose downwards; lobes roundish or ovate, emarginate or entire; those of the upper lip erect, and those of the lower lip spreading; palate closing the throat, or filled up by 2 plicæ, which are drawn out nearly to the base of the tube. Stamens 4, fertile, didynamous, with the short rudiment of a fifth. Filaments of fertile stamens villous at the base, and dilated; anthers 2-celled; cells oblong. Ovarium ovoid; style subulate; stigma obtuse, emarginate. Capsule ovate-globose, oblique at the base, rather compressed, membranous; each cell dehiscing at top by 5 reflexed valves. Seeds nearly ovate, truncate at apex; testa black, furnished with tubercles.—Climbing, evergreen, suffruticose herbs; branches slender, elongated. Leaves alternate, on long petioles; petioles twining; limb cordate, 5-7-nerved; nerves palmate. Flowers large, showy, solitary from the axils of the leaves, on long twining pedicels.

§ 1. *Throat of corolla pervious.*

1 M. Barclaya'na (Lindl. bot. reg. t. 1108. Sweet, fl. gard. icone. Chav. antirrh. p. 77.) leaves cordate, acuminated: young ones somewhat hastate; calycine segments linear-lanceolate, very acute, clothed with glandular hairs. ♄. ◡. G. Native of Mexico. Branches and leaves glabrous. Lower and middle leaves obscurely 5-lobed; lobes acuminated. Corolla 1½ to 2 inches long; tube downy, greenish, curved; lobes ovate, roundish, emarginate, of a violet purple colour. Filaments subclavate at top, furnished with short glandular hairs. Capsule hidden by the calyx, (fig. 48.)

FIG. 48.



Barclay's Maurandya. Fl. Year. Clt. 1825. Sh. climbing.

2 M. SEMPERFLÒRENS (Ort. nov. gen. hort. madr. dec. 11. p. 21.) leaves for the most part cordate-hastate; calycine segments lanceolate-subulate, glabrous. ♄. ◡. G. Native of Mexico. Jacq. hort. schœnbr. 3. p. 20. t. 288. Curt. bot. mag. 460. Chav. antirrh. p. 78. M. scándens, Pers. ench. 2. p. 160. Ustèria scándens, Cav. icon. 2. p. 15. t. 116. Andr. bot. rep. t. 63. Plant quite glabrous. Margins of calycine segments rather scarious. Corolla 1½ inch long, pale violet or reddish, with emarginate lobes; tube variously furrowed; limb violaceous, or purplish-violet; plicæ white, occupying the place of the palate. Filaments rather villous at the base. Capsule about equal in length to the calyx.

Ever-flowering Maurandya. Fl. Year. Clt. 1796. Shrub climbing.

§ 2. *Palate prominent in the throat of the corolla.*

3 M. ANTIRRHINIFLÒRA (Willd. hort. berol. 2. t. 83. Chav. antirrh. p. 78.) leaves for the most part triangularly hastate; calycine segments long, triangular, acute, quite glabrous. ♄. ◡. G. Native of Mexico, among bushes between Salamanca and the valley of St. Jago, at the altitude of 930 hexapods. Sims, bot. mag. 1643. H. B. et Kunth, nov. gen. amer. 2. p. 291. M. personàta, Sesse, mss. Lag. elench. hort. matr. 1805. nov. gen. 19. Ustèria antirrhiniflòra, Poir. suppl. 5. p. 105. Plant quite glabrous. The side lobes of leaves or auricles acute, sometimes unidentate towards the petioles. Corolla hardly an inch long, bluish, glabrous, with quite entire lobes; palate straw-coloured, furnished with short hairs, and marked by brown lines. Capsule shorter than the calycine segments; one of the cells often smaller than the other.

Snapdragon-flowered Maurandya. Fl. Year. Clt. 1814. Shrub climbing.

Cult. This, like the next genus, is composed of elegant, climbing, evergreen, ever-flowering, herbaceous, or suffruticose plants; for which the species are very generally cultivated in gardens. A light rich soil suits them best; and they are readily increased by seeds, which generally ripen in abundance; or by young cuttings, which strike root readily under a hand-glass. All the species do very well during summer, and flower freely planted against a wall in the open air, or at the bottom of trellis-work, to which they should be trained; but in winter they require the protection of a greenhouse.

XI. LOPHOSPE'RMUM (from λοφος, *lophos*, a crest; and σπερμα, *sperma*, a seed; in reference to the seed being furnished with a crest-like wing, which is emarginate at both ends.) D. Don, in. Lin. trans. 15. p. 349. Chav. antirrh. p. 75. t. 1. Sweet, fl. gard. n. s. t. 68. and 75.—Beslèria species, Sesse et Mocino, mss.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted; segments large, ovate-lanceolate, with a quincuncial æstivation. Corolla bilabiate, tubular; tube campanulate, a little curved, contracted above the base, elongated, gibbous forward at the base, dilated at the throat, and furnished with 2 rows of interwoven yellow hairs; upper lip almost erect; lower lip spreading. Stamens 4, didynamous, with a short rudiment of a fifth. Filaments of fertile stamens terete, glandular at top, and clothed with glandular hairs and scales at the base; cells of anthers elliptic. Ovarium clothed with long, capitate, white hairs. Style glabrous; stima bilamellate. Capsule globose, covered by the calyx, bursting irregularly under the apex. Seeds very numerous, ovate-truncate, tubercled, black, fixed to large placentas, girded by a membranous reticulate margin, which is emarginate at both base and apex, referrible in form to a crest.—Evergreen, perennial, herbaceous, or suffruticose climbing plants. Stems flexuous; branches alternate, Leaves usually alternate, petiolate, lobed. Flowers large, pendulous, axillary, solitary, showy, on long, twisted, terete pedicels.

1 L. SCA'NDENS (D. Don, in Lin. trans. 15. p. 349.) leaves cordate, acuminated, deeply serrated, hairy, 5-nerved; peduncles bractless; stem herbaceous. ♄. ◡. G. Native of Mexico. Beslèria scándens, Sesse et Mocino, mss. Branches clothed with soft viscid hairs. Leaves 3-4 inches long, and 2-3 broad. Flowers pendulous. Peduncles and calyx hairy. Corolla large, showy, purplish-violet.

Climbing Lophospermum. Clt. 1834. Shrub climbing.

2 L. ERUBE'SCENS (D. Don, in Sweet, fl. gard. n. s. t. 68.) branches clothed with articulated, short, viscid hairs; leaves cordate, more or less distinctly 5-lobed, downy; middle lobe large: lobes mucronate, crenated or deeply serrated: pedicels villous, bractless. ♄. ◡. G. Native of Mexico, about Jalapa. L. scándens, Hook. bot. mag. 3037. and 3038. Sweet, fl. gard. n. s. t. 68. Lindl. bot. reg. 1381. Chav. antirrh. p. 75. t. 1. but not of D. Don. Leaves large, canescent. Calycine segments entire, and sometimes furnished with one or two teeth: the 2 outer ones the largest. Corolla large, showy, rose-coloured, beset with capitate hairs; tube whitish beneath, marbled in various ways inside; lobes of limb generally subemarginate. Capsule downy.

Reddish-flowered Lophospermum. Fl. June, Oct. Clt. 1830. Shrub climbing.

3 L. ATROSANGUI'NEUM (Zucc. abhandl. acad. wiss. 1829, 1830. p. 305. t. 13.) leaves cordate, acuminated, coarsely and dentately serrated; calyx semiquinquefid, spreading; corolla tubular; filaments simple. ♄. ◡. G. Native of Mexico. L. rhodochìton, D. Don, in Sweet, fl. gard. n. s. t. 250. Rhodochìton volùbile, Zucc. Lindl. bot. reg. t. 1755. Plant clothed with shining jointed hairs. Young branches purple. Leaves 5-nerved, slimy to the touch, purple beneath, about 3 inches long, and nearly the same in breadth; petioles purple. Flowers pendulous. Peduncles frequently twisted, finally becoming glabrous and shining, as well as the calyx. Calyx spreading, pale purple, deciduous to the middle. Corolla funnel-shaped, of a dark purple colour, clothed with white glandular hairs; throat cylindrical, hardly ventricose; lobes of limb oval, connivent, obtuse: the lower one the longest. Capsule spherical.

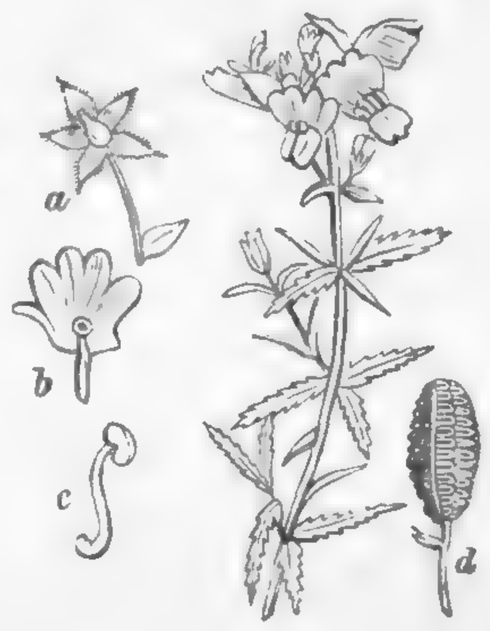
Red-coated Lophospermum. Fl. May, Aug. Clt. 1832. Shrub climbing.

Cult. For culture and propagation see *Maurándya*, above.

XII. NEME'SIA (a name applied by Dioscorides to a kind of Antirrhìnum.) Vent. malm. p. 41. t. 41. Pers. ench. 2. p. 159.—Antirrhìnum, species of Lin. and Thunb.—Linária species, Spreng.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla personate, furnished with a spur at the base; upper lip 4-cleft: lower one emarginate; palate prominent. Stamens 4, didynamous. Capsule compressed, truncate, oblong, 2-celled, 2-valved; valves keeled. Seeds numerous, linear, girded by a membrane.—Annual or perennial herbaceous plants; with opposite or verticillate leaves, and terminal racemes of flowers. Corollas usually purple.

FIG. 49.



1 N. FÆ'TENS (Vent. malm. l. c.) leaves opposite, lanceo-

late, acute, denticulated: upper ones entire, glabrous; flowers in terminal bracteate racemes. ♄. G. Native of the Cape of Good Hope. Antirrhìnum frùticans, Thunb. fl. cap. 2. p. 483. Linària frùticans, Spreng. syst. 2. p. 789. Corolla nearly white; palate yellow, (fig. 49.)

Stinking Nemesia. Fl. April, Sept. Clt. 1798. Shrub 1 to 2 feet.

2 N. linea'ris (Vent. l. c. Pers. ench. 2. p. 159.) leaves opposite, linear, quite entire; flowers disposed in corymbose racemes. ♃. ? G. Native of the Cape of Good Hope. Corollas of a coppery red colour.

Linear-leaved Nemesia. Pl. 1 foot?

3 N. chamædrifòlia (Vent. l. c.) glabrous; leaves opposite, ovate, serrated, petiolate; peduncles axillary, 1-flowered. ♃. G. Native of the Cape of Good Hope. Antirrhìnum macrocárpum, Ait. hort. kew. 2. p. 335. Willd. spec. 3. p. 249. Ant. scàbrum, Thunb. prod. p. 1051. fl. cap. 2. p. 483. Linària scàbra, Spreng. syst. 2. p. 792. Corollas purple? Stem tetragonal. Leaves an inch long. Peduncles shorter than the leaves.

Germander-leaved Nemesia. Pl. 1 to 2 feet.

4 N. bicórne (Pers. ench. 2. p. 159.) leaves opposite, ovate-oblong, serrated; stem erect; flowers racemose; capsule 2-horned, subdivaricate. ⊙. G. Native of the Cape of Good Hope. Antirrhìnum bicórne, Lin. amœn. acad. 6. afr. p. 17. syst. 14. p. 559. Thunb. prod. p. 105.—Burm. afr. 211. t. 75. f. 3. Leaves numerous. Stem erect.

Two-horned-capsuled Nemesia. Fl. July, Aug. Clt. 1774. Pl. 1 to 2 feet.

5 N. barba'tum; leaves opposite, ovate, serrated; stem erect, herbaceous; peduncles axillary, 1-flowered; nectary didymous; corolla bearded. ⊙. ? G. Native of the Cape of Good Hope. Antirrhìnum barbàtum, Thunb. fl. cap. 2. p. 482. prod. p. 105.

Bearded Nemesia. Pl.

6 N. Thunbe'rgii; leaves opposite, linear, glabrous; branches elongated; racemes terminal.—Native of the Cape of Good Hope. Antirrhìnum Capénse, Thunb. fl. cap. 2. p. 481. Linària Capénsis, Spreng. syst. 2. p. 796.

Thunberg's Nemesia. Pl. 1 to 2 feet.

7 N. pa'tens; leaves opposite, nearly sessile, lanceolate, acute, nearly entire, glabrous; flowers terminal, solitary. ♃. G.? Native of the Cape of Good Hope. Antirrhìnum pàtens, Thunb. fl. cap. 2. p. 482. Linària pàtens, Spreng. syst. 2. p. 793.

Spreading Nemesia. Pl.?

8 N. denta'ta; leaves sessile, linear, toothed, alternate; flowers racemose, on long peduncles, terminal; spur obtuse; stem nearly simple. ⊙. G. Native of Monomotapo. Antirrhìnum dentàtum, Poir. suppl. 4. p. 22. Flowers pale purple.

Toothed-leaved Nemesia. Pl. 1 to 1½ foot.

Cult. For culture and propagation see *Dopàtrium*, p. 536.

XIII. LEUCOPHY'LLUM (from λευκος, *leukos*, white; and φυλλον, *phyllon*, a leaf; in reference to the whiteness of the leaves.) Humb. et Bonpl. pl. æquin. 2. p. 95. t. 109. H. B. et Kunth, nov. gen. 2. p. 361.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, equal. Corolla tubularly campanulate, exceeding the calyx; limb bilabiate; upper lip 2 lobed: lower one trifid; the middle segment the broadest; palate convex? spotted. Stamens 4, didynamous, inclosed; cells of anthers divaricate. Stigma undivided. Capsule 2-celled; cells many-seeded.—A much branched shrub, densely clothed with white tomentum. Leaves alternate, quite entire, or almost so. Flowers axillary, solitary, violaceous.

1 L. ambi'guum (Humb. et. Bonpl. l. c.) ♄. G. Native of Mexico, near Actopan, at the altitude of 1050 hexapods. Branches scattered, retroflexed. Leaves elliptic, obtuse, acutish at the base, 6-11 lines long. Corolla violaceous; palate spotted with orange colour.

Ambiguous Leucophyllum. Shrub 5 to 8 feet.

Cult. For culture and propagation see *Galvèzia*, p. 532.

Tribe III.

GRATIO'LEÆ (this tribe contains plants agreeing with the genus *Gratiòla* in the characters given below.) D. Don, in edinb. phil. journ. vol. 19. july, 1835. Calyx usually tubular, 5-cleft. Corolla tubular, ventricose, sometimes personate; limb 5-lobed, bilabiate, or nearly equal. Stamens 4, didynamous, inclosed, sometimes 2 of which are sterile; cells of anthers diverging, distinct at apex. Stigma usually bilamellate. Capsule often membranous, rarely subunilocular. Dissepiment membranous, formed by the inflexed margins of the valves; placentas spongy, at length free. Seeds with a somewhat crustaceous testa. Albumen fleshy. Embryo almost the length of the seed. Herbs, rarely under-shrubs, natives of the temperate parts of the globe; or in marshy places within the tropics. Leaves opposite or verticillate. Flowers axillary or terminal, usually yellow or purple.

§ 1. *Stamens 4, 2 of which are sterile.*

XIV. GRATIOLA (from *gratia*, grace; on account of the supposed medicinal good qualities.) R. Br. prod. p. 435. Lam. ill. 116. f. 1. Gratìola species of Lin. and other authors.

Lin. syst. *Diándria, Monogýnia.* Calyx 5-parted. Corolla tubular, bilabiate; upper lip 2-lobed: lower one trifid, equal. Stamens 4, 2 of which bear anthers, and 2 or 3 are sterile. Stigma bilamellate. Capsule 4-valved; dissepiment contrary, separable but slowly from the inflexed edges of the valves.—Glabrous herbs, with opposite leaves, and axillary, usually bibracteate flowers.

* *Species natives of Europe.*

1 G. officina'lis (Lin. spec. 24.) glabrous; leaves lanceolate, serrated, somewhat 3-nerved; flowers pedunculate. ♃. H. Native of France, Switzerland, Denmark, &c., in humid places. Oed. fl. dan. t. 363. Hayne, term. bot. t. 1. f. 47. Bull. t. 130.—Plenck. off. t. 15.—Sabb. hort. rom. 2. t. 87.—Mor. hist. 2. p. 479. sect. 5. t. 8. f. 7.—Riv. mon. t. 157.—Blackw. t. 411. Root creeping, articulated. Stem tetragonal above. Leaves decussate, 3-5-nerved, sometimes entire. Corollas whitish or pale yellow, striated with purple. Fertile filaments bearded. Calyx often 7-cleft. Capsule ovate, acuminated. The whole plant has a strong, bitter, nauseous taste, and is much recommended by several eminent medical writers in cases of dropsy. It is a powerful cathartic, but is said generally to occasion vomiting. On account of its bitterness cattle reject it; insomuch that Haller assures us that there are meadows about Yverdun entirely useless from the abundance of it.

Officinal Hedge-Hyssop. Fl. May, Aug. Clt. 1568. Pl. 1 foot.

2 G. linifòlia (Vahl, enum. 1. p. 89.) glabrous; leaves lanceolate-linear, quite entire; flowers pedunculate. ♃. H. Native of Portugal. G. officinàlis, Brot. fl. lus. 1. p. 15. Hoffm. et Link, fl. port. p. 225. t. 31. Stems ascending, branched a little. Leaves stem-clasping, acute, 3-nerved. Corolla purplish-white.

Flax-leaved Hedge Hyssop. Pl. ½ foot.

* * *Species natives of America.*

3 G. au'rea (Pursh, fl. amer. sept. 1. p. 12.) glabrous; leaves broad-linear, sessile, obscurely toothed, 3-nerved, dotted above; peduncles hardly the length of the leaves. ♃. H. Native of New England, New York, and Carolina, in marshy places. Lodd. bot. cab. 1399. G. Caroliniénsis, Pers. ench. 1. p. 14. G. officinàlis, Michx. fl. amer. 1. p. 6. Stem bisulcate, terete, branched at the base. Leaves half stem-clasping. Calycine segments glandular at top, equal. Corolla golden yellow, downy.

Golden-flowered Hedge Hyssop. Fl. May, June. Clt. 1820. Pl. prostrate.

4 G. Peruvia'na (Vahl, enum. p. 89. Willd. enum. 1. p. 105.) glabrous; leaves ovate-oblong, somewhat 5-nerved, serrated; flowers sessile. ♃. G. Native of Peru, Chili, and South of Brazil. Stemòdia glàbra, Spreng. syst. 2. p. 811. —Feuill. per. 3. p. 23. t. 17. Very like *G. officinàlis*, but the leaves are shorter, the flowers smaller, and white. Capsule size of a pepper berry.

Peruvian Hedge Hyssop. Pl. ½ to 1½ foot.

5 G. Florida'na (Nutt. in journ. acad. sc. phil. 7. p. 103.) glabrous, erect; leaves lanceolate, obsoletely denticulated, acutish; peduncles longer than the leaves; flowers rather large, with emarginate segments. ☉. H. Native of Florida. Leaves narrower than those of *G. Virgínica*, which it closely resembles, but the flowers are much larger, of a pale yellow colour. The calyx and bracteas are small.

Florida Hedge Hyssop. Pl. ½ to 1 foot.

6 G. Virgi'nica (Lin. mant. 317. spec. p. 25.) glabrous; leaves oval or lanceolate, attenuated at bottom, remotely-toothed, nerved; peduncles very short. ♃. H. Native from Pennsylvania to Carolina. Pursh. fl. amer. sept. 1. p. 12. G. acuminàta, Vahl, enum. 1. p. 92, exclusive of the synonymes. G. neglécta, Torr. cat. pl. new york, p. 89. Conòbea boreàlis, Spreng. new entd. 2. p. 205. Stem terete, rooting at the joints. Calyx equal. Corolla yellowish white. Capsule acuminated, longer than the calyx.

Virginian Hedge Hyssop. Fl. Aug. Clt. 1759. Pl. creeping, ½ to 1 foot.

7 G. quadridenta'ta (Michx. fl. bor. 1. p. 6. Pursh, fl. 1. p. 12.) pubescent; leaves linear-lanceolate, remotely few-toothed; peduncles length of leaves. ♃. H. Native of Carolina, in sandy fields. G. ramòsa, Walt. fl. car. p. 61. G. Virgínica, Lam. ill. 1. p. 54. t. 16. f. 2. Vahl, enum. 1. p. 89. Habit of *G. officinàlis*, but all the parts are smaller. Stems terete. Flowers bractless. Calyx unequal. Corolla with a yellowish tube, streaked with purple; limb white. Capsule 3 times shorter than the calyx.

Four-toothed-leaved Hedge Hyssop. Fl. May, Aug. Pl. procumbent.

8. G. pilòsa (Michx. fl. bor. amer. 1. p. 95.) stem erect, pilose; leaves cordate-oblong, remotely denticulated, rather pilose; flowers nearly sessile. ♃. H. Native of Carolina and Georgia, in watery places. Vahl, enum. 1. p. 94. G. Peruviàna, Walt. fl. car. p. 62. Stem terete. Leaves half stem-clasping. Calyx unequal. Corolla white, tinged with purple, villous inside.

Pilose Hedge Hyssop. Pl. 1 to 2 feet.

9 G. tetrago'na (Elliott, car. p. 15.) glabrous; stems procumbent, tetragonal; leaves lanceolate, sparingly toothed; segments of calyx nearly equal. ♃. H. Native of South Carolina, in ditches. Flowers bractless. Corolla white, streaked. Capsule length of calyx.

Tetragonal-stemmed Hedge Hyssop. Pl. procumbent.

10 G. megaloca'rpa (Ell. car. 1. p. 13.) leaves lanceolate, serrated, downy; peduncles opposite, longer than the leaves; calycine segments linear, as long as the capsule, which is globose. ♃. H. Native from Pennsylvania to Carolina, in ditches and pools. G. acuminàta, Pursh, fl. 1. p. 12, exclusive of the synonymes. Flowers pale yellow. Capsule larger than those of other species.

Large-capsuled Hedge Hyssop. Pl.

11 G. sphæroca'rpa (Elliot, car. p. 14.) glabrous; stem procumbent, terete; leaves obovate, attenuated at the base, serrated; capsule globose. ♃. H. Native of South Carolina. Perhaps a species of *Nelsònia*. Flowers nearly sessile. Sterile filaments wanting.

Round-fruited Hedge Hyssop. Pl. procumbent.

* * * *Species natives of New Holland.*

12 G. latifòlia (R. Br. prod. p. 435.) leaves ovate, obtuse, obsoletely crenated, and quite entire; flowers sessile. ♃. G. Native of New South Wales, about Port Jackson; and of Van Diemen's Land. Corollas white. ?

Broad-leaved Hedge Hyssop. Fl. July, Aug. Clt. 1822. Pl. 1 foot.

13 G. pube'scens (R. Br. prod. p. 435.) clothed with glandular pubescence; leaves lanceolate, toothed; flowers nearly sessile. ♃. G. Native of New South Wales; south coast of New Holland and Van Diemen's Land.

Downy Hedge Hyssop. Pl.

14 G. peduncula'ta (R. Br. l. c.) clothed with powdery down; leaves lanceolate, toothed above, the middle hardly longer than the peduncles. ♃. G. Native of New South Wales, about Port Jackson.

Peduncled Hedge Hyssop. Pl. 1 foot.

Cult. The species of *Gratiòla* are free growing plants, but require a moist soil; and they are readily increased by dividing at the root. Those species, natives of New Holland and North America, require protection in winter, by placing them in a frame or green-house.

XV. BEYRI'CHIA (named after Charles Beyrich, who brought many living plants from Brazil to the Continent of Europe.) Cham. et Schlecht, in Linnæa. 3. p. 21.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx deeply 5-parted; segments unequal, the hind one small; the 2 lateral ones larger than the one in front. Corolla tubular, bilabiate. Stamens 4, the 2 posterior ones fertile, the 2 anterior sterile. Style thickened at apex; stigma cup-shaped, terminal. Capsule 2-celled, 2-valved, with a septicidal dehiscence; placenta central, at length free. Seeds numerous, scrobiculate.—Herbs beset with articulated hairs, with almost opposite leaves; tetragonal stems. Flowers solitary, axillary, opposite, spicate; calyx tribracteate.

1 B. ocymoi'des (Cham. et Schlecht, in Linnæa, 3. p. 21.) downy; leaves ovate, serrated from the middle to the top; rameal ones elliptic, smaller; spike dense, leafy; both lips nearly equal, entire; fertile filaments exserted. ♃. S. Native of Brazil, in the province of Rio Janeiro, in humid places.

Bazil-like Beyrichia. Pl. 1½ foot.

2 B. ajugoi'des (Benth. scroph. ind. p. 9.) flowers spicate; upper lip of corolla retuse: lower one tricrenate; genitals inclosed. ♃.? S. Native of Brazil, in the province of Bahia.

Ajuga-like Beyrichia. Pl. 1 foot.?

3 B. Scutellarioìdes (Benth, l. c.) downy; leaves small, petiolate; flowers axillary; upper lip of corolla bifid: lower one trifid. ♃.? S. Native along with the preceding.

Skull-cap-like Beyrichia. Pl. 1 foot.?

4 B. villòsa (Benth, l. c.) villous all over; leaves nearly sessile; flowers axillary; upper lip of corolla emarginate, lower one shortly trifid. ♃.? S. Native along with the preceding.

Villous Beyrichia. Pl. 1 foot.

Cult. For culture and propagation see *Montìra* below.

XVI. ACHETA'RIA (meaning unknown to us.) Cham. et Schlecht, in Linnæa, 2. p. 566.—Herpéstis species, Spreng.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx bibracteate, 5-cleft, the fifth segment large; the rest linear and equal. Corolla tubular, ringent; upper lip entire, erect; lower one longer, and 3-lobed. Stamens 2, fertile in front, and inclosed, without any rudiments of sterile ones. Style inclosed; stigma drooping, emarginate. Capsule girded by the permanent calyx, 2-celled, with a septicidal dehiscence; valves bipartite; placenta occupying the whole dissepiment, permanent, at length free. Seeds irregularly angular, scrobiculate.—Herb erect, hairy, glandular, with the habit of *Melissa Calamíntha*, with opposite leaves. Stems obsoletely tetragonal. Flowers axillary, opposite at the tops of the stems. Corolla pilose and glandular.

1 A. Sprenge'lii (Cham. et Schlecht, l. c.) ♃.? S. Native of tropical Brazil, Sello. Herpéstis erécta, Spreng. syst. 2. p. 801.

Sprengel's Achetaria. Pl. 3 to 4 feet.

Cult. For culture and propagation see *Montìra* below.

XVII. MONTI'RA (named by Aublet after M. de Monti, of Cayenne.) Aubl. guian. 2. p. 637. t. 257. Juss. gen. p. 122. ed. Usteri. p. 137.

Lin. syst. *Diándria, Monogýnia.* Calyx 5-parted, spreading. Corolla funnel-shaped; limb spreading, 5-cleft, equal. Stamens 4, didynamous, all fertile; anthers oblong. Ovarium didymous. Stigma furrowed. Capsule didymous, 2-celled, 4-valved, many-seeded. Seeds fixed to the inner angle of the cells.—Herbs with tetragonal stems, opposite leaves, and terminal 1-3-flowered peduncles.

1 M. Guiane'nsis (Aubl. l. c.) ⊙. S. Native of Guiana. Stem quadrangular, marginate. Leaves oval-oblong, acute, glaucous, sessile. Flowers 3 in the bifurcation of the branches, and between the terminal leaves: lower one sessile: the other pedicellate, and the third on a longer pedicel, all white.

Guiana Montira. Pl. ½ foot.

Cult. A plant of easy culture; grows best in light rich earth kept moist, and is readily increased by division.

XVIII. DOPA'TRIUM (meaning unknown to us.) Hamilt. mss. ex Benth. scroph. ind. p. 31.

Lin. syst. *Diándria, Monogýnia,* Calyx short, membranous, semiquinquefid. Corolla funnel-shaped; tube exserted; limb obliquely widened, 5-cleft, somewhat bilabiate; lower lip larger. Stamens very short, the 2 upper fertile; anthers cohering, 2-celled; cells parallel; the 2 lower stamens small and sterile. Stigma bilamellate, dilated. Capsule hardly furrowed, 4-valved; margins of valves flattish; dissepiment at length free, with adnate placentas.—Slender glabrous herbs, natives of bogs. Leaves opposite; radical and lower leaves few, obovate, quite entire; cauline ones minute, distant. Pedicels filiform, opposite, or alternate from abortion, 1-flowered. Corollas blue.

1 D. nudicau'le (Benth. in scroph. ind. p. 31.) humble, much branched; cauline leaves small, very acute; capsule oblong. ⊙. S. Native of the coast of Coromandel, in wet places. Gratìola nudicáulis, Willd. act. berol. 4. p. 192. Gratìola aphýlla, Roth, nov. spec. p. 7. Gratiòla cuneifòlia, Roxb. fl. ind. 1. p. 142.

Naked-stemmed Dopatrium. Pl. 2 to 3 inches.

2 D. lobelioìdes (Benth. in scroph. ind. p. 31.) stem elongated, a little branched; cauline leaves small, obtuse; capsule globose; corollas about 4-5 times longer than the calyx. ⊙. S. Native of Coromandel, growing in wet places during the rainy season. Gratìola lobelioìdes, Retz. obs. 4. p. 7. Roxb. fl. ind. 1. p. 143. Habit of *Lobèlia Dortmánna.* Flowers on longish pedicels, racemose at the tops of branches. Leaves sessile.

Lobelia-like Dopatrium. Pl. ¼ to ½ foot.

3 D. ju'nceum (Hamilt. ex Benth. scroph. ind. p. 31.) stem elongated, a little branched; cauline leaves small, obtuse; capsule globose; corollas hardly 3 times longer than the calyx. ⊙. S. Native of Coromandel, delighting in wet situations, where it flowers during the rains. Gratìola júncea, Roxb. cor. 2. p. 16. t. 129. Very like *D. lobelioìdes;* but the flowers are much smaller, and the pedicels shorter, the lower pedicels generally very short. Leaves stem-clasping: floral ones minute, triangular. Corollas small, rose-coloured.

Rushy Dopatrium. Pl. ½ to 1 foot.

Cult. The seeds of the species of *Dopàtrium* require to be reared on a hot-bed in spring; and the plants may be planted out in the open ground in the month of May in a warm, sheltered situation, where they will flower and ripen their seeds.

XIX. MICROCARPÆ'A (*μικρος, micros;* and *καρπος, karpos,* a fruit; in reference to the smallness of the capsules.) R. Br. prod. p. 435. Benth. in Lin. trans. p. 435. Hook, bot. misc. 2. p. 101.

Lin. syst. *Diándria, Monogýnia.* Calyx short, campanulate, 3-5-toothed. Corolla small: tube equal in length to the calyx; limb sub-bilabiate, 5-cleft; segments all flat, and nearly equal. Stamens 2, fertile; filaments straight, entire; anthers approximate, 2-celled; cells parallel; vestiges of sterile or lower stamens wanting. Stigma bilamellate, dilated. Capsule 2-valved; valves entire, septiferous in the middle; dissepiment at length free; placentas adnate.—Small, mossy, glabrous herbs, with the habit of *Limosélla.* Leaves opposite. Flowers pedicellate, axillary, small, bractless.

1 M. muscòsa (R. Br. prod. p. 436.) creeping; leaves oblong, entire; calyx 5-toothed; teeth hairy inside. ⊙.? G. Native of India and New Holland, within the tropic. Pæderòta mínima, Kœn, in Retz. obs. fasc. 5. p. 10. M. alternifòlia, Blum. bijdr. p. 744. Nearly allied to *Hedyòtis marítima,* but that plant has a valveless capsule, ex R. Br. l. c.

Mossy Microcarpæa. Pl. small.

2 M. spatula'ta (Hook. bot. misc. 2. p. 101. suppl. t. 4.) creeping; leaves linear-spatulate; calyx 3-toothed. ♃. G. Native of the Peninsula of India. Peplídium Capénse, Spreng. syst. 1. p. 43. Limosélla diándra, Lin. mant. p. 252.

Spatulate-leaved Microcarpæa. Pl. creeping.

Cult. For culture and propagation see *Montìra* and *Dopàtrium* above.

XX. PEPLI'DIUM (from *πεπλος, peplos,* purslane; and *ιδεα, idea,* form; plants with the habit of *Purslane.*) Delile, fl. ægypt. p. 4. t. 4. f. 2. Benth. scroph. ind. p. 32.—Microcarpæ'a, spec. Smith.—Pederòta, spec. Kœn. Oldenlándia and Hedyòtis, species Lin.

Lin. syst. *Diándria, Monogýnia.* Calyx campanulate, 5-toothed. Corolla small; tube equalling the calyx in length; limb 5-cleft, hardly bilabiate; segments all flat, nearly equal. Stamens 2, fertile; filaments gibbous at the base, somewhat appendiculate, incurved; anthers approximate, 2-celled; cells parallel. Vestiges of sterile stamens none. Stigma dilated,

simple.? Capsule globose, bursting irregularly; valves hardly loosened; dissepiment parallel.

1 P. HUMIFU'SUM (Delile, fl. egypt. p. 4. t. 4. f. 2. Benth. scroph. ind. p. 32.) ♃. S. Native of India, and North of Africa. Microcarpæ'a cochlearifòlia, Smith, in Rees' cycl. Hook. bot. misc. 3. p. 95. suppl. t. 29. Pæderòta cochlearifòlia, Kon. et Rottl. Wall. cat. no. 3920. Hedyòtis marítima, Lin. suppl. p. 119. Oldenlándia marítima, Roth, nov. spec. p. 97. Herb creeping, glabrous, with the habit of *Pèplis*. Leaves opposite, obovate, quite entire. Flowers axillary, opposite, solitary, on very short pedicels.

Trailing Peplidium. Pl. creeping.

Cult. For culture and propagation see *Montìra*, p. 536.

XXI. BONNA'YA (named by Link after Bonnay, a German botanist.) Link, et Otto. abbild. t. 2. p. 25. t. 11. Benth. scroph. ind. p. 32.

LIN. SYST. *Diándria, Monogýnia.* Calyx 5-parted, nearly equal. Corolla with an exserted tube, and a bilabiate, 5-parted limb; upper lip the shortest. Stamens 4, 2 superior ones fertile, inclosed, the 2 sterile ones inserted at the base of the lower lip; anthers cohering. Stigma flattened, bilamellate. Capsule globose, oblong, or usually linear, 2-valved; valves entire, membranous, with flat margins; dissepiment parallel, placentiferous, at length free.—Usually glabrous, rarely pilose, creeping, slender, or erectish herbs. Leaves opposite, quite entire, or toothed. Flowers axillary, opposite, or alternate from abortion, usually pedicellate, the upper ones sometimes racemose.

§ 1. SILIQUÒSÆ (from *Siliqua*, a long pod; from the long narrow capsules.) Capsules linear. Allied to the siliquose species of *Vandéllia*.

* *Capsule erectly spreading. Flowers racemose. The species of this section are very variable, and are readily confounded with each other,* ex Benth.

1 B. BRACHIA'TA (Link et Otto, abbild. 2. p. 25. t. 11.) erect, much branched; leaves oblong, sharply serrated; flowers racemose; capsule erectly spreading, twice as long as the calyx. ⊙. S. Native of the Indian Peninsula and Bengal; Manilla, Luçon, &c. Gratìola serràta, Roxb. fl. ind. 1. p. 140. Gratìola oppositifòlia, Herb. Willd. no. 376. Gratìola grandiflòra, Herb. Willd. no. 383. Ruéllia antipòda, Lin. part.—Rheed. mal. 9. t. 59. Flowers racemose at the tops of the branches. Corolla pink coloured.

Armed Bonnaya. Fl. Aug. Clt. 1823. Pl. ½ foot.

2 B. RE'PENS (Spreng. syst. 1. p. 41. Benth. scroph. ind. p. 32.) stem creeping; leaves roundish-oblong, narrowed into the petioles, sharply serrated; flowers racemose; capsule erectly spreading, 2-3 times as long as the calyx. ⊙. S. Native of Nipaul, Silhet, and the Moluccas, &c. Gratìola réptans, Roxb. fl. ind. 1. p. 140. Gratìola ruellioìdes, Kœn. Colsm. grat. p. 12. Vahl. symb. 1. p. 99. Bonnàya ruellioìdes, Spreng. syst. 1. p. 41. Gratìola ciliàta, Colsm. grat. p. 14.? Bonnàya ciliàta, Spreng. syst. 1. p. 41. Henckèlia Roxburghiàna, Link. Schwægr. et Dietr. spec. 1. p. 572. Corolla large, of a pale bluish colour. Capsule longer than in *B. brachiàta*, usually 8-10 lines.

Creeping Bonnaya. Pl. creeping.

3 B. VERONICÆFÒLIA (Spreng. syst. 1. p. 41. Benth. scroph. ind. p. 33.) stem creeping; leaves oblong: lower ones petiolate: superior ones serrated, thickish; flowers racemose; capsule erectly spreading, 2-3 times longer than the calyx. ⊙. H. Native of Hindostan, Nipaul, Silhet, Birman Empire. Bonnàya rígida, Benth. in Wall. cat. no. 3859. B. procúmbens, Benth. in Wall. cat. no. 3860. Gratìola veronicæfòlia, Retz. obs. 4. p. 8.? Roxb. cor. 2. p. 30. t. 154. Gratìola marginàta, Colsm. grat. p. 11.? Bonnàya marginàta, Spreng. syst. 1. p. 4.? Gratìola grandiflòra, Retz. obs. 41. p. 8. but not of Roxb. Gratìola racemòsa, Roth, nov. spec. p. 9. Bonnàya Ròthii, Link, Schwægr. et Dietr. spec. pl. 1. p. 556. Corolla reddish. Capsule 6-7 lines long. Stem tetragonal.

Speedwell-leaved Bonnaya. Fl. June, Sept. Clt. 1798. Pl. ½ foot.

4 B. VERBENÆFÒLIA (Spreng. syst. 1. p. 42. Benth. scroph. ind. p. 33.) stems erect or ascending; leaves lanceolate, quite entire or serrated; flowers racemose; capsules erectly spreading, 2-3 times longer than the calyx. ⊙. S. Native of Hindostan, Silhet, Birmann Empire; and of China, Nelson. Tittmánnia Colsmánni, Benth. in Wall. cat. no. 3952. Gratìola verbenæfòlia, Colsm. grat. p. 9. Gratìola racemòsa, Roxb. fl. ind. 1. p. 139. but not of Roth. Gratìola ciliàta, Commers. in Colms. grat. p. 14.? Gratìola Roxburghiàna, Rœm. et Schultes, syst. 1. p. 123. Bonnàya Roxburghiàna, Link, Schwægr. et Dietr. spec. 1. p. 559. This species hardly differs from *Vandellia*, unless in the stamens.

Vervain-leaved Bonnaya. Pl. ½ foot.

5 B. PUSI'LLA (Benth. in Wall. cat. no. 3861. scroph. ind. p. 33.) stem diffuse, much branched; leaves ovate-oblong, sessile, thickish, serrated; flowers small, racemose; capsules erectish, linear, scarcely exceeding the calyx. ⊙.? S. Native of Singapore.

Small Bonnaya. Pl. diffuse.

** *Capsules erectly spreading. Flowers axillary.*

6 B. GRANDIFLÒRA (Spreng. syst. 1. p. 41. Benth. scroph. ind. p. 33.) stem diffuse, subrepent; leaves ovate or ovate-lanceolate, sessile, serrated; flowers axillary, opposite; capsules linear, erectly spreading, hardly twice as long as the calyx. ⊙.? S. Native of the Indian Peninsula, in wet places. Bonnàya Wíghtii, Benth, in Wall. cat. no. 3864. Gratìola grandiflòra, Roxb. cor. 2. p. 42. t. 179. fl. ind. ed. Car. 1. p. 137. but hardly of Retz. Henckèlia grandiflòra, Link, Schwægr. et Dietr. spec. pl. 1. p. 573. Ruéllia antipòda, Lin. spec. part.—Rumph. amb. 5. p. 460. t. 170. f. 2. Flowers light blue, very like those of *Vandéllia pedunculàta*. The specific name is not very apt, other species having equally large flowers.

Great-flowered Bonnaya. Pl. creeping, ¼ foot.

7 B. PEDUNCULA'RIS (Benth. in Wall. cat. no. 3865.) stems elongated, slender; leaves remote, oblong-lanceolate, nearly quite entire; flowers axillary, solitary, on long peduncles; capsules linear, spreading, hardly twice as long as the calyx. ⊙. S. Native of Silhet, Wall. Nearly allied to *Gratìola pulegiifòlia*, Vahl. enum. 1. p. 98. but the flowers are very rarely opposite.

Peduncular-flowered Bonnaya. Pl. creeping, ½ to 1 foot.

8 B. PULEGIIFÒLIA; leaves oblong, serrated; peduncles axillary, opposite, length of leaves; capsule subulate. ⊙. S. Native of the East Indies. Gratìola pulegiifòlia, Vahl, enum. 1. p. 98. Stems filiform. Leaves sessile.

Pennyroyal-leaved Bonnaya. Pl. creeping.

*** *Capsules reflexed.*

9 B. OPPOSITIFÒLIA (Spreng. syst. 1. p. 41.) erect; leaves oblong or lanceolate, a little serrated; peduncles opposite the leaves; capsules linear, reflexed. ⊙. S. Native of Coromandel. Gratìola oppositifòlia, Roxb. cor. 2. p. 30. t. 155. fl. ind. ed. Car. 1. p. 139. and probably of Retz. obs. 4. p. 8. Henckèlia oppositifòlia, Link, Schwægr. et Dietr. spec. pl. 1. p. 573. Flowers small, blue. Capsule linear, twice the length of the calyx. Sterile filaments white.

Opposite-leaved Bonnaya. Pl. ¼ to ½ foot.

10 B. TENUIFÒLIA (Spreng. syst. 1. p. 42.) erect? leaves linear, quite entire; peduncles opposite the leaves; capsule linear, reflexed. ⊙. S. Native of Coromandel; Birmann Empire, at Tavoy; Ceylon and China, in wet places. Gratìola tenuifòlia, Colsm. grat. p. 8. Corollas blue?

Thin-leaved Bonnaya. Pl. ¼ to ½ foot.

§ 2. BRACHYCA'RPÆ (from *βραχυς, brachys*, short; and *καρπος, karpos*, a fruit.) Capsules ovate, exceeding the calyx a very little. Plants with the habit of *Lindérnia*.

11 B. HYSSOPIOI'DES (Benth. in Wall. cat. no. 3866. scroph. ind. p. 34.) stem elongated, loose; leaves oblong or lanceolate, remote; peduncles axillary, elongated, filiform; corolla 3 or 4 times longer than the calyx. ⊙. S. Native of Hindostan, Silhet, China, Tranquebar. Gratìola hyssopioìdes, Lin. mant. p. 174. Kœn. in Retz. obs. 4. p. 8. Roxb. cor. 2. p. 16. t. 128. fl. ind. ed. Car. 1. p. 142. Morgània hyssopioìdes, Spreng. syst. 2. p. 803. Corollas pale blue. Sterile stamens bearded. Habit of a species of *Dopàtrium*.

Hyssop-leaved Bonnaya. Pl. ½ to 1 foot.

12 B. PARVIFLÒRA (Benth. in Wall. cat. no. 3867. scroph. ind. p. 34.) humble, branched; leaves oblong or lanceolate; flowers axillary or subracemose; corolla twice the length of the calyx. ⊙. S. Native of Hindostan, Silhet, and the Birmann Empire. Gratìola parviflòra, Roxb. corom. 3. p. 3. t. 203. Flowers small, usually blue, but sometimes white. Sterile filaments capitate at apex.

Small-flowered Bonnaya. Pl. ½ foot.

§ 3. SPHÆROCA'RPA (from *σφαιρα, sphaira*, a sphere; and *καρπος, karpos*, a fruit; in reference to the capsules being roundish.) Benth. scroph. ind. p. 34. Capsules roundish, shorter than the calyx. Similar to the species of *Vandéllia*, with roundish capsules.

13 B. ROTUNDIFÒLIA (Benth. scroph. ind. p. 34.) diffuse; leaves sessile, broad-ovate, subcordate; peduncles axillary; capsules roundish, shorter than the calyx. ⊙. S. Native of the Indian Peninsula and Ceylon, in moist places. Gratìola rotundifòlia, Lin. mant. p. 174. Roxb. fl. ind. ed. Car. 1. p. 138. Gratìola dèbilis, Hayne, in Wall. cat. no. 3946. Morgània rotundifòlja, Spreng. syst. 2. p. 803.—Rheed. mal. 9. p. 111. t. 57. Flowers white.

Round-leaved Bonnaya. Pl. ½ foot.

14 B. BRACHYCA'RPA (Cham. et Schlecht. in Linnæa, 2. p. 568.) stem decumbent; leaves oblong, bluntish, generally tridentate on both sides, narrowed at the base; peduncles shorter than the leaves; capsule about equal in length to the calyx. ⊙. S. Native of the East Indies. Glabrous. Habit of *B. grandiflòra*.

Short-fruited Bonnaya. Pl. decumbent.

15 B. MI'NIMA; stem filiform, erect, simple; leaves oblong, sessile, remote, serrulated, and are, as well as the calycine segments, ciliated; capsule oblong, rather longer than the pedicels. ⊙. S. Native of the East Indies. Gratìola mínima, Roth, nov. spec. p. 8.

Least Bonnaya. Pl. ¼ foot.

† *Species doubtful or hardly known.*

16 B. PUNCTA'TA; leaves lanceolate, serrated, nerveless, dotted beneath; flowers sessile. ⊙. S. Native of Java. Gratìola punctàta, Colsm. grat. Vahl, enum. 1. p. 90. Stem erect, creeping at the base, quite simple. Leaves sessile, half an inch long. Flowers solitary, opposite. Capsule roundish, a little compressed, length of calyx.

Dotted Bonnaya. Pl. ¼ to ½ foot.

17 B. VA'HLII; leaves oval, sessile, serrated, with cartilaginous edges, glabrous; stem hispid; peduncles axillary, opposite. ⊙. S. Native of the East Indies, in springs. Gratìola pusílla, Willd. spec. 1. p. 105. Vahl, enum. 1. p. 105. Stem simple or branched. Peduncles twice as long as the leaves. Segments of the calyx linear, acute. Flowers small, blue. Capsule globose.

Vahl's Bonnaya. Pl. creeping.

18 B. HISPI'DULA; leaves oval, sessile, crenated, and are, as well as the stem, pilose; peduncles axillary, opposite. ⊙. ? S. Native of Java. Gratìola hispídula, Commers. in Vahl. enum. 1. p. 94. Stem filiform, bifid at apex. Leaves a nail in length, acute, 5-nerved beneath. Peduncles glabrous, longer than the leaves. Calycine segments linear-lanceolate. Capsule globose, almost the size of a coriander seed.

Hispid Bonnaya. Pl. filiform.

19 B. OCYMIFÒLIA; leaves oblong, quite entire: lower ones petiolate; flowers racemose. ⊙. S. Native of the East Indies. Gratìola ocymifòlia, Vahl, enum. 1. p. 96. Stem branched at bottom. Lower leaves petiolate: upper ones remote, sessile. Capsule globose.

Ocymum-leaved Bonnaya. Pl. ¼ to ½ foot.

Cult. The seeds of all the species should be reared on a hotbed; and when the plants are of sufficient size, they should be planted in separate pots, which should be either kept in a hotbed, or placed in the stove, in deep pans filled with water.

XXII. HYDRO'TRICHE (from *ὑδωρ ὑδρος, hydor hydros*, water; and *θριξ τριχος, thrix trichos*, a hair; in reference to the hair-like, submersed leaves, and habitation of the plant.) Zucc. abhandl. acad. wiss. 1829, 1830. vol. I. p. 308.

LIN. SYST. *Diándria, Monogýnia.* Calyx 5-parted, nearly equal. Corolla regular, funnel-shaped; limb 5-cleft. Stamens 2; anthers connected by hairs. Ovarium 2-celled; placentas one in each cell, adnate to the dissepiment, many-ovulate. Stigma bilabiate, or bilamellate. Capsule unknown.—An aquatic herb. Lower or submersed leaves verticillate, capillaceously multifid, setosely serrated: superior ones opposite, lanceolate, obtuse. Flowers disposed in few-flowered racemes. This genus is distinguished from *Limnóphila* in the absence of the 2 sterile stamens, or even the rudiments of them.

1 H. HOTTONIÆFLÒRA (Zucc. l. c.) ♃. S. Native of Madagascar, in stagnant water.

Hottonia-flowered Hydrotriche. Pl. aquatic, 1 to 2 feet.

Cult. See *Limnóphila*, p. 543. for culture and propagation.

XXIII. HEMIA'NTHUS (from *ἐμι, hemi*, half; and *ανθος, anthos*, a flower; in reference to the upper lip of corolla being obsolete.) Nutt. gen. amer. 2. p. 42. journ. acad. nat. sc. phil. 1. p. 119. t. 6. f. 2.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx tubular, 4-toothed, cleft on the under side. Upper lip of corolla obsolete: lower one 3-parted; middle segment ligulate and truncate, much longer, closely incurved. Stamens 2; filaments bifid; lateral clefts antheriferous. Style bifid. Capsule 2-valved, many-seeded. Seeds ovate, even, and shining.—A small creeping plant, growing in marshes. Leaves entire, opposite and verticillate. Flowers solitary, alternate, pedicellate, minute.

1 H. MICRANTHEMOI'DES (Nutt. l. c.) ♃. H. Native on the borders of the Delaware.

Micranthemum-like Hemianthus. Pl. creeping.

Cult. For culture and propagation see *Herpéstis*, p. 544.

XXIV. PTEROSTI'GMA (from *πτερον, pteron*, a wing; and *στιγμα, stigma*; in reference to the stigma being generally girded by a wing.) Benth. scroph. ind. p. 20.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted, or deeply 5-cleft: upper segment the largest. Corolla bilabiate;

upper lip emarginate: lower one 3-lobed. Stamens 4, the 2 superior ones fertile, and the 2 lower ones sterile, or, if fertile, the anthers are only half; anthers of the fertile filaments 2-celled: cells separate, stipitate. Style simple; stigma a little thickened, entire, usually girded by a membranous wing on all sides. Capsule rostrate, bisulcate, 2-valved, with a loculicidal dehiscence; valves bifid; dissepiment formed by the inflexed margins of the valves, duplicate, at length free. Placentas adnate to the dissepiment, or at length free. Seeds small, naked, striated.—Hard villous herbs, usually blackish when dried. Leaves opposite, wrinkled, crenulated. Flowers capitate, racemose, scattered, or the lower only are axillary; pedicels short, usually bibracteate at apex. The odour of the species is that of the *Labiàtæ*, even in the dried state.

1 P. GRANDIFLÒRUM (Benth. scroph. ind. p. 21.) leaves ovate; corollas amply tubular, more than twice the length of the calyx; flowers racemose. ⊙. S. Native at Macao, Vachell.

Great-flowered Pterostigma. Pl. 2 to 3 feet.

2 P. VILLÒSUM (Benth. l. c.) leaves ovate, acuminated, or ovate-lanceolate, crenated, wrinkled, villous; corolla one half longer than the calyx; flowers racemose. ⊙. Native of Silhet and Tavoy, on the mountains. Adenósma villòsum, Benth. in Wall. cat. no. 3851. Corolla 3-4 lines long.

Villous Pterostigma. Pl. 2 to 3 feet.

3 P. MACROPHY'LLUM (Benth. l. c.) leaves ovate, acuminated, serrately-crenated, narrowed at the base, flaccid, smoothish; corollas one half longer than the calyx; flowers racemose. ⊙. S. Native of the Birman Empire, on the banks of the Irrawaddy. Adenósma macrophýllum, Benth. in Wall. cat. no. 3853.

Long-leaved Pterostigma. Pl. 1 to 3 feet.

4 P. SPICA'TUM (Benth. l. c.) leaves nearly sessile, oblong, bluntly serrated; flowers disposed in dense oblong spikes, subcapitate; calyx distinctly 5-parted; capsule beaked. ⊙. S. Native of the Peninsula of India and Ceylon. Stemòdia capitàta, Benth. in Wall. cat. no. 3926.

Spicate-flowered Pterostigma. Pl. 1 to 3 feet.

5 P. CAPITA'TUM (Benth. l. c.) leaves ovate or oblong; flowers disposed in globose or oblong heads; calyx hispid, somewhat 5-parted; capsule oblong. ⊙. S. Native of the mountainous parts of India, Nipaul, Kamaon, Hindostan, Birmann Empire, Penang, &c. Stemòdia capitàta, Benth. in Wall. cat. no. 3926. Very like the preceding, but the capsule is intermediate between *Lindenbérgia* and *Pterostígma*.

Capitate-flowered Pterostigma. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Bonnàya*, p. 538.

§ 2. *Stamens 4, all fertile.*

XXV. LINDENBE'RGIA (in honour of J. B. Lindenberg, author of a Synopsis of European Hepaticæ.) Link et Otto, abbild. p. 95. Benth. scroph. ind. p. 21.—Stemòdia, Brachýcoris, Adenósma, and Bòvea species of authors.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx campanulate, shortly 5-cleft; segments ovate, often leafy. Corolla ringent; upper lip emarginate: lower one 3-lobed. Stamens 4, didynamous, inclosed: lower ones the longest; anthers approximating by pairs, free; cells separate, stipitate, all fertile. Style simple; stigma a little thickened, entire, dilated. Capsule oblong, bisulcate, 2-valved, with a loculicidal dehiscence; dissepiment duplicate, from the connate inflexed margins of the valves, at length free; placentas adnate to the dissepiment, or at length free. Seeds small, naked, striated.—Branched herbs, sometimes scandent or divaricate, scentless, usually becoming blackish on drying. Leaves opposite, toothed. Flowers sessile, sometimes axillary and opposite, sometimes disposed in terminal or axillary racemes or interrupted spikes.

1 L. SINA'ICA (Benth. scroph. ind. p. 22.) hard, divaricately branched, villous; leaves small, roundish-ovate, coarsely toothed: floral ones shorter than the calyx; racemes elongated, axillary and terminal; flowers opposite, secund; corolla twice the length of the calyx. ♃.? H. Native of Sinaica, in deserts, Bove. Bòvea Sinàica, Decassne in ann. sc. nat. par. 2. ser. 2. p. 253.

Sinai Lindenbergia. Pl. 1 to 2 feet.

2 L. GRANDIFLÒRA (Benth. l. c.) climbing, and villously downy; leaves large, unequally ovate, acuminated, toothed: floral ones shorter than the corolla; racemes axillary, loose; flowers opposite, secund; corollas 4 times the length of the calyx. ♃.? S. Native of Nipaul. Stemòdia grandiflòra, Hamilt. in D. Don, prod. fl. nep. p. 89. Leaves 3-6 inches long. Corolla more than an inch long, purple.

Great-flowered Lindenbergia. Pl. 2 to 3 feet.

3 L. MACROPHY'LLA (Benth. l. c.) somewhat scandent, hard, smoothish; leaves oblong, very acutely serrated: floral ones ovate-lanceolate, shorter than the calyx; racemes elongated, many-flowered, axillary and terminal; flowers subalternate; corollas twice the length of the calyx. ⊙. S. Native of Oude, Serpur; Martaban, at Prome. Stemòdia macrophýlla, Benth. in Wall. cat. no. 3925. Adenósma cuspidàtum, Benth. in Wall. cat. no. 3852. Leaves hardly 1½ inch. Herb always becoming black on drying.

Long-leaved Lindenbergia. Pl. 2 to 3 feet.

4 L. URTICÆFÒLIA (Lehm. in Link et Otto, abbild. 95.) erect or ascending, annual, villous; leaves ovate: floral ones similar; flowers solitary, axillary; corolla 3 times the length of the calyx. ⊙. H. Native of the mountainous parts of India, as of Nipaul, Hurdwar, Oude, Silhet, Birman Empire, Sansedarra, and Mussooree. Stemòdia ruderàlis, Vahl, symb. 2. p. 69. Benth. in Wall. cat. no. 3923. Brachýcoris parviflòra, Schrad. Much branched, usually purplish. Leaves ovate, purplish beneath. Flowers nearly sessile, secund, yellow, purplish outside.

Var. β, màjor (Benth. scroph. p. 22.) stems elongated, and more branched. ⊙. H. Native of Martaban, on the banks of the Irrawaddi.

Nettle-leaved Lindenbergia. Pl. ½ to 1½ foot.

5 L. POLYA'NTHA (Royle, mss. ex Benth. scroph. ind. p. 22.) erect or ascending, annual, villous; leaves ovate: lower floral ones similar: superior ones shorter than the calyx; racemes many-flowered; flowers opposite, secund; corollas twice the length of the calyx. ⊙. H. Native at Delhi, along the river Jumna, Royle. Allied to *L. urticæfòlia*, but the inflorescence is distinct.

Many-flowered Lindenbergia. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Bonnàya*, p. 538.

XXVI. STEMO'DIA (said to be from στημων, *stemon*, a stamen; and δις, *dis*, double; in reference to each stamen bearing 2 anthers, or 2 distinct lobes.). Lin. gen. no. 777. Schreb. gen. no. 1043. Gærtn. fruct. t. 52. Juss. gen. p. 118. ed. Usteri, p. 133. Lam. ill. t. 534. f. 1. Benth. scroph. ind. p. 23.—Stemodiàcra, Browne, jam. t. 22. f. 2. Jacq. amer. p. 181.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx tubularly campanulate, 5-parted, nearly equal. Corolla ringent; upper lip emarginate: lower one 3-lobed. Stamens 4, didynamous, inclosed: lower ones the longest; anthers approximating by pairs, free; cells separate, stipitate, all fertile. Style simple; stigma entire, a little dilated. Capsule oblong, or nearly globose, bisulcate, 2-valved; valves bifid; dissepiment duplicate

from the inflexed margins of the valves, at length free; placentas adnate. Seeds small, naked.

Sect. I. Mode'stia (from *modestia*, humility; in reference to the humble growth of the plants.) Cham. et Schlecht, in Linnæa, 3. p. 5. Benth. scroph. ind. p. 23. Capsule with a luculicidal dehiscence; valves bifid at the dissepiment.—Usually glabrous herbs, almost with the habit of *Gratìola* or *Limnóphila*, becoming blackish on drying. Leaves opposite or verticillate, sessile or on short petioles. Flowers axillary, or the superior ones approximate into a head or raceme, usually blue.

* *Flowers nearly sessile.*

1 S. mentha'strum (Benth. in Wall. cat. no. 3927. scroph. ind. p. 23.) erect, smoothish; leaves nearly sessile, ovate-oblong, narrowed at both ends: floral ones similar, longer than the calyx; flowers sessile: superior ones collected into a glabrous, nearly globose head; calycine segments lanceolate-subulate. ⊙.? H. Native of the Monghyr mountains, Hamilt.

Mint-like Stemodia. Pl. 1 foot.

2 S. hypericifòlia (Benth. in Wall. cat. no. 3934. scroph. ind. p. 23.) glabrous, rooting at the base, ascending; leaves sessile, ovate-oblong, obtuse, cordately stem-clasping at the base: floral ones smaller; racemes terminal or axillary; flowers sessile, remote; segments of the calyx lanceolate. ♃. G. Native of Nipaul, at Narainhetty. Cybbanthèra connàta, Hamilt. in D. Don, prod. fl. nep. p. 23. Corollas blue. Flowers tribracteate.

St. John's-wort-leaved Stemodia. Pl. 1 to 1½ foot.

3 S. balsa'mea (Benth. in Wall. cat. no. 3928. scroph. ind. p. 23.) stem procumbent; branches rather hairy; leaves ovate, obtuse, narrowed into the petioles, glabrous: floral ones similar in shape; flowers axillary, sessile, solitary, or 2-3 on both sides, glomerate; segments of calyx lanceolate-subulate. ♃.? G. Native of the Birman Empire, at Tavoy, Wall.

Balsameous Stemodia. Pl. procumbent.

4 S. se'ssilis (Benth. in Wall. cat. no. 3939. scroph. ind. p. 23.) procumbent, glabrous; leaves sessile, oblong, obtuse, crenated, narrowed at the base: floral ones similar in shape; flowers solitary, axillary, nearly sessile; calyxes glabrous, with lanceolate-subulate, strict segments; corolla hardly longer than the calyx. ♃.? G. Native at Goalpara, Moolmyne, and of Ceylon.—A humble rooting herb, native of bogs. Flowers hardly 4 lines long.

Sessile-flowered Stemodia. Pl. creeping.

5 S. tenuiflòra (Benth. in Wall. cat. no. 3940. scroph. ind. p. 23.) procumbent, glabrous; leaves sessile, lanceolate, acute, serrated, rounded at the base: floral ones similar in shape; flowers solitary, axillary, almost sessile; calyx glabrous, with lanceolate-subulate, strict segments; corollas hardly longer than the calyx. ♃. S. Native of the Birman Empire, near Prome. Very nearly allied to the preceding; but the plant is smaller, as well as the flowers. Habit of *Lythrum hyssopifòlium*.

Thin-flowered Stemodia. Pl. procumbent.

6 S. micra'ntha (Benth. in Wall. cat. no. 3936. scroph. ind. p. 23.) small, diffuse, much branched, glabrous; leaves sessile, oblong-lanceolate, acute, narrowed at the base: floral ones similar in shape; flowers sessile, solitary, axillary; calyx glabrous, with lanceolate-subulate, recurvedly spreading segments; corolla twice the length of the calyx. ♃. S. Native of Silhet, Wall. Nearly allied to the preceding; but differs from it in the calyxes being shorter, and nearly globose; and in its segments being recurvedly spreading. Stems hardly 3-4 inches high. Habit of *Anagállis tenélla*.

Small-flowered Stemodia. Pl. diffuse, 3-4 inches high.

7 S. re'pens (Benth. in Wall. cat. no. 3935. scroph. ind. p. 24.) creeping, glabrous, rather clammy; leaves sessile, oblong-lanceolate, narrowed at the base, acute, serrated: floral ones hardly longer than the calyx; flowers nearly sessile, racemose or glomerate; calyxes nearly glabrous, with lanceolate segments, which are subulate and recurvedly spreading at apex; corolla twice the length of the calyx. ♃. S. Native of the Indian Peninsula, about Madras. Stems elongated, generally more than a foot. Racemes rather loose, terminal and axillary.

Creeping Stemodia. Pl. creeping.

8 S. camphora'ta (Vahl, symb. 2. p. 69.? Benth. scroph. ind. p. 24.) erect, clothed with clammy pubescence; leaves petiolate, ovate-oblong: floral ones linear-lanceolate; racemes axillary, rather shorter than the leaves; flowers almost sessile; calyxes downy, with lanceolate-acute segments; corolla almost 3 times as long as the calyx. ♃.? S. Native of Hindostan, and of the Birman Empire, at Prome; and of Ceylon. S. cimínica, Benth. in Wall. cat. no. 3933. Stems floriferous at the base. Racemes numerous, short, loose, leafy. "Leaves 1½ inch long, sharply and unequally serrated. Corolla of a greenish citron colour," ex Vahl.

Camphorated Stemodia. Pl. 1 to 1½ foot.

* * *Flowers pedicellate; pedicels longer than the calyx.*

9 S. viscòsa (Roxb. cor. 2. p. 23. t. 163.) erect, downy, clammy; leaves sessile, ovate-oblong, acute, narrowed towards the base, and dilately cordate at the base, and stem-clasping: floral ones similar in shape; flowers axillary, solitary: upper ones racemose; calycine segments lanceolate, acute. ⊙.? S. Native of Coromandel and Bengal. S. marítima, Heyne, ex Benth. in Wall. cat. no. 3931. but not of Lin. Corolla blue.

Clammy Stemodia. Fl. July, Aug. Clt. 1818. Pl. ½ to 1 foot.

10 S. hirsu'ta (Heyne, ex Wall. cat. no. 3930. Benth. scroph. ind. 24.) stem erect, hairy; leaves nearly sessile, narrowed at the base: upper ones hardly stem-clasping, glabrous: floral ones rather shorter than the pedicels; raceme terminal; flowers solitary, opposite; segments of the calyx lanceolate-subulate. ⊙.? S. Native of the Indian Peninsula? Hindostan, and Silhet.

Hairy Stemodia. Pl. 1 to 1½ foot.

11 S. diffu'sa (Benth. in Wall. cat. no. 3937. scroph. ind. p. 24.) diffuse, glabrous; leaves sessile, oblong-lanceolate, narrowed at the base: floral ones similar in shape; flowers solitary, axillary; calyx glabrous, with lanceolate-acute segments; corolla twice the length of the calyx. ♃.? S. Native of the Birman Empire, at Tavoy. Stature of *S. micrántha*; but the flowers are pedicellate, larger, &c.

Diffuse Stemodia. Pl. diffuse, 3-4 inches.

12 S. gratioloi'des (Benth. in Wall. cat. no. 3938. scroph. ind. p. 25.) glabrous, erect; leaves sessile, oblong-lanceolate, narrowed at the base, stem-clasping: floral ones similar in shape; flowers axillary, opposite, solitary; segments of the calyx lanceolate; corolla one half longer than the calyx. ♃.? S. Native of the Birman Empire, at Tavoy.

Hedge-hyssop-like Stemodia. Pl. ½ foot.

13 S. Philippe'nsis (Cham. et Schlecht, in Linnæa, 3. p. 5.) downy; leaves falsely opposite, petiolate, lanceolate, ovate, acute at both ends, sharply serrated, quite entire at the base: floral ones similar in shape; spikes terminal, many-flowered; calyx bractless, with lanceolate, acute, ciliated segments. ♃. S. Native of the Island of Luçon, on high lands. Leaves 2½ inches long. Corolla half an inch long, downy outside.

Philippine Stemodia. Pl. erect.

14 S. mura'ria (Roxb. mss. ex D. Don, prod. fl. nep. p. 89.)

very hairy; leaves ovate, acute, petiolate, serrated: floral ones similar in shape; flowers axillary, usually solitary, pedicellate; segments of calyx ovate, mucronulate. ♃. F. Native of Nipaul. Root tufted. Stems numerous, erect, branched. Leaves like those of *Calamint*, opposite. Corolla pale rose-coloured, villous, twice the length of the calyx.

Wall Stemodia. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

SECT. II. DIAMÓSTE (an anagram of *Modéstia*, the name of sect. I.) Cham. et Schlecht, in Linnæa, 3. p. 4. Capsule with a septicidal dehiscence.—Herbs or under-shrubs. Leaves opposite, or 3 in a whorl, entire. Flowers axillary, blue, solitary.

* *Calyx bractless.*

15 S. VERTICILLA'RIS (Link, enum. 2. p. 144.) erect, clothed with clammy down; leaves opposite, or 4 in a whorl, lanceolate, or linear-lanceolate, serrated, half stem-clasping; flowers nearly sessile, solitary in the axils of the leaves, therefore verticillate. ☉. H. Native of tropical and extra-tropical Brazil. Conòbea verticillàris, Spreng. nov. prov. p. 13. Branches numerous, erect, branched in the cultivated plant; but the stem is simple, and hardly an inch long in the wild plant. Corolla small, purple. Calyx bractless.

Whorled-leaved Stemodia. Fl. July, Aug. Clt. 1825. Pl. 1 inch to 1 foot.

16 S. ARENA'RIA (H. B. et Kunth, nov. gen. amer. 2. p. 357. t. 175.) procumbent; leaves opposite, petiolate, ovate, crenately serrated; flowers axillary, solitary or twin, on short pedicels; segments of calyx linear, 3-nerved, ciliated, nearly equal. ♃. S. Native on the inundated banks of the river Magdalena, near Banco and El Penon, between Mompox and Morales. Conòbea ovàta, Hort. Conòbea pùmila, Spreng. nov. prov. p. 13. Herpéstis diffùsa, Willd. herb. no. 11444. Herb much branched; branches rather hairy. Leaves smoothish, 3-5 lines long. Corolla twice the length of the calyx, blue. Perhaps the same as *L. parviflòra*.

Sand Stemodia. Pl. procumbent.

17 S. PARVIFLÒRA (Ait. hort. kew. ed. 2. vol. 4. p. 52. Link. enum. 2. p. 144. exclusive of the syn. of Spreng.) procumbent, much branched, downy; leaves opposite, or 3 in a whorl, petiolate, ovate, crenated. ♃. S. Native of South America. Erìnus verticillàtus, Mill. dict. ed. 8th. Corollas small, white; tube incurved.

Small-flowered Stemodia. Fl. July, Aug. Clt. 1759. Pl. $\frac{1}{2}$ foot.

18 S. SUFFRUTICÒSA (H. B. et Kunth, nov. gen. 2. p. 357.) suffruticose, rather hairy; leaves 3 in a whorl, sessile, oblong, crenated; flowers axillary, usually twin, pedicellate; segments of the calyx linear, somewhat 5-nerved. ♄. S. Native of New Granada, between Ona and the river Saraguru, at the altitude of 1200 hexapods. Colúmnea trifoliàta, Link. enum. 2. p. 145. Stemòdia trifoliàta, Rchb. Leaves 9-18 lines long, and 3-6 broad. Flowers larger than those of *Thymus serpyllum*. Corolla blue, hairy outside; tube hardly exceeding the calyx. Very nearly allied to *S. durantifòlia*. Calyx bractless.

Suffruticose Stemodia. Fl. July, Aug. Clt. 1820. Shrub small.

19 S. GLA'BRA (Spreng. syst. 2. p. 811.) stem ascending, angular, glabrous; leaves opposite, stem-clasping, lanceolate, remotely toothed, scabrous; flowers axillary, opposite, sessile.—Native of Monte Video, Sello.

Glabrous Stemodia. Pl.

20 S. JORULLE'NSIS (H. B. et Kunth, nov. gen. 2. p. 358.) erect, pilose; leaves 3 in a whorl, petiolate, ovate; flowers solitary, axillary, on long pedicels; segments of calyx linear. ♃. S. Native of New Spain, at the foot of the burning Mount Jorullo, at the altitude of 490 hexapods. Stem branched. Leaves doubly and deeply crenate-serrated, entire at base, 5 lines long. Corolla twice the length of the calyx, blue?

Jorullo Stemodia. Pl. 1 to $1\frac{1}{2}$ foot.

21 S. PALU'STRIS (Aug. St. Hil. rem. bras. p. 216. mem. mus. 12. p. 314.) root creeping; stems ascending; leaves opposite, and 3 in a whorl, sessile, oblong-linear, acute, obsoletely toothed: superior ones narrower, nearly linear: upper ones, and those of the branches, linear, very narrow; flowers subspicate, on short pedicels; calyx puberulous. ♃. S. Native of the South of Brazil, on the margins of marshes, and in humid places on the banks of the Rio Negro and la Uraguay. Corolla blue; palate convex on one side, and concave on the other, white. Capsule about equal in length to the calyx. Plant puberulous at top.

Marsh Stemodia. Pl. $\frac{1}{4}$ to $\frac{3}{4}$ foot.

22 S. GRATIOLÆFÒLIA (Aug. St. Hil. pl. rem. bras. p. 217. mem. mus. 12. p. 315.) leaves opposite, sessile, linear, acute, obsoletely toothed, glabrous; flowers panicled, nearly sessile, usually solitary in the axils of the bracteas; calyx smoothish. ♃. F. Native of Brazil, in the province of Rio Grande do Sul, on the edges of woods on the banks of the Ploropasso. Corolla pale blue.

Gratiola-leaved Stemodia. Pl. $\frac{1}{2}$ to $1\frac{1}{2}$ foot.

* * *Calyx bibracteate.*

23 S. MARI'TIMA (Lin. spec. 881. Jacq. amer. p. 181. t. 174. f. 66. pict. 261. f. 48.) procumbent, hairy; leaves opposite, hastate at the base, and half stem-clasping; flowers axillary, solitary, sessile. ♂.? S. Native of Jamaica, in inundated parts by the sea side; Cuba, in humid places near Havannah; also of New Andalusia, near Bordones.—Brown. jam. 261. t. 22. f. 2.—Sloane, hist. 1. p. 175. t. 110. f. 2. Leaves viscid. Calyx bibracteate. Corolla blue. The plant has a bitterish taste, and a pleasant aromatic smell.

Sea-side Stemodia. Fl. July, Aug. Clt. 1817. Pl. 2 to 3 feet.

24 S. DURANTIFÒLIA (Swartz, obs. p. 240.) erect; leaves 3 in a whorl, and connate, serrated; flowers axillary, solitary, therefore usually 3 in a whorl, nearly sessile. ♂. S. Native of Jamaica, in marshy places by the sea side. Caprària durantifòlia, Lin. spec. p. 876. amœn. acad. 5. p. 379.—Sloane, hist. 1. p. 196. t. 124. f. 2. Branches hairy, viscid. Leaves pubescent. Calyx bibracteate, with subulate segments, shorter than the corolla. Corolla small, blue.

Duranta-leaved Stemodia. Fl. July, Aug. Clt. 1823. Pl. 1 foot.

25 S. HYPTOI'DES (Cham. et Schlecht, in Linnæa, 3. p. 8.) pubescently hairy; leaves opposite, and 3 in a whorl, ovate-lanceolate, sharply toothed, narrowed below, and auriculately stem-clasping at the base; spikes terminal, dense-flowered, panicled; calyx bibracteate, with narrow-linear, acuminated segments. ♃. G. Native of the southern provinces of Brazil. Habit of *Hyptis* or *Méntha*. Branches axillary, erect, shorter than the stem, pyramidally panicled. Root throwing out stolons. Cauline leaves $2\frac{1}{2}$ inches long. Flowers on short pedicels.

Hyptis-like Stemodia. Pl. 1 to 2 feet.

26 S. STRI'CTA (Cham. et Schlecht, l. c. p. 10.) clothed with clammy pubescence; leaves obovate, acute, toothed, narrowed at bottom, but sessile and subdilated at the base, and quite entire: lower ones opposite: superior ones 3 in a whorl; spikes terminal, verticillate; calyx bibracteate, like that of the preceding. ♃. S. Native of tropical Brazil, Sello. Flowers smaller than those of the preceding, disposed in leafy verticillate racemes, on short pedicels. Floral leaves similar to the rest in shape.

Strict Stemodia. Pl. 1 to $1\frac{1}{2}$ foot.

† *Species hardly known.*

27 S. minu'ta; annual, spreading, 4-sided; leaves sessile, ovate, cordate, serrulated; flowers axillary, on long peduncles; calyx 5-cleft; corolla ringent; capsule globular. ⊙. H. Native of various parts of India, appearing during the rainy or cold season. Colúmnea minùta, Roxb. fl. ind. 3. p. 98.

Minute Stemodia. Pl. spreading.

28 S. tomentòsa; annual, diffuse; leaves generally opposite, wedge-shaped, with gashed margins; racemes terminal; calyx ample, 5-cleft; corolla ringent. ⊙. H. Native of Bengal, appearing during the cold season. Colúmnea tomentòsa, Roxb. fl. ind. 3. p. 98.

Tomentose Stemodia. Pl. spreading.

Cult. The species grow well in a light rich soil; and are readily increased by cuttings and seeds. The annual kinds may be planted in the open border about the end of May, in a warm sheltered situation.

XXVII. DODA'RTIA (so named by Tournefort after M. Dodart, member of the Academy of Sciences at Paris, and physician to the princess dowager of Conti.) Tourn. inst. 478. itin. 3. t. 208. Lin. gen. no. 780. Schreb. gen. 1047. Gærtn. fruct. 1. p. 245. t. 53. Juss. gen. 119. ed. Usteri, p. 134. Lam. ill. t. 530. f. 1.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, short, angular, 5-toothed. Corolla tubular; limb bilabiate; upper lip emarginate: lower lip broader and trifid, twice the length of the upper one. Stamens 4, didynamous, inclosed? anthers small, roundish, twin. Stigma 2-lobed. Capsule globose, covered by the calyx, 2-celled; placentas convex, growing to the dissepiment.—An herbaceous glabrous plant, with creeping roots; branched, or simple, solitary stems. Leaves distant: lower ones opposite: upper ones alternate, linear, entire. Branches axillary. Flowers axillary, nearly sessile, at the tops of the stem and branches, bracteate. Corollas deep purple or blue.

1 D. orienta'lis (Lin. spec. p. 883.) ♃. H. Native of Tartary; and on Mount Ararat. Mill. fig. 127. Sweet, fl. gard. t. 147. Lower leaves serrated: upper ones entire.

Eastern Dodartia. Fl. July, Aug. Clt. 1739. Pl. 1 to 1½ foot.

Cult. The plant loves a light dry soil, and a warm sheltered situation. It propagates very fast by its creeping roots; so that when once established in a garden, it will multiply fast enough.

XXVIII. MA'SUS (from μασος, *masos*, a teat; tubercles closing mouth of corolla.) Lour. coch. p. 385. R. Br. prod. p. 439. Benth. scroph. ind. p. 26.—Hornemánnia species, Link.—Gratìola species, Horn.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-cleft, nearly equal. Corolla bilabiate; upper lip bidentate or bifid: lower one longer, trifid, furnished with 2 gibbosities at the base; lobes entire. Stamens 4, didynamous, inclosed; filaments entire; anthers cohering, or approximating by pairs; cells diverging or divaricate, but at length confluent. Stigma bilamellate. Capsule 2-valved, with a loculicidal dehiscence; valves entire, bearing the dissepiment in the middle; dissepiments at length free; placentas adnate to the dissepiment.—Humble herbs, generally creeping or procumbent. Radical leaves numerous, petiolate, coarsely toothed or lobed: those of the sterile branches opposite; but those of the floral ones are few and alternate. Racemes of the floral branches, or of the scapes, naked, terminal, unilateral. Flowers alternate, pedicellate. Bracteas none, or 1-2 on a pedicel.

1 M. surculòsus (D. Don, prod. fl. nep. p. 86.) stolons creeping; leaves deeply crenated, wrinkled, hispid, and a little curled; those of the sterile branches roundish; segments of calyx shorter than its tube, ovate, obtuse; corolla hardly twice the length of the calyx. ♃. F. Native of Nipaul, Kamaon, and Mussooree. Herb hairy. Racemes radical, pilose, or scapes racemose. Corollas size of those of *Màsus rugòsus*, but the plant is more branched.

Surculose Masus. Pl. creeping.

2 M. rugòsus (Lour. coch. 385.) hardly stoloniferous; leaves all oblong, cuneated, coarsely toothed; segments of the calyx ovate-lanceolate or lanceolate, acute, equal in length to the tube; corollas hardly twice the length of the calyx. ⊙. H. Native of Nipaul, Kamaon, Silhet, Wall.; Saharanpur and Mussooree, Royle; Cochinchina, Lour.; Japan, Thunb. Sweet, fl. gard. t. 36. M. bícolor, Benth. in Wall. cat. no. 3913. Hornemánnia bícolor, Willd. enum. 634. Rchb. icon. bot. exot. 25. t. 37. Gratìola goodeniæfòlia, Horn. hort. hafn. p. 19. Lindérnia Japónica, Thunb. fl. jap. p. 253.? Corolla blue, with a yellow or white palate.

Wrinkled-leaved Masus. Fl. May, Sept. Clt. 1780. Pl. procumbent.

3 M. denta'tus (Wall. cat. no. 3914. Benth. scroph. ind. p. 27.) stolons none; leaves ovate, sinuated; corolla 3 times the length of the calyx. ⊙.? H. Native of Nipaul. Leaves larger, broader, smoother, and less lobed than the preceding; and the corolla is double the size.

Toothed-leaved Masus. Pl. ½ foot.

4 M. pumi'lio (R. Br. prod. p. 439.) superior lip of corolla deeply bifid; scapes 1-4-flowered, and are, as well as the calyxes, glabrous. ⊙.? H. Native of Van Diemen's Land. Flowers purple?

Var. α; racemes 3-4-flowered; pedicels furnished with a setaceous bracteole near the apex.

Var. β; scapes 1-flowered.

Dwarf Masus. Fl. June, July. Clt. 1823. Pl. small.

5 M. lævifòlia (Blum. bijdr. p. 753.) leaves spatulate, repand, smooth on both surfaces; racemes terminal, loose, glanduliferous. ⊙. H. Native of Java, in humid places about Buitenzorg.

Smooth-leaved Masus. Pl. trailing.

Cult. The seeds of annual species require to be reared on a gentle hot-bed; and when the plants are of sufficient size, but not before the end of May, they should be planted out in a warm sheltered situation in the open ground. *M. surculòsus*, being perennial, will require to be kept in the greenhouse during winter.

XXIX. LIMNO'PHILA (from λιμνη, *limne*, a lake; and φιλεω, *phileo*, to love; in reference to the plants loving water.) R. Br. prod. 442. Benth. scroph. ind. p. 25.—Colúmnea species, Roxb.—Gratìola species, Willd.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx tubular, 5-cleft, equal. Corolla funnel-shaped; limb somewhat bilabiate; upper lip 2-lobed: lower lip trifid; lobes all flat. Stamens 4, didynamous; filaments entire, usually abruptly incurved at apex, sometimes dilated; anthers cohering by pairs; cells parallel, distinct. Stigma oblique, dilated, bilamellate. Capsule bisulcate, 2-valved; valves with a loculicidal dehiscence, bifid, dehiscing slowly; dissepiment from the margins of the valves, at length free; placentas adnate.—Erect marsh or aquatic herbs. Leaves opposite: lower ones submersed, deeply many-parted, as in *Ranúnculus aquátilis*, with capillaceously multifid segments; emersed leaves entire, toothed or cut, often tripartite, and hence they appear as if they were verticillate. Flowers

sólitary, opposite, sometimes sessile, sometimes pedicellate, axillary or racemose; pedicels usually bibracteate at apex.

§ 1. Axillariflòræ. *Flowers axillary. Emersed leaves hardly half an inch long.*

1 L. refle'xa (Benth. in Wall. cat. no. 3904. scroph. ind. p. 25.) stem slender, glabrous; emersed leaves usually opposite, quite entire; flowers sessile, axillary; teeth of calyx short, mutic; capsule at length reflexed. ⊙.? ♃. S. Native of the Birman Empire, at Tavoy.

Reflexed-capsuled Limnophila. Pl. aquatic.

2 L. heterophy'lla (Benth. in Wall. cat. no. 3905. scroph. ind. p. 25.) stem thickish, glabrous; emersed leaves usually 3 in a whorl, serrulated; flowers sessile axillary, subverticillate; teeth of calyx subulately acuminated. ♃. S. Native of Nipaul, Wall.; at Nathpur and Gagpur, Hamilt.; Peninsula, ? Heyne. Colúmnea heterophýlla, Roxb. fl. ind. 3. p. 97.

Variable-leaved Limnophila. Pl. aquatic.

3 L. sessiliflòra (Blum. bijdr. p. 749. Benth. in Wall. cat. no. 3902. scroph. ind. p. 25.) stem hairy; emersed leaves 3-parted, cut; flowers axillary, sessile. ♃. S. Native at Goalpara, Hamilt.; Silhet, Wall.; Java, Blum. Said to be nearly allied to the following.

Sessile-flowered Limnophila. Pl. aquatic.

4 L. villòsa (Blum. bijdr. p. 750.) stem villous; leaves all opposite, lanceolate-linear, stem-clasping, serrated, rather pilose; peduncles axillary, solitary, 1-flowered, and are, as well as the calyxes, villous. ♃. S. Native of Java, in humid parts of the mountains.

Villous Limnophila. Pl. aquatic.

5 L. puncta'ta (Blum. bijdr. p. 750.) stem a little striated; leaves all opposite, or 3 in a whorl, stem-clasping, oblong-lanceolate, serrated, glabrous, full of depressed dots on both surfaces; peduncles axillary, 1-flowered, and are, as well as the calyxes, clothed with glandular hairs. ♃. S. Native of Java, in humid places near Tjiradjas, Buitenzorg, &c.

Dotted-leaved Limnophila. Pl. aquatic.

6 L. gratioloi'des (R. Br. prod. p. 442.) stem glabrous; emersed leaves opposite: lower ones tripartite, cut, or capillaceously multifid: superior ones entire, serrulated; flowers pedicellate, opposite, axillary. ♃. S. Native throughout India, in lakes, pools, and marshes, and, therefore, the habit is very variable. It is also to be found in New Holland, within the tropic. L. trífida, Spreng. syst. 2. p. 802. Hottònia I'ndica, Lin. spec. 208. Gratìola trífida, Willd. spec. 1. p. 104. Hydropítyon pedunculàtum, Ser. in D. C. prod. 1. p. 422. Colúmnea balsámica, Roxb. fl. ind. 3. p. 97.—Burm. zeyl. t. 55. f. 2.—Rheed. mal. 12. t. 36. Root creeping. Corolla blue.

Var. β, *myriophylloìdes* (Benth. scroph. ind. p. 26.) leaves almost all many-parted; segments short, capillaceously multifid. ♃. S. L. myriophylloìdes, Roth, nov. spec. 294.

Var. γ, *elongàta* (Benth. scroph. ind. p. 26.) stem elongated; submersed leaves capillaceously multifid: cauline ones distant, nearly all entire. ♃. S. L. elongàta, Benth. in Wall. cat. no. 3903.

Gratiola-like Limnophila. Pl. aquatic.

7 L. pinnati'fida (Blum. bijdr. p. 749.) stems striated, beset with glandular hairs above; leaves all verticillate, setaceously multifid; flowers axillary, nearly sessile, solitary. ♃. S. Native of Java, in rivulets near Linga Jattie, in the province of Cherebon, where it is called *Gangang*.

Pinnatifid-leaved Limnophila. Pl. aquatic.

8 L. chamædrifòlia; leaves lanceolate, ovate, toothed at top; flowers opposite, axillary; ? calyx length of tube. ♃. S. Native of Malabar, in humid places. Gratìola chamædrifòlia, Lam. ill. 1. p. 54. Grat. trífida, β, integrifòlia, Vahl, enum. 1. p. 90.—Rheed. mal. 9. p. 166. t. 85. bad. Perhaps only a variety of *L. gratioloìdes*.

Germander-leaved Limnophila. Pl. aquatic.

9 L. ? Roxbu'rghii; annual, erect, with creeping roots; leaves opposite, nearly sessile, oblong, serrated; flowers axillary, solitary, nearly sessile. ⊙. S. Native among the Circars, in rills of fresh water. Caprària gratíssima, Roxb. fl. ind. 3. p. 92.—Rheed. mal. 9. t. 78. Stems round, as thick as the little finger; all the joints under water emit many fibrous roots, or multifid, filiform leaves. Leaves $2\frac{1}{2}$ inches long, and 1 broad. Corolla campanulate, purple: upper lip broader and emarginate. It is delightfully aromatic.

Roxburgh's Limnophila. Pl. aquatic.

§ 2. Racemòsæ. *Flowers racemose. Emersed leaves usually more than an inch long.*

10 L. ? diffu'sa; suffruticose, diffuse; leaves opposite, petiolate, lanceolate, obtuse, entire; spikes axillary and terminal, shorter than the leaves. ♄. S. Native of India. Caprària diffùsa, Roxb. fl. ind. 3. p. 92. Plant spreading, young parts puberulous. Leaves 1-3 inches long, and under one in breadth. Flowers small, purple. Racemes villous, clammy.

Diffuse Limnophila. Pl. diffuse.

11 L. racemòsa (Benth. in Wall. cat. no. 3907.) emersed leaves opposite, or subverticillate, 3-nerved, serrated, or the lower ones are parted; racemes dense, many-flowered; calyxes membranous, smooth, pedicellate. ♃. S. Native of the Indian Peninsula and Bengal, Wall. Bejar Royle. Cyrílla aquática, Roxb. cor. 2. p. 47. t. 189. L. hyssopifòlia, Roth, nov. spec. 297.? Corollas purple.

Racemose-flowered Limnophila. Pl. aquatic.

12 L. grati'ssima (Blum. bijdr. p. 749.? Benth. in Wall. cat. no. 3906. scroph. ind. p. 26.) emersed leaves 3 in a whorl, lanceolate-linear, serrated, feather-nerved; raceme loose; calyx with elevated stripes, on long pedicels. ♃. S. Native at Goalpara, Hamilt.; Peninsula, Wight; Ceylon, Macrae; Java, Blume.—Rheed. mal. 10. t. 6, ex Blume. Leaves all ternate, sessile. Peduncles and calyxes clothed with glandular hairs, ex Blume.

Very grateful Limnophila. Pl. aquatic.

13 L. polysta'chya (Benth. in Wall. cat. no. 3909.) emersed leaves 3 in a whorl, 3-nerved; racemes branched, slender, many-flowered; flowers small, sessile. ♃. S. Native of the Indian Peninsula and Bengal.

Many-spiked Limnophila. Pl. aquatic.

N.B. L. campanuloìdes, Benth. in Wall. cat. no. 3908, probably belongs to Gentiàneæ.

Cult. All the species of Limnóphila being aquatic, they should be grown in a cistern placed in a stove, or warm part of a greenhouse, and treated like other tender aquatics.

XXX. MORGA'NIA (named in memory of Hugh Morgan, an apothecary of London, whose botanic garden is spoken of highly by Lobel and Gerarde in several parts of their works.) R. Br. prod. p. 441.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, equal. Corolla ringent; upper lip 2-lobed: lower lip trifid; lobes nearly equal, obcordate. Stamens 4, didynamous, inclosed; lobes of anthers divaricate, mutic. Stigma bilamellate. Capsule 2-celled, 2-valved; valves bipartite; dissepiment from the inflexed margins of the valves.—Herbs with opposite leaves. Stems erect, tetragonal. Leaves linear. Peduncles axillary, 1-flowered, bibracteate at apex. Flowers blue. This

genus is nearly allied to *Herpéstis*, but is readily distinguished by the equal calyx, and more unequal corolla.

1 M. gla'bra (R. Br. prod. p. 441.) glabrous; leaves linear, entire, or few-toothed; flowering peduncles about equal in length to the calyx. ♃.? S. Native of New Holland, within the tropic.

Glabrous Morgania. Pl. ½ foot.?

2 M. pube'scens (R. Br. prod. 441.) downy; leaves lanceolate-linear, toothed; flowering peduncles shorter than the calyx. ♃.? S. Native of New Holland, within the tropic. Very nearly allied to the preceding, and is, perhaps, only a variety of it.

Downy Morgania. Pl. ½ foot.

Cult. For culture and propagation see *Stemòdia*, p. 542.

XXXI. HERPE'STIS (from ἑρπηστης, *herpestes*, any thing that creeps, in allusion to the creeping habit of the plants.) Gærtn. fruct. 3. p. 187. t. 214. R. Br. prod. p. 441. Benth. scroph. ind. p. 29.—Monnièra, Browne, Michx. &c. Gratìola species, Lin. and others. Calýtriplex, Ruiz. et Pav. Bràmia, Lam. Mart. pl. bras. 3. p. 16.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted; upper segment large, ovate, covering the rest: 2 lower ones narrower: 2 lateral ones linear. Corolla tubular, somewhat bilabiate: upper lip bifid: lower one trifid; segments all flat, and nearly equal. Stamens 4, didynamous, inclosed; anthers approximating by pairs; cells diverging, or divaricate, at length nearly confluent. Style simple; stigma emarginate, or bilamellate. Capsule hardly furrowed, 4-valved; margins of the valves flat; dissepiment at length free; placentas adnate.—Usually creeping, glabrous, or villous herbs. Leaves opposite, quite entire, or toothed. Flowers axillary, sessile, or pedicellate, solitary, or 2-3 together. Bracteas wanting, or furnished with 1-2 on each peduncle. Corollas generally blue.

§ 1. *Calyx bractless.*

1 H.? ama'ra (Benth. scroph. ind. p. 30.) plant almost glabrous; leaves petiolate, ovate, crenated, cuneated at the base; peduncles axillary, shorter than the leaves, 2-4-flowered, somewhat racemose; flowers pedicellate. ♃. S. Native of the Moluccas, Java. Gratìola amàra, Roxb. fl. ind. ed. Car. 1. p. 136.? Caránga amàra, Vahl, enum. 1. p. 100. Curània amàra, Juss. l. c. Blum. bijdr. 746. Serrátula amàra, Rumph. amb. 5. p. 459. t. 170. f. 1. According to Roxburgh only 2 of the filaments are fertile. Rumphius says, the leaves are exceedingly bitter, and might, no doubt, answer valuable purposes in medicine.

Bitter Herpestis. Pl. creeping.

2 H. ova'ta (Wall. cat. no. 3896. Benth. scroph. ind. p. 30.) glabrous, procumbent; leaves short, petiolate, ovate, crenated; flowers solitary, opposite, nearly sessile. ♃. S. Native of the Birman Empire at Tavoy. Habit of *H. chrysántha*, from which it hardly differs unless in the sessile flowers.

Ovate-leaved Herpestis. Pl. procumbent.

3 H. linearis (Spreng. syst. 2. p. 802.) stem humble, branched; leaves linear, quite entire, glabrous; peduncles axillary, twin, 1-flowered. ♃. S. Native of Coromandel. Lindérnia sesamoìdes, Spreng. new. entd. p. 14.

Linear-leaved Herpestis. Pl. humble.

4 H. chrysa'ntha (Cham. et Schlecht, in Linnæa, 2. p. 577.) herbaceous, glabrous; stems at first erect, but at length decumbent; leaves petiolate, ovate, serrated; peduncles opposite, a little shorter than the leaves; outer sepals ovate, nearly entire. ⊙. H. Native of Mexico. Corolla yellow.

Yellow-flowered Herpestis. Pl. decumbent.

5 H. lanceola'ta (Wight, in Wall. cat. no. 3899. Benth. scroph. ind. p. 30.) glabrous, erect; leaves lanceolate-linear, quite entire, narrowed at the base; flowers pedicellate, 1-3 together. ♃. S. Native of the Peninsula of India.

Lanceolate-leaved Herpestis. Pl. ¾ foot.

6 H. serpylloi'des (Cham. et Schlecht, in Linnæa, 2. p. 574.) suffruticose; stems radicant, tufted; leaves sessile, lanceolate, remotely and obsoletely serrated; flowers sessile, or nearly alternate and opposite; outer sepals lanceolate, acute. ♃. S. Native of Brazil, within the tropic, Sello. Habit of *Thymus serpýllum*. Flowers small.

Wild-Thyme-like Herpestis. Shrub creeping.

7 H. flagella'ris (Cham. et Schlecht, in Linnæa, 2. p. 575.) suffruticose, glabrous; stems whip-like, filiform; leaves sessile, lanceolate, nearly entire, or serrated; peduncles very long, alternate; outer sepals lanceolate, acute. ♄. S. Native of the South of Brazil, in the province of Monte Video. H. Montevidénsis, Spreng. syst. 2. p. 802. Flowers deep coloured.

Var. β, *veronicæfòlia* (Cham. et Schlecht. p. 576.) plant more slender; leaves narrower, usually serrated; serratures few, deep, rarely obsolete; flowers smaller. ♃. G. Native of Monte Video.

Whip Herpestis. Pl. creeping.

8 H. tene'lla (Cham. et Schlecht. l. c. p. 576.) herbaceous, glabrous; stems prostrate; leaves on short petioles, ovate, acutely serrated; peduncles very long, alternate; outer sepals ovate, cordate. ♃. S. Native of the South of Brazil, at Rio Pardo, Sello.

Tender Herpestis. Pl. prostrate.

9 H. callitrichoi'des (H. B. et Kunth, nov. gen. amer. 2. p. 367.) quite glabrous, prostrate; leaves oblong, acute, cuneated at the base, remotely toothed; peduncles shorter than the leaves; segments of calyx unequal, lanceolate-linear. ⊙. S. Native of sandy places near San Fernando do Apure. Morgània callitrichoìdes, Spreng. syst. 2. p. 803. Corolla pale red. Perhaps a species of *Lindérnia*.

Callitriche-like Herpestis. Pl. prostrate.

10 H. Vandellioi'des (H. B. et Kunth, l. c.) glabrous, procumbent; leaves obovate, acutish, serrated; peduncles longer than the leaves; outer segments of calyx oblong, acute, obsoletely serrated at apex. ♃. S. Native of Mexico, in the fissures of rocks between Moran and Omitlan, at the altitude of 1340 hexapods. Root perpendicular.

Vandellia-like Herpestis. Pl. procumbent.

11 H. caprarioi'des (H. B. et Kunth, l. c. p. 368.) quite glabrous, procumbent, creeping; leaves ovate, obtuse, cuneated at the base, serrately crenated; peduncles about equal in length to the leaves; outer segments of calyx oblong, acute, sub-crenated. ♃. S. Native of New Granada, in dry sandy places on the banks of the river Magdalena, near El Penon. Corolla yellow, longer than the calyx; upper lip emarginate: lower one bipartite, reflexed.

Capraria-like Herpestis. Pl. creeping.

12 H. colubri'na (H. B. et Kunth, l. c.) glabrous, procumbent; leaves oblong, acutish, cuneated at the base, serrated; peduncles twice the length of the leaves; outer segments of calyx oblong, acute, quite entire. ♃. S. Native of Peru, in humid places near Guancabamba and Sondorillo, at the altitude of 1000 hexapods, where it is called *Yerba de Coulebra* by the natives. Corolla yellow; upper lip emarginate: lower one bearded at the base. The plant is used against the bites of venomous animals.

Snake Herpestis. Pl. procumbent.

13 H. Cube'nsis (Poepp. ex Cham. et Schlecht, l. c.) this species differs from *H. tenélla* in the peduncles being opposite, and in the outer sepals being elliptic and obtuse, not as in that plant, ovate, cordate, acuminated. ♃. S. Native of Cuba.

Plant glabrous; branches twiggy. Leaves roundish-ovate, crenulated; peduncles axillary, filiform, opposite, exceeding the leaves.

Cuba Herpestis. Pl. creeping.

14 H. CHAMÆDRYOÏ'DES (H. B. et Kunth, l. c. p. 369.) glabrous, procumbent; leaves obovate, obtuse, crenately serrated; peduncles longer than the leaves; outer segments of calyx ovate-oblong, acutish, quite entire. ♃. S. Native of Quito, in temperate places near Chillo and Lulumbamba, at the altitude of 1360 hexapods. Lindérnia dianthèra, Swartz, prod. 92. fl. ind. occ. 2. p. 1058. Corolla yellow: upper lip almost entire; throat bearded. This is hardly distinct from *H. colubrìna*, H. B. et Kunth, and *H. chrysántha*, Cham. is probably the same.

Germander-like Herpestis. Pl. procumbent.

15 H. RE'PENS (Schlecht, et Cham. in Linnæa, 5. p. 107.) stems creeping, filiform; leaves sessile, roundish-ovate, entire, glabrous; peduncles downy, shorter than the leaves; outer segments of calyx ovate. ♃. S. Native of Jamaica, in watery places. Gratìola rèpens, Swartz. prod. p. 14. fl. ind. 1. p. 39. icon. t. 3. Corollas small, white.

Creeping Herpestis. Pl. creeping.

16 H. OBOVA'TA (Poepp. pl. cub. exsic. ex Schlecht, et Cham. in Linnæa, 5. p. 107.) stem woolly; leaves obovate. ♃. S. Native of Cuba. Gratìola rèpens, Willd. herb. Gratìola parviflòra and Hydrótrida Beccabúnga, Juss.

Obovate-leaved Herpestis. Pl. creeping.

17 H. CÆSPITÒSA (Cham. et Schlecht, in Linnæa, 8. p. 33.) glabrous; stems tufted, densely leafy, radicant, ascending; leaves lanceolate, quite entire, rather fleshy, 1-nerved; peduncles alternate, 3-6 times longer than the leaves; calyx somewhat unibracteate; outer segments ovate, acute. ♃. S. Native of Brazil, Sello. Habit and stature of *Verónica saxátilis*, but smaller and more slender. Leaves scarcely 2 lines long, exceeding the internodes, bluntish, subconnate. Sepals unequal, the 3 outer ones ovate, acute: the 2 inner narrower, ovate, acuminate, acute.

Tufted Herpestis. Pl. creeping.

18 H. HERNIARIOÏ'DES (Cham. et Schlecht, in Linnæa, 8. p. 34.) glabrous; stems herbaceous, tetragonal, much branched, trailing, rooting; leaves ovate, coarsely few-crenated, obtuse, narrowed into the petioles; petioles connate; flowers axillary, scattered, on short pedicels; calyx loose in the fructiferous state, not exceeding the capsule; valves of capsule entire; calycine segments obtuse; outer ones ovate-lanceolate. ♃. S. Native of Brazil, Sello. Root rather woody, nearly simple. Plant tufted. Lobes of the limb of the corolla almost equal in length, rather unequal.

Herniaria-like Herpestis. Pl. creeping, and tufted.

§ 2. *Calyx bracteate.*

19 H. FLORIBU'NDA (R. Br. prod. p. 442.) glabrous, erect; leaves linear-lanceolate, obtuse, quite entire; sepals or segments of the fructiferous calyx reticulated and subcordate; peduncles bibracteate under the apex, shorter than the leaves. ♃. S. Native of New Holland, within the tropic; and of Java, in rice fields.

Bundle-flowered Herpestis. Pl. ½ foot.

20 H. DOMINGE'NSIS (Spreng. syst. 2. p. 801.) stem erect, glabrous, branched; leaves petiolate, oblong, attenuated at the base, crenated; peduncles verticillate; fructiferous calyx reticulated. ♃.? G. Native of Hispaniola, Bertero.

St. Domingo Herpestis. Pl. erect.

21 H. ERE'CTA (Spreng. syst. 2. p. 801.) villous; stem erect; leaves ovate-oblong, subcrenulated; peduncles axillary, opposite, short, erect. ♃.? S. Native of Brazil, Sello.

Erect Herpestis. Pl. erect.

22 H. STRI'CTA (Schrad. ex Link, enum. 2. p. 142.) stem erect, glabrous, branched; leaves oblong-lanceolate, acute, running into the petioles, unequally serrated; peduncles axillary, usually solitary, short; calyxes crenulated. ♃.? S. Native of Brazil. Flowers 4-6 in a whorl, blue.

Strict Herpestis. Fl. Aug. Clt. 1824. Pl. erect.

23 H. AMPLEXICAU'LIS (Pursh, fl. amer. sept. 2. p. 418.) stems woolly; leaves short, cordate-oval, stem-clasping, entire, obtuse; peduncles shorter than the leaves. ♃. H. Native of Carolina and Georgia, in ponds and ditches. Monnièra amplexicaúlis, Michx. fl. bor. amer. 2. p. 22. Flowers blue, larger than in the other North American species.

Stem-clasping-leaved Herpestis. Fl. July, Aug. Clt. 1818. Pl. creeping.

24 H. ROTUNDIFÒLIA (Pursh, l. c.) minutely pubescent; leaves suboval-orbicular, many-nerved; peduncles opposite, about equal in length to the leaves. ♃. H. Native of Illinois and other western parts, on overflowed banks of rivers. Monnièra rotundifòlia, Michx. fl. bor. amer. 2. p. 22. Flowers small, pale blue.

Round-leaved Herpestis. Fl. July, Aug. Clt. 1824. Pl. creeping.

25 H. MICRA'NTHA (Pursh, l. c.) glabrous, succulent; leaves sessile, oval, obtuse, quite entire, striately nerved; peduncles shorter than the leaves; calyx 5-leaved; style bifid. ⊙. H. Native from Pennsylvania to Virginia, on the banks of rivers to the edge of low water mark. Flowers very small, white. This species approaches near to *Lindérnia*.

Small-flowered Herpestis. Fl. July, Aug. Clt. 1817. Pl. creeping.

26 H. MONNIE'RA (H. B. et Kunth, nov. gen. amer. 2. p. 294. Benth. scroph. ind. p. 30.) creeping, glabrous; leaves cuneiform, quite entire, or toothed at apex; flowers solitary, opposite, on long pedicels, bibracteate under the apex. ♃. S. Native throughout India, China, and the Moluccas; and throughout North and South America, West Indies, Sandwich Islands, &c. Gratìola Monnièra, Lin. amœn. acad. 4. p. 306. Jacq. obs. bot. p. 4. t. 1. Roxb. cor. 2. p. 41. t. 178. fl. ind. ed. Car. 1. p. 141. Caprària Monnièra, Roxb. in herb. Willd. no. 11526. Gratìola portulacàcea, Weinm. in syll. pl. nov. bot. zeit. 1. p. 222. Sims, bot. mag. 2557. Monnièra Brównei, Pers. ench. 1. p. 166. Monnièra cuneifòlia, Michx. fl. bor. amer. 2. p. 22. Herpéstis cuneifòlia, Pursh, fl. amer. sept. 2. p. 418. Herpéstis Bròwnei, Nutt. gen. amer. 2. p. 42. Link, enum. 2. p. 142, exclusive of synonymes. Herpéstis procúmbens, Spreng. nov. prov. p. 22. syst. 2. p. 802. Bràmia I'ndica, Lam. dict. 1. p. 459. Calýtriplex obovàta, Ruiz, et Pav. syst. fl. per. p. 164. —Ehrh. pict. t. 14. f. 2.—Browne, jam. 1. p. 296. t. 28. f. 1. —Sloan. hist. 1. p. 203. t. 129. f. 1.—Rheed. mal. 10. p. 27. t. 14. Outer segments of calyx ovate-oblong, acute, entire. Corollas small, pale blue. The natives of India use the expressed juice of this species mixed with *Petròlium* to rub on parts affected with rheumatic pains.

Monnier's Herpestis. Fl. July, Sept. Clt. 1772. Pl. creeping.

27 H. STELLARIOÏDES (Cham. et Schlecht, in Linnæa, 8. p. 32.) glabrous; stem erect, nearly simple, loose; leaves subtern, sessile, linear-lanceolate, obsoletely serrated at apex; peduncles axillary, equal in length to the leaves; calyx bibracteate: the larger segments ovate, obtuse, reticulated. ♃. S. Native of Brazil, Sello. Leaves longer than the internodes, about an inch long, rarely opposite, but usually 3 in a whorl, half stem-clasping. Bracteas and calyx as in *H. Monnièra*, but the corolla is smaller, and more deeply cleft, and the segments are narrower and longer, oblong, obtuse.

Stichwort-like Herpestis. Pl. 1 to 1½ foot.

28 H. Morane'nsis (H. B. et Kunth, nov. gen. amer. 2. p. 367.) creeping, glabrous; leaves cuneate-oblong, obtuse, obsoletely and remotely denticulated at apex, rather fleshy; peduncles longer than the leaves, bibracteate under the calyx; outer segments of calyx ovate-oblong, bluntish, quite entire. ♃. S. Native of New Spain, between Mount Ventoso and the mines of Moran, at the altitude of 1340 hexapods.

Moran Herpestis. Pl. creeping.

29 H. tomentòsa (Schlecht, et Cham. in Linnæa, 5. p. 106.) plant clothed with white wool, creeping, branched; leaves spatulate, elliptic, acutish, sessile, somewhat crenately serrated towards the apex; flowers axillary, sessile; calyx bibracteate; bracteas and calycine segments linear-acuminated and acute. ♃. S. Native of Vera Cruz, in sandy places.

Tomentose Herpestis. Pl. creeping.

30 H. lanugino'sa (Blum. bijdr. p. 747.) woolly; leaves ovate, doubly crenated; peduncles shorter than the petioles; calyx bibracteate. ♃. S. Native of humid places near Sadjram.

Woolly Herpestis. Pl. erect.?

31 H. Java'nica (Blum. bijdr. p. 743.) stems procumbent, rather villous; leaves ovate, unequally crenated, smoothish, full of depressed dots beneath; flowers nearly sessile; calyxes bibracteate. ♃. S. Native of Java, in rice fields.

Java Herpestis. Pl. procumbent.

32 H. spatula'ta (Blum. bijdr. p. 743.) quite glabrous; leaves spatulate, obsoletely serrulated above; peduncles longer than the leaves; calyx bibracteate. ♃. S. Native of Java, in bogs about Batavia and Buitenzorg.

Spatulate-leaved Herpestis. Pl. procumbent.?

N.B. Herpéstis floribúnda, Roth, nov. spec. 289, but not of R. Br., and H. rugòsa, Roth, l. c. p. 290, do not belong to this genus, or even probably to the order. They are, perhaps, Acanthaceous plants.

Cult. Most of the species require to be grown in moist soil, or in shallow water. They are readily increased by separating the rooted stems.

XXXII. MECARDO'NIA (named after Antonio Meca y Cardona, a Spanish botanist, and one of the founders of the botanic garden of Barcelona.) Ruiz. et Pav. fl. per. syst. p. 164. Mart. nov. gen. 1. p. 16. t. 208.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, unequal; the 3 outer segments the largest, propped by adnate twin bracteas. Corolla tubular; limb short, sub-bilabiate, 5-lobed. Stamens 4, didynamous, inclosed; anthers discrete. Stigma oblique, subcapitate, on an incurved style. Capsule 2-celled, completely 2-valved; dissepiment placentiferous, at length free; valves parallel.—Small, herbaceous, decumbent plants, with tetragonal stems, and opposite leaves on short petioles; and axillary and terminal flowers. This genus is nearly allied to *Herpéstis* and *Morgània.*

1 M. pusílla (Mart. pl. bras. 1. p. 16. t. 208.) leaves lanceolate, or broad-lanceolate, obsoletely serrated. ♃. S. Native of Brazil, in the provinces of St. Paul and Bahia, in sandy desert fields.

Least Mecardonia. Pl. decumbent.

2 M. ova'ta (Ruiz, et Pav. syst. veg. per. p. 164.) leaves ovate, serrated. ♃. S. Native of Peru.

Ovate-leaved Mecardonia. Pl. decumbent.

Cult. For culture and propagation see *Herpéstis* above.

XXXIII. BRA'MIA (*Brami* is the Malabar name of *Herpéstis Monnièra*, according to Rheed. mal. 10. p. 27. t. 14.) but not of Lam. nor Mart. Herpéstis, Mart. pl. bras. 3. p. 13, but not of Gærtn. and R. Br. Mèlia, Vand.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx unequal; the 3 outer segments the broadest, and subcordate: the 2 inner ones keeled. Corolla ringent, bilabiate; upper lip 2-lobed: lower lip 3-lobed. Stamens 4, didynamous; anthers discrete. Ovarium girded by a long, toothed disk. Stigma bifid. Capsule 2-celled; dissepiment placentiferous; valves bipartite.—Herbs with opposite leaves. Peduncles axillary, bibracteate.

1 B. lanígera; ♃. S. Native of tropical Brazil, Sello. Herpéstis lanígera, Cham. et Schlecht, in Linnæa, 2. p. 572. Verónica rotundifòlia Brasiliénsis, Spreng. syst. 1. p. 67. Stem creeping, woolly. Leaves sessile, ovate, orbicular, entire, feather-nerved; peduncles equal in length to the leaves and longer, bibracteate under the calyx.

Wool-bearing Bramia. Pl. creeping.

Cult. For culture and propagation see *Herpéstis*, above.

XXXIV. SPHÆROTHE'CA (from σπαιρα, *spaira*, a sphere; and θηκη, *theke*, a case, or sheath, in reference to the globular capsule.) Cham. et Schlecht, in Linnæa, 2. p. 608.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx deeply 5-parted, equal, permanent. Corolla tubular; limb unequal, 5-lobed, bilabiate; upper lip 2-lobed: lower one stretched out, and 3-lobed; lobes entire, obtuse. Stamens 4, didynamous, inclosed; filaments filiform, glabrous, short, inserted a little beneath the throat: lower ones the longest; anthers 2-celled, roundish, mutic, naked, approximating by pairs. Style inclosed; stigma bilamellate. Capsule globose, 2-celled, dehiscing slowly at the dissepiment, as also in the middle of the cells, and, therefore, the capsule appears 4-valved; dissepiment wholly placentiferous Seeds numerous, minute, oblong, angular, striated, and as if they were foveolate.—Glabrous herbs with opposite dotted leaves; axillary, 1-flowered peduncles, and bibracteate calyxes.

1 S. scoparioìdes (Cham. et Schlecht, l. c. p. 606.) ♃. H. Native of equinoctial Brazil. Root creeping.? Stem tetragonal, erect, ornamented with flowers and leaves from the base to the apex, as well as the branches. Leaves lanceolate, acute, obsoletely, unequally, and sharply serrated, feather-nerved, 2 inches long; margins and teeth cartilaginous; petioles short. Flowers small. Segments of calyx linear-lanceolate, 3-nerved. Corollas small, downy outside, bluish in the dried state.

Scoparia-like Sphærotheca. Pl. 2 to 3 feet.

Cult. For culture and propagation see *Herpéstis* above.

XXXV. DI'CEROS (from δις, *dis*, twice; and κερος, *keros*, a horn; in reference to the bicornute anthers.) Lour. coch. p. 381. Blum. bijdr. p. 751.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx bractless, 5-parted, equal. Corolla funnel-shaped; limb bilabiate, sometimes nearly equal. Stamens 4, didynamous; filaments ascending: longer ones callous at the base; cells of anthers diverging, conniving in a cruciate manner. Stigma bilamellate. Capsule nearly globose, 2-celled, 2-valved; valves undivided; dissepiment parallel; placentas adnate to the dissepiment.—Herbs with opposite leaves, and with generally terminal racemes of flowers.

Sect 1. *Corolla subcampanulate; limb 4-lobed, nearly equal.*

1 D. Cochinchine'nsis (Lour. coch. p. 381.) leaves 3 in a whorl, ovate-lanceolate, serrated, fleshy, glabrous; peduncles solitary, axillary, 1-flowered, villous. ♃. G. Native of Cochinchina, in marshy places. Root creeping. Flowers pale violet.

Corolla campanulate; segments of the limb cordate, one of them larger than the others. Stigma spoon-shaped, inflexed.

Cochinchina Diceros. Pl. 1 foot.

Sect. 2. *Limb of corolla bilabiate: upper lip emarginate: lower lip 3-lobed.*

2 D. latifo'lius (Blume, bijdr. p. 752.) leaves opposite, nearly sessile, elliptic, obtuse, cuneated at the base, bluntly toothed, rather scabrous; racemes terminal, elongated; stem nearly simple. ♃.? S. Native of Java, in humid places on the mountains.

Broad-leaved Diceros. Pl. 1 tò 2 feet?

3 D. monta'nus (Blum. bijdr. p. 752.) leaves opposite, ovate, bluntly toothed, rather pilose on both sides, as well as the stem; peduncles axillary, solitary, sub-umbellate, 3-5-flowered. ♃.? S. Native of Java, on Mount Salak.

Mountain Diceros. Pl. 1 to 2 feet?

4 D. glandulíferus (Blum. bijdr. p. 752.) downy; leaves opposite, sessile, ovate, obtuse, crenulated; raceme terminal, clothed with glandular hairs. ♃.? S. Native of Java, in grassy places near Buitenzorg, and about Batavia.

Gland-bearing Diceros. Pl. 1 to 2 feet?

5 D. cæspito'sus (Blum. bijdr. p. 753.) downy; leaves sessile, opposite, ovate, serrulated; peduncles 1-flowered, usually solitary, extra-axillary. ♃.? S. Native of Java, in the western provinces, among grass. There is a pilose and a glabrous variety of this species.

Tufted Diceros. Pl. tufted.

Cult. For culture and propagation see *Herpéstis*, p. 546.

XXXVI. LOXOPHY'LLUM (from λοξος, *loxos*, a bow; and φυλλον, *phyllon*, a leaf; in reference to the oblique leaves.) Blum. bijdr. p. 750.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx bilabiate; lip 3-parted: lower lip bipartite. Corolla bilabiate; tube ventricose: upper lip erect, emarginate: lower one larger, trifid, equal; throat papillose. Stamens 4, didynamous, exserted; anthers connected. Style inclosed; stigma obtuse, emarginate. Capsule globose, 2-celled, 4-valved; placenta central, 4-parted, at length free.—Herb downy, with a branched, nodose stem. Leaves alternate, the opposite ones being stipular, oblong, oblique; peduncles racemose, axillary.—This genus differs from *Conòbea* in the calyx being bilabiate, but the structure of the fruit and anthers are similar, as well as the habit.

1 L. racemo'sum (Blum. bijdr. p. 751.) ♃.? S. Native of Java, among stones at the foot of Mount Menari, in the province of Buitenzorg.

Racemose-flowered Loxophyllum. Pl.

Cult. For culture and propagation see *Herpéstis*, p. 546.

XXXVII. MATOU'REA (the meaning of this word is not explained by Aublet.) Aubl. guian. 2. p. 641. t. 253.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 4-parted. Corolla tubular, incurved; limb bilabiate: upper one erect, bifid: lower one deflexed, trifid, unequal. Stamens didynamous. Stigma bilamellate. Capsule 1-celled, ex Aubl., but probably 2-celled, 2-valved, many-seeded; placenta central, seminiferous. Seeds minute.—Herbs with tetragonal, nodose branches, and opposite leaves, and axillary, almost solitary flowers.

1 M. nigre'scens (Benth. scroph. ind. p. 16.) glabrous; stem erect, branched; leaves lanceolate, bluntish, toothed towards the apex. ♃. H. Native from Pennsylvania to Carolina, in ditches and wet places. Gratìola acuminàta, Walt. fl. carol. p. 61. Ell. fl. carol. p. 15. Gerárdia cuneifòlia, Pursh, fl. amer. 2. p. 422. Flowers large, pale yellow.? Calyx 5-parted.

Blackish Matourea. Pl. 1 to 1½ foot.

2 M. prate'nsis (Aubl. guian. 2. p. 642. t. 259. under M. Guianénsis.) leaves petiolate, ovate-oblong, acute, crenated. ☉. S. Native of the Island of Trinidad, and of Brazil, on road-sides. Vandéllia praténsis, Vahl, eclog. 2. p. 48. Willd. spec. 3. p. 343. Tupeicàvi, Pis. bras. 249. Corollas blue.

Meadow Matourea. Pl. 2 feet.

3 M.? du'bia; leaves lanceolate, acutely serrated, attenuated at the base, and somewhat auricled; flowers nearly sessile, subspicate. ♃. G. Native of Buenos Ayres. Gratìola tetragòna, Hook. bot. mag. t. 3134. Flowers blue.

Doubtful Matourea. Fl. Aug. Clt. 1830. Pl. 1 foot.

Cult. For culture and propagation see *Herpéstis*, p. 546.

XXXVIII. CACONA'PEA (meaning unknown to us.) Cham. et Schlecht, in Linnæa, 8. p. 28.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, unequal; upper segment the largest. Corolla tubular: limb 4-cleft, bilabiate: upper lip shorter, emarginate: lower one trifid, equal. Stamens 4, didynamous, inclosed; anthers roundish, 2-celled, emarginate at the base. Stigma compressedly bilamellate, bent a little forward. Capsule cylindrical, inclosed, 2-celled, 4-valved; dissepiment separating slowly from the inflexed valves.—An herb with the habit of *Gratìola amàra.* Leaves opposite, decussate, quite entire, full of pellucid or glandular dots. Flowers small, in axillary contracted cymes, falsely verticillate. Calyx bibracteate.

1 C. gratioloìdes (Cham. et Schlecht, l. c. p. 29.) ♃.? S. Native of Brazil, Sello; Bahia, Lhotski, in marshes. Plant glabrous, or rather pilose on the midrib and margins of the leaves. Stem purplish. Leaves complicate, linear, or linear-lanceolate, acute, longer than the internodes. Bracteas setaceous.

Gratiola-like Caconapea. Pl. 1½ to 3 feet.

Cult. For culture and propagation see *Herpéstis*, p. 546.

XXXIX. RANA'RIA (from *rana*, a frog, in allusion to the habitation of the plant, in inundated places.) Cham. et Schlecht, in Linnæa, 8. p. 30.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted; segments of equal length; outer 3 the broadest. Corolla ventricosely tubular; limb 4-cleft, nearly equal. Stamens 4, didynamous, almost erect; anthers sagittate, obtuse within the throat; cells elliptic. Stigma capitellately emarginate. Capsule inclosed, 4-valved; dissepiment membranous, thin, free, seminiferous at the axis.—A small, marsh, creeping herb. Leaves opposite, decussate, quite entire, full of pellucid dots. Flowers small, axillary, fascicled, on short pedicels. Calyx bibracteate; bracteas minute.

1 R. monnierioìdes (Cham. et Schlecht, in Linnæa, 8. p. 31.) ♃. S. Native of Brazil, in inundated places, Sello. Leaves half stem-clasping, from ovate, scarcely subcordate, narrowed at the base, bluntish, rather fleshy, shorter than the internodes.

Monniera-like Ranaria. Pl. creeping.

Cult. For culture and propagation see *Herpéstis*, p. 546.

XL. VANDE'LLIA (so named by P. Browne, in honour of Dominico Vandelli, professor of natural history at Lisbon.) Lin. mant. p. 89. Schreb. gen. no. 1040. Juss. gen. p. 122.

ed. Usteri. p. 136. Lam. ill. t. 522. f. 4. Benth. scroph. ind. p. 35.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx tubular, or campanulate, nearly equal, 5-toothed, or 5-parted. Corolla with an exserted tube, and a 5-cleft, bilabiate limb; upper lip the shortest. Stamens 4, didynamous: the 2 superior ones short; filaments entire: the 2 lower ones inserted at the base of the lower lip; filaments elongated, arched, furnished with a tooth-formed or filiform appendage each at the base; anthers cohering by pairs, 2-celled; cells diverging or divaricate, confluent at apex. Style simple; stigma flattened, bilamellate, or simple.? Capsule globose, oblong, or linear, 2-valved; valves entire, membranous, with flat margins; dissepiment parallel, placentiferous, at length free.—Glabrous or hairy herbs, sometimes with the habit of species of *Torènia*, and sometimes with the habit of species of *Bonnàya*. Stems tetragonal. Leaves opposite, usually toothed. Flowers axillary, opposite, or fascicled: the upper ones generally racemose.

§ 1. BRACHYCA'RPÆ. (from βραχυς, *brachys*, short; and καρπος, *karpos*, a fruit.) Benth. scroph. ind. p. 35. Capsule nearly globose, or ovate-oblong, shorter than the calyx, or hardly longer.

* *Calyx 5-toothed before florescence. Capsule shorter than the calyx.*

1 V. OBLÓNGA (Benth. scroph. ind. p. 35.) glabrous, erectish; leaves oblong, or lanceolate, narrowed at the base, quite entire, thickish; peduncles few, elongated, subracemose; calyx tubular, almost equally 5-toothed, or semiquinquefid; capsule globose, shorter than the calyx. ⊙. H. Native of China, near Macao, Vachell.

Oblong-leaved Vandellia. Pl. ½ to 1 foot.

2 V. MOLLUGINOÌDES (Benth. l. c.) glabrous; leaves nearly sessile, ovate-oblong, cuneated at the base, with scabrous margins; peduncles stiff, fascicled, hardly longer than the calyx; calyx narrowed at the base, 5-toothed at apex, at length cleft irregularly; capsule ovate-oblong, shorter than the calyx. ⊙.? S. Native of the Birman Empire. Torènia molluginoìdes, Benth. in Wall. cat. no. 3960. Calyxes stiff, 2 lines long. Corolla a little longer.

Mollugo-like Vandellia. Pl. ½ to 1 foot.

3 V. A'LBA (Benth. l. c.) diffuse, nearly glabrous; leaves on short petioles, ovate, rounded at the base, or cuneated; peduncles slender, fascicled, much longer than the calyx; calyx slender, somewhat 5-toothed at apex, at length hardly cleft; capsule oblong, shorter than the calyx. ⊙.? S. Native of the East Indies, at Nathpur. Torènia álba, Hamilt. in Wall. cat. no. 3961.

White-flowered Vandellia. Pl. creeping.

4 V. CRUSTA'CEA (Benth. l. c.) diffuse, glabrous; leaves ovate; peduncles axillary, or subracemose, 2-3 times as long as the calyx; calyx 5-toothed before florescence, but at length becoming 5-parted, exceeding the ovate capsule. ⊙. S. Native throughout India; in the Peninsula; at Macao in China; and at Saharumpur. Caprària crustàcea, Lin. mant. p. 87. Torènia crustàcea, Cham. et Schlecht, in Linnæa, 2. p. 570. Gratìola lùcida, Roxb. cor. 3. p. 2. t. 202. fl. ind. ed. Car. 1. p. 138. Morgània lùcida, Spreng. syst. 2. p. 802. Torènia lùcida, Hamilt. in Wall. cat. no. 3962. Gratìola áspera, Roth, nov. spec. p. 11. Hornemánnia ovàta, Link, et Otto, abbild. 1. t. 9. Tittmánnia ovàta, Rchb. icon. exot. 1. p. 27. Antirrhìnum hexándrum, Forster, prod. p. 43. no. 235.—Rheed. mal. 9. p. 113. t. 58. Morgània áspera, Spreng. syst. 2. p. 803. Calyx 2 to 2½ lines long. Corolla deep blue.

Crustaceous Vandellia. Fl. June, July. Clt. 1816. Pl. trailing.

* * *Calyx 5-parted before florescence. Capsule shorter than the calyx.*

5 V. ERE'CTA (Benth. l. c. p. 36.) erectish, glabrous; leaves nearly sessile, ovate or oblong, narrowed at the base; peduncles axillary or racemose, 2-5 times as long as the calyx; calyx 5-parted, or deeply 5-cleft before florescence; segments of the calyx lanceolate, membranous, exceeding the capsule, which is ovate. ⊙. S. Native of India; as of the Peninsula, Deyra Doon, Munghyr, Nipaul, Silhet, Birman Empire, &c. Tittmánnia trichótoma, Benth. in Wall. cat. no. 3943. Very nearly allied to *V. crustàcea*, but distinct.

Erect Vandellia. Pl. ½ foot.

6 V. ELA'TA (Benth. l. c.) glabrous, or sparingly pilose; leaves petiolate, ovate, subcordate at the base; pedicels racemose, at length hardly twice the length of calyxes; calyx 5-parted before florescence; segments lanceolate-subulate, exceeding the ovate capsule. ⊙. S. Native of the Birman Empire, at Tavoy, Wall. Tittmánnia elàta, Benth. in Wall. cat. no. 3942.

Tall Vandellia. Pl. ½ foot.

7 V. HIRSU'TA (Hamilt. mss. ex Benth. scroph. ind. p. 36.) hairy; leaves ovate: lower ones petiolate, narrowed at the base: superior ones nearly sessile, cordate at the base; pedicels racemose, at length 2-3 times as long as the calyx; calyx 2-parted before florescence; segments lanceolate, subulate, exceeding the nearly globose capsule. ⊙. H. Native of India, at Goalpara, Silhet, Peninsula, and Ava. Tittmánnia ovàta, Benth. in. Wall. cat. no. 3942. but not of Rchb. Gratìola viscòsa, Horn. hort. hafn. p. 19. Hornemánnia viscòsa, Willd. enum. p. 654. Tittmánnia viscòsa, Rchb. icon. bot. exot. 1. p. 26. t. 38. Corolla blue.

Hairy Vandellia. Fl. June, July. Clt. 1823. Pl. ½ foot.

8 V. SCA'BRA (Benth. l. c.) diffuse, hairy, or almost glabrous; leaves nearly sessile, broad-ovate, subcordate at the base, or rounded; peduncles axillary or racemose, 2-5 times as long as the calyx; calyx 5-parted before florescence: segments lanceolate, exceeding the nearly globose capsule. ⊙. S. Native of the Indian Peninsula, and at Tavoy; and of the Island of Luçon. Torènia hírta, Cham. et Schlecht, in Linnæa, 2. p. 36. Tittmánnia pusílla, Benth. in Wall. cat. no. 3945. exclusive of letter C. Tittmánnia sulcàta, Benth. in Wall. cat. no. 3946. Habit of *V. crustàcea;* but the plant, and especially the calyx, becomes black on drying. It is also like *Bonnàya rotundifòlia*, but differs in the inflorescence and stamens.

Scabrous Vandellia. Pl. diffuse, ½ to 1 foot.

9 V. LA'XA (Benth. l. c.) diffuse, hairy; leaves nearly sessile, rounded at the base, or subcordate; pedicels axillary or racemose, 2-3 times as long as the calyx; calyx 5-parted before florescence; segments subulate, very hairy, exceeding the capsule, which is nearly globose. ⊙. S. Native of the Peninsula of India, Wight. Perhaps only a variety of *V. scàbra*, but the habit and calyx are distinct.

Loose Vandellia. Pl. diffuse, ½ foot.

10 V. MÓLLIS (Benth. l. c.) hairy; leaves nearly sessile, oblong-ovate or ovate-lanceolate, clothed with soft villi; pedicels axillary or racemose, 2-4 times as long as the calyx; calyx 5-parted before florescence, very hairy, with subulate segments, exceeding the capsule, which is oblong. ⊙. S. Native of Silhet. Tittmánnia hírta, Benth. in Wall. cat. no. 3948. Segments of calyx at length 4 lines long, but in most of the other

species contained in the present section hardly more than 2 lines long.

Soft Vandellia. Pl. ½ to 1 foot.

* * * *Calyx 5-toothed or 5-cleft. Capsule ovate, a little longer than the calyx.*

11 V. SESSILIFLÒRA (Benth. l. c.) leaves nearly sessile, roundish, subcordate at the base; flowers sessile, fascicled; calyx 5-toothed, at length cleft a little; capsule oblong, exceeding the calyx a little. ⊙. S. Native of the Birman Empire, at Mount Taong Dong, Wall. Torènia sessiliflòra, Benth. in Wall. cat. no. 3959.

Sessile-flowered Vandellia. Pl. ½ foot.

12 V. MI'NIMA (Royle, mss. ex Benth. l.c.) small, simple, erect, nearly glabrous; leaves almost sessile, rounded at the base, subcordate; flowers sessile, fascicled; calyx semiquinquefid; capsule ovate, exceeding the calyx. ⊙. S. Native of Mussooree, Royle.

Least Vandellia. Pl. small.

13 V. NUMMULARIÆFÒLIA (D. Don, prod. fl. nep. p. 86.? Benth. scroph. ind. p. 37.) erect, branched; leaves nearly sessile, rounded; peduncles axillary, subfasciculate, 1-flowered or branched; capsule ovate or oblong, about twice as long as the calyx. ⊙. S. Native of Nipaul, Wall. Mussooree, Royle. Flowers small.

Money-wort-leaved Vandellia. Pl. ¼ foot.

§ 2. SILIQUÒSÆ (from *siliqua*, a long pod; in reference to the elongated capsules.) Capsule oblong-linear, longer than the calyx.

14 V. DIFFU'SA (Lin. mant. p. 89. Benth. l. c.) diffuse, downy; leaves broad-ovate, nearly sessile; flowers axillary, almost sessile; calyx subquinquefid, one half shorter than the capsule, which is oblong. ⊙. S. Native of Brazil, Mauritius, and the Peninsula of India; Islands of Montserrat and Santa Cruz. Gratìola origanifòlia, Vahl, enum. 1. p. 99.? Bonnàya origanifòlia, Spreng. syst. 1. p. 42.—Marcgr. bras. t. 32. f. 1. Habit of *Verónica serpyllifòlia*. Corolla white.

Diffuse Vandellia. Fl. July, Aug. Clt. 1824. Pl. diffuse.

15 V. PEDUNCULA'TA (Benth. l. c.) smoothish, loosely procumbent; leaves ovate; pedicels axillary, solitary, elongated; calyx 5-parted, about one half shorter than the capsule, which is oblong-linear. ⊙. S. Native of the Peninsula of India; Ceylon, Silhet, &c. Tittmánnia grandiflòra, Benth. in Wall. cat. no. 3949. Hardly distinguishable from *Bonnàya grandiflòra*.

Pedunculate-flowered Vandellia. Pl. procumbent.

16 V. ANGUSTIFÒLIA (Benth. l. c.) glabrous, loosely diffuse; leaves oblong-linear; pedicels axillary, elongated; calyx 5-parted, one half shorter than the capsule, which is oblong-linear. ⊙. S. Native of Nipaul, Wall.; at Nathpur, Hamilt. Tittmánnia angustifòlia, Benth. in Wall. cat. no. 3951.

Narrow-leaved Vandellia. Pl. diffuse, 1 foot.

† *Species hardly known.*

17 V. CHAMÆ'DRYS; stem dichotomous, rather pilose; leaves ovate, obtuse, tapering into the petioles, 3-nerved, coarsely and bluntly serrated, ciliated; peduncles longer than the leaves; calyx obsoletely pentagonal, 5-cleft, length of capsule, which is roundish. ⊙. S. Native of the East Indies. Gratìola chamæ'drys, Roth. nov. spec. p. 10. Flowers axillary at the tops of the branches. Calycine teeth acuminated, obtuse. Perhaps a species of *Stemòdia?*

Germander Vandellia. Pl. diffuse.

18 V. CORDIFÒLIA; leaves subcordate-ovate, petiolate, crenated; peduncles axillary; stems prostrate. ⊙.? S. Native of the East Indies, in humid grassy places. Gratìola cordifòlia, Konig. in Vahl, enum. 1. p. 97. Bonnàya cordifòlia, Spreng. syst. 1. p. 42. Stems quite simple, 1½ foot long. Upper leaves sessile, half a foot long: lower ones smaller, remote. Peduncles one half longer than the leaves. Segments of calyx linear. Corolla white, with a yellow throat. Capsule subulate, one half longer than the calyx.

Heart-leaved Vandellia. Pl. prostrate.

19 V. STRIGÒSA; stems dichotomous, and are, as well as the alternate divaricate branches, strigose; leaves opposite, ovate, acutish, running into the petioles, serrulated, glabrous; racemes terminal, nearly naked, loose; capsule ovate, acuminated, a little higher than the calyx. ⊙. S. Native of the East Indies. Gratìola strigòsa, Roth, nov. spec. p. 12. Morgània strigòsa, Spreng. syst. 2. p. 803. Flowers small. Pedicels filiform, furnished with a minute, ovate, obtuse bractea each at the base. Calyx 5-parted almost to the base, glabrous; segments linear-lanceolate, acute, unequal: upper one longer and narrower than the rest.

Strigose Vandellia. Pl. diffuse.

20 V. ROXBU'RGHII; annual, diffuse; leaves sessile, cordate, serrated; flowers solitary, on long peduncles; calyx 5-parted; superior filaments with a sterile branch. ⊙. S. Native of Coromandel, where it appears during the rainy season. Vandéllia diffùsa, Willd. spec. 3. p. 343. but not of Lin.? Torènia diffùsa, Roxb. fl. ind. 3. p. 95.

Roxburgh's Vandellia. Pl. diffuse.

21 V. VA'RIANS; annual, erect, 4-sided, smooth; leaves opposite, petiolate, cordate-ovate, serrate: flowers axillary, solitary; calyx 5-toothed; corolla ringent, longer filaments with a sterile branch. ⊙. S. Native of Coromandel and Bengal, where it appears during the rainy season. Torènia vàrians, Roxb. fl. ind. 3. p. 96.

Varying Vandellia. Pl. erect.

22 V. MULTIFLÒRA; annual, erect, 4-sided, smooth; leaves opposite, oblong, subserrated; flowers terminal; calyx 5-parted; corolla bilabiate; superior filaments with a sterile branch; capsule ovate. ⊙. S. Native of Bengal, appearing in the rainy and cool season. Torènia multiflòra, Roxb. fl. ind. 3. p. 96.

Many-flowered Vandellia. Pl. erect.

Cult. For culture and propagation see *Masus*, p. 542.

XLI. ELLO'BUM (meaning not explained by M. Blume.) Blum. bijdr. p. 746.

LIN. SYST. *Didynàmia, Angiospermia.* Calyx 5-parted, equal. Corolla funnel-shaped; limb bilabiate; upper lip retuse: lower one 3-lobed, larger; middle lobe narrower. Stamens 4, didynamous, exserted; anthers 2-celled, connected, mutic. Stigma obtuse, emarginate. Capsule silique-formed, subulate, 2-celled, many-seeded.—A radicant pilose herb, with opposite, petiolate, ovate, serrated leaves; and axillary, few-flowered racemes; fructiferous pedicels recurved.

1 E. MONTA'NUM (Blum. bijdr. p. 747.) ♃. S. Native of Java, in the province of Bantam, among the mountains.

Mountain Ellobum. Pl. creeping.

Cult. For culture and propagation see *Herpéstis*, p. 546.

XLII. ARTANE'MA (from αρταω, *artao*, to append; and νημα, *nema*, a filament; and is intended to designate the structure of the stamens.) D. Don, in Sweet, fl. gard. n. s. t. 234. Benth. scroph. ind. 39.—Díceros species, Pers. Benth.—Archimènes species, Vahl.—Colúmnea species, Lin.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted,

nearly equal. Corolla funnel-shaped or campanulate; limb 4-cleft, sub-bilabiate; upper segment broader; tube furnished with 4 scales inside. Stamens 4, didynamous: the 2 upper ones short, with entire filaments: and the 2 lower ones inserted at the base of the lower lip, with elongated arched filaments, which are furnished each with a short blunt appendage; anthers cohering by pairs: with divaricate confluent cells. Capsule nearly globose, 2-valved; valves entire, with flat edges; dissepiment parallel, placentiferous, at length free.—Glabrous herbs, with the habit of *Sésamum;* and with the character almost of *Torènia*. Stems tetragonal. Leaves opposite, subserrated. Flowers disposed in terminal racemes, opposite, on short pedicels. Corollas generally blue.

1 A. fimbria'ta (D. Don, in Sweet, fl. gard. 234.) leaves lanceolate, acute, serrated; corolla large, tubularly funnel-shaped; calycine segments lanceolate, mucronulate; bracteas ovate. ♃. G. Native of New Holland, on the banks of the Brisbane river at Moreton Bay. Torènia? fimbriàta, Graham, in edinb. phil. journ. sept. 1831. Torènia scàbra, Graham, in bot. mag. 3104. Racemes terminal, 4-16-flowered. Corolla large, blue, clothed with minute glandular pubescence outside; lobes of corolla unequally serrated. Stem smooth, glossy. Leaves rough to the touch from numerous elevated dots.

Fringed-flowered Artanema. Fl. June, Nov. Clt. 1830. Pl. 2 to 3 feet.

2 A. 'angustifòlia (Benth. scroph. ind. p. 39.) leaves narrow-lanceolate; corollas nearly funnel-shaped, twice the length of the calyx. ♃. S. Native of Singapore. Díceros angustifòlius, Benth. in Wall. cat. no. 3885.

Narrow-leaved Artanema. Pl. 2 to 3 feet.

3 A. sesamoi'des (Benth. l. c.) leaves oblong or ovate-lanceolate; corollas subcampanulate, twice the length of the calyx. ♃. S. Native of the Peninsula of India. Colúmnea longifòlia, Lin. mant. p. 90. Archimènes sesamoìdes, Vahl, symb. 2. p. 71. Sésamum Javánicum, Burm. ind. p. 133. Retz, obs. 4. p. 28. Díceros longifòlius, Pers. ench. 2. p. 164. Blum. bijdr. p. 751.—Rheed. mal. 9. p. 169. t. 87.

Sesamum-like Artanema. Pl. 2 to 3 feet.

Cult. The species grow freely in light rich soil, and are readily increased by cuttings.

XLIII. TORE'NIA (so named by Linnæus after Olof Toreen, a Swedish clergyman, who discovered *T. Asiática*, with other plants, in China. His voyage to Suratte, China, &c. from 1750 to 1752, is printed with Osbeck's Voyage to China.) Lin. gen. no. 754. Schreb. gen. no. 1011. Juss. gen. p. 122. ed. Usteri, p. 136. Benth. scroph. ind. p. 38. Lam. ill. 523. f. 1.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx tubular, plicate, obliquely 5-toothed or bilabiate; lips 2-3-toothed. Corolla ringent; upper lip bifid: lower one trifid; segments almost flat. Stamens 4, didynamous: the 2 upper ones short, with entire filaments: the 2 lower ones inserted at the base of the lower lip; with arched elongated filaments, which are each furnished with a tooth-formed or filiform appendage at the base; anthers approximating or cohering by pairs, 2-celled: cells diverging or divaricate, confluent at apex. Style simple. Stigma flattened, bilamellate or simple? Capsule oblong, shorter than the calyx, 2-valved; valves entire, with flat margins; dissepiment parallel, placentiferous, at length free.—Branched, glabrous, or villous herbs, diffuse at the base. Stems tetragonal. Leaves opposite, usually toothed. Flowers axillary, opposite, or fascicled, sometimes racemose.

1 T. racemòsa (Benth. in Wall. cat. no. 3957. B. C. scroph. ind. p. 38.) hairy; leaves ovate, acute, wrinkled; flowers opposite, racemose; corolla more than a half longer than the calyx. ♃. S. Native of Silhet and Penang. Fructiferous calyx 7-8 lines long. Corollas blue.

Racemose-flowered Torenia. Pl. 1 to 2 feet.

2 T. fla'va (Hamilt. in Wall. cat. no. 3957. Benth. scroph. ind. p. 38.) rather hairy; leaves ovate-oblong, obtuse, wrinkled; flowers opposite, racemose; corolla hardly exceeding the calyx. ♃. S. Native at Goalpara, Hamilt. Fructiferous calyx 6-7 lines long. Corolla yellow.

Yellow-flowered Torenia. Pl. 1 foot.

3 T. Asia'tica (Lin. spec. p. 862. amœn. 3. p. 25. Lam. ill. t. 523. f. 1.) leaves ovate or ovate-lanceolate; peduncles axillary, subfasciculate; corolla twice the length of the calyx, which is oblong, and attenuated at the base. ♃. S. Native throughout India, especially in the mountainous parts. Benth. scroph. ind. p. 38. T. cordifòlia, Benth. in Wall. cat. no. 3945. but not of Roxb. T. diffùsa, D. Don, prod. fl. nep. p. 86. T. pedunculàris, Benth. in Wall. cat. no. 3956. T. álba, Hamilt. ex Benth. in Wall. cat. no. 3961. T. hiàns, and T. vàgans, Roxb. fl. ind. 3. p. 96. T. hirsùta, Willd. spec. 3. p. 266. Gratìola alàta, Roxb. fl. ind. ed. Car. 1. p. 137.? Bonnàya alàta, Spreng. syst. 1. p. 41. Henckèlia alàta, Link et Schwægr. et Dietr. spec. pl. 1. p. 573.—Rheed. mal. 9. p. 103. t. 53.—Plukn. amalth. 85. t. 373. f. 2. This species varies in hairiness, form of leaves, and size of corollas, as it now stands; but there are probably several species confused under the name. The original plant is said to have been quite glabrous. Fructiferous calyx 8-10 lines long. Calyx 5-winged. Stems creeping, 1 foot.

Asiatic Torenia. Fl. July, Aug. Clt. 1823. Pl. 1 to 2 feet.

4 T. obtu'sa (Blum. bijdr. p. 754.) stem creeping; leaves nearly sessile, ovate, bluntish, obsoletely and repandly serrated, smoothish; peduncles axillary, terminal, 1-flowered; upper lip of corolla obtuse; capsule longer than the calyx. ♃. S. Native of the western provinces of Java, in humid places.

Obtuse-leaved Torenia. Pl. creeping.

5 T. minu'ta (Blum. bijdr. p. 755.) stem creeping; leaves on short petioles, ovate, setaceously serrated, subciliated; peduncles axillary and terminal, 1-flowered; superior lip of corolla emarginate; capsule equal in length to the calyx. ♃. S. Native of Java, in humid grassy places about Buitenzorg.—Rheed. mal. 10. t. 50. Said by Blume to be allied to *T. hirsùta.*

Minute Torenia. Fl. Year. Pl. creeping.

6 T. cordifòlia (Roxb. cor. 2. p. 32. t. 161.) leaves ovate-cordate; peduncles axillary, subfascicled, or solitary; corollas about twice the length of the calyx, which is ovate and rounded at the base. ♃. S. Native of the Circars, Roxb.; Mussooree, Royle. Fructiferous calyx broadly winged, hardly 4 lines long. Corollas bluish purple. Plant rather hairy.

Cordate-leaved Torenia. Pl. ½ foot.

7 T. parviflòra (Hamilt. in Wall. cat. no. 3958.) leaves ovate; flowers axillary, somewhat fascicled; corolla hardly exceeding the linear calyxes, which is attenuated at the base. ♃.? S. Native at Goalpara, Hamilt.; Birman Empire, Wall.; and of Brazil, near Bahia and Rio Janeiro; and in the Mauritius and Madagascar. Nortènia Thouársii, Cham. et Schlecht, in Linnæa, 3. p. 18. Torènia pedunculàta, Willd. herb. no. 11547. Torènia veronicæfòlia, Willd. herb. no. 11546.

Small-flowered Torenia. Pl. ½ to 1 foot.

8 T. polygonoi'des (Benth. scroph. ind. p. 39.) procumbent; leaves roundish; peduncles axillary, umbellately 3-4-flowered; calyx campanulate, broadly 3-winged; tube of corolla shortly exserted. — Native of Singapore. Herpéstis polygonoìdes, Benth. in Wall. cat. no. 3897.

Polygonum-like Torenia. Pl. procumbent.

9 T. sca'bra (R. Br. prod. p. 440.) leaves lanceolate-ovate, serrated, scabrous; stem erect, pubescent; calyx 5-toothed, equal. ♃. S. Native of New Holland, within the tropic. Tittmánnia scàbra, Spreng. syst. 2. p. 800.

Scabrous Torenia. Pl.?

10 T. fla'ccida (R. Br. l. c.) leaves broad-ovate, obtuse, crenated, and are, as well as the stem, glabrous; peduncles 3-4 times longer than the flowers. ♃. S. Native of New Holland, within the tropic.

Flaccid Torenia. Pl.?

Cult. For culture and propagation see *Herpéstis*, p. 546.

XLIV. HETERA'NTHA (from ἑτερος, *heteros*, variable; and ανθος, *anthos*, a flower; flowers variable.) Nees et Mart. in nov. act. bonn. 11. p. 42. t. 3. Vrolíkia polygaloìdes, Spreng. syst. 3. p. 165. and 4. p. 222.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx membranous, campanulate, 5-cleft. Corolla bilabiate; upper lip smaller, oblong, entire: lower one broader, concave, 3-lobed; middle lobe larger and emarginate. Stamens 4, didynamous; anthers cordate; cells contiguous; lobes of the upper ones clasping the style. Capsule 2-celled, 2-valved, with a septicidal dehiscence. Placentas fixed to the middle of the dissepiment.—A perennial creeping plant, with ascending branches. Branches terete, downy from fascicles of small hairs. Leaves alternate, nearly orbicular, obtuse, with a small point, quite entire, running into the petioles, rather hairy. Flowers disposed in simple, erect, subsecund, naked racemes, rising from the upper internodes, extrafoliaceous. Calyx blue. Corolla white. Capsule ovate, a little compressed, acute, smooth, white.

1 H. decípiens (Mart. l. c. p. 42.) ♃. S. Native of Brazil, on the road to Felisbert.

Deceiving Heterantha. Pl. ½ creeping at the base.

Cult. For culture and propagation see *Herpéstis*, p. 546.

XLV. LINDE'RNIA (so named by Allioni, from Franc. Balthasar à Lindern, physician at Strasburgh, author of "Hortus Alsaticus." 1747.) Allion. misc. taur. 3. p. 178. t. 5. pedem. no. 203. Schreb. gen. no. 1031. Lin. mant. p. 141. Juss. gen. p. 122. 540. ed. Usteri, p. 137. Lam. ill. t. 522. f. 3. R. Br. prod. p. 440.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, equal. Corolla ringent; upper lip retuse: lower one trifid, bicarinated at the base. Stamens didynamous; lower filaments bifid; anthers cohering by pairs. Stigma bilamellate. Capsule 2-celled, 2 valved; valves entire; dissepiment parallel, free, placentiferous.—Slender herbs. Leaves opposite. Peduncles axillary and terminal, bractless, deflexed while bearing the fruit, but upright after the dehiscence of the capsule.

§ 1. Ve'ræ. *Filaments* 4, *all fertile*, 2 *longer ones forked.*

1 pyxida'ria (Lin. syst. p. 475.) leaves oblong-ovate, quite entire, 3-nerved, sessile; peduncles axillary, 1-flowered; stems procumbent. ⊙. H. Native of Alsatia, Silesia, Germany, Carinthia, Piedmont, &c., in bogs. Lam. ill. t. 522. Pyxidaria repens annua, flosculis monopetalis unilabiatis, Lindern. als. 1. p. 152. t. 1. and 2. p. 267. Caprària gratioloìdes, Lin. spec. 876. Anagalloìdes procúmbens, Krok. siles. 2. no. 1001. t. 26. Peduncles shorter than the leaves; but the upper ones are usually longer. Corolla pale purple.

Pyxidaria Lindernia. Fl. June, Aug. Clt. 1789. Pl. procumbent.

2 L. Kitaibe'lii; lower leaves obovate: superior ones oblong-ovate, all obtuse and quite entire, nerveless; peduncles axillary, 1-flowered, exceeding the leaves; stem creeping. ⊙. H. Native of Pannonia, in marshes. Gratìola inundàta, Kit. in Schultz, austr. fl. 2. p. 32. Spreng. pug. 1. p. 1. Leaves 3, nerved beneath. Perhaps the same as *Lindérnia pyxidària*.

Kitaibel's Lindernia. Pl. creeping.

3 L. alsinoi'des (R. Br. prod. p. 441.) leaves ovate, entire or few-toothed: cauline ones distant: floral ones minute; tube of corolla a little longer than the calyx; stem erect. ⊙.? S. Native of New Holland, within the tropic. Tittmánnia alsinoìdes, Spreng. syst. 2. p. 800.

Chickweed-like Lindernia. Pl. erect.

4 L. scapi'gera (R. Br. l. c.) leaves broadly ovate, almost quite entire: lower ones crowded: cauline ones very few, smaller: floral ones minute; tube of corolla twice as long as the calyx. ⊙.? S. Native of New Holland, within the tropic. Tittmánnia scapígera, Spreng. syst. 2. p. 800.

Scape-bearing Lindernia. Pl. small.

5 L. subula'ta (R. Br. l. c.) leaves linear, subulate, entire. ⊙.? S. Native of New Holland, within the tropic. Tittmánnia subulàta, Spreng. syst. 2. p. 800.

Subulate-leaved Lindernia. Pl. small.

§ 2. America'næ. Filaments 4, the 2 longer ones forked and sterile.

6 L. Montevide'nsis (Spreng. syst. 2. p. 769.) stem procumbent, branched; leaves spatulate, linear, nerveless; peduncles axillary, 1-flowered; calyxes foliaceous. ⊙. H. Native of Monte Video, Sello.

Monte Video Lindernia. Pl. small, procumbent.

7 L. monti'cola (Nutt. gen. 1. p. 9.) stem erect, dichotomous; radical leaves spatulate: cauline ones linear, remote; peduncles elongated: fructiferous ones deflexed. ♃. H. Native of North Carolina. Tittmánnia monticola, Spreng. syst. 2. p. 800.

Mountain Lindernia. Pl. ¼ foot.?

8 L. grandiflòra (Nutt. gen. amer. 2. p. 43.) leaves almost round, thickish, entire and nerveless, somewhat stem-clasping; peduncles very long, axillary and terminal; sterile filaments forked; stem creeping. ♃. H. Native of Georgia, on the spongy margins of sandy springs and ponds betwixt Savannah and Augusta, in many places. Leaves crowded. Segments of the calyx linear-subulate. Corolla large, of a violet blue: lower lip paler, 3-lobed: upper lip very short, bidentate. The lateral forks of the sterile filaments producing an imperfect 1-celled anther. Capsule ovate.

Great-flowered Lindernia. Pl. creeping.

9 L. dilata'ta (Muhl. cat. ex Elliott, fl. car. 1. p. 16.) leaves dilated at base, stem-clasping, sparingly toothed; peduncles longer than the leaves. ⊙. H. Native from New York to Virginia, Carolina, &c. on the banks of rivers, in gravelly soil. L. pyxidària, Pursh, fl. 2. p. 419. Gratìola inæquàlis, Walt. car. p. 61. Gratìola anagallídea, Michx. fl. bor. amer. 1. p. 6. Leaves obscurely 3-5-nerved. Calyxes pubescent, ciliated. Corolla purple.

Dilated-leaved Lindernia. Pl. procumbent.

10 L. attenua'ta (Muhl. cat. ex Elliott, l. c. p. 17.) leaves lanceolate and obovate, attenuated at the base; peduncles one half shorter than the leaves. ⊙. H. Native of Georgia, in wet places. Leaves serrulated, villous. Calyxes ciliated. Sterile filaments villous.

Attenuated-leaved Lindernia. Pl. procumbent.
Cult. For culture and propagation see *Herpéstis*, p. 546.

XLVI. LIMOSE'LLA (a dim. of *Limus*, mud, in which the plants delight to grow.) Lin. gen. no. 776. Schreb. gen. no. 1039. Gærtn. fruct. 1. p. 228. t. 50. Juss. gen. p. 96. ed. Usteri, p. 108. Lam. ill. t. 535. f. 2. R. Br. prod. 443.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-cleft, equal. Corolla short, campanulate, 5-cleft, equal. Stamens didynamous, or rarely equal; sometimes only 2. Stigma capitate. Capsule semibilocular, 2-valved; valves entire; dissepiment incomplete. —Small marsh creeping herbs. Leaves fascicled; petioles dilated at the base, half sheathing. Scapes 1-flowered, bractless. In the natural series this genus comes near *Pinguícula.*

1 L. aqua'tica (Lin. spec. 881.) leaves lanceolate-spatulate, longer than the scapes; flowers didynamous, rarely diandrous. ⊙. W. H. Native of the North of Europe, in inundated places; in some parts of Britain, in like situations. Smith, engl. bot. 357. Oed. fl. dan. t. 69. L. ánnua, Lindern. als. 266. t. 5. Plantaginélla, Hall. jen. 23. t. 6. f. 2. Plantaginélla palústris, Bauh. pin. p. 190. Mor. hist. 3. p. 605. sect. 15. t. 2. f. 1. Petiv. brit. t. 65. f. 12.—Loes. pruss. 261. t. 81.—Plukn. alm. 20. t. 74. f. 4.—Mentz. 2. t. 7. f. 6. Corollas small, whitish without, and reddish within.

Var. β, *Limosella diándra*, Krock. fl. sil. 2. no. 1006. t. 27. f. β. flowers diandrous.

Aquatic Mudwort. Fl. July, Sept. Britain. Pl. creeping.

2 L. Austra'lis (R. Br. prod. p. 443.) leaves spatulate-linear, longer than the scapes; flowers didynamous, rarely diandrous. ⊙. W. G. Native of Van Diemen's Land, and the south coast of New Holland, in marshes.

Southern Mudwort. Pl. creeping.

3 L. tenuifòlia (Nutt. journ. acad. sc. phil. 1. p. 115. gen. amer. 2. p. 43.) leaves linear and very narrow, scarcely dilated at the points; scapes 1-flowered, about equal in length with the leaves; flowers tetrandrous. ⊙. W. H. Native of Germany, and North America, on the banks of the Delaware. Corolla white, externally blue, 4-5-lobed.

Fine-leaved Limosella. Pl. creeping.

Cult. The species being hardy, aquatic annuals, the seeds may be sown by the edge of a pond, or cistern.

XLVII. HYDRANTHE'LIUM (from ὕδωρ, *hydor*, water; and ανθηλιον, *anthelion*, a little flower.) H. B. et Kunth, nov. gen. 7. p. 202. Willíchia, Mutis.

Lin. syst. *Triándria, Monogýnia.* Calyx deeply 4-parted, bractless, permanent; segments opposite, by pairs, 2 of which are oblong, obtuse, 3-nerved; and the other 2 are lanceolate, acutish, 1-nerved. Corolla funnel-shaped; limb trifid; the third lobe twice the breadth of the others, and emarginate. Stamens 3, inserted in the throat of the corolla, and alternating with its lobes, and shorter than them; anthers oblong, 2-celled. Stigma 2-lobed. Capsule ovate-roundish, mucronate, membranous, 2-celled? 2-valved? dissepiment placentiferous on both sides, at length free. Seeds many, subcylindrical, a little arched, exalbuminous, striated, pendulous. Embryo cylindrical, 2-lobed. Radicle superior looking to the hilum.—A small, floating, glabrous, radicant herb. Leaves opposite, quite entire, 7-nerved. Flowers axillary, solitary, alternate, pedicellate, minute, white. This genus comes very near to *Lindérnia* and *Limoséllа*; but is distinguished from them in the structure of calyx, corolla, and number of stamens.

1 H. callitrichoi'des (H. B. et Kunth, l. c. 7. p. 203. t. 644.) ⊙. W. S. Native in the Missions of the Orinoco, in the cataract of Atures.

Callitriche-like Hydranthelium. Pl. aquatic.

Cult. For culture and propagation see *Limnóphila*, p. 543.

XLVIII. CONO'BEA (meaning not explained by Aublet.) Aubl. guian. 2. p. 639. t. 257. Juss. gen. p. 97. ed. Usteri, p. 109. Lam. ill. t. 522. f. 2.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx tubular, 5-toothed, bibracteate at the base. Corolla tubular, bilabiate; upper lip erect, emarginate; lower lip 3-lobed, unequal. Stamens 4, didynamous; anthers sagittate. Stigma 2-lobed. Capsule pea-formed, girded by the calyx, 1-celled, 4-valved, many-seeded; placenta central, free.—A creeping marsh herb. Stems tetragonal. Leaves opposite. Flowers solitary, axillary, pedicellate.

1 C. aqua'tica (Aubl. l. c.) stems procumbent, nodose; leaves reniform, toothed, half stem-clasping; peduncles longer than the leaves, solitary.—Native of Guiana, on the edges of rivers. Flowers blue. Plant glabrous. Calyx 5-toothed.

Aquatic Conobea. Pl. creeping.

2 C. puncta'ta (Mart. in act. bonn. 11. p. 43.) stem ascending, rooting at the base; leaves ovate, acute, serrated, dotted, scabrous above; flowers axillary, twin, a little shorter than the petioles. ↄ. G. Native of Brazil, on the road to Felisbert. Leaves 1 to 1½ inch long. Calyx 5-parted; segments ovate-lanceolate, acuminated, with membranous edges. Corolla twice as long as the calyx. Segments of the lower lip oblong, undulated.

Dotted Conobea. Pl. 1 foot, procumbent at the base.

3 C. viscòsa (Spreng. syst. 2. p. 771.) stem erect, clammy at top; leaves lanceolate, sharply serrated, quite glabrous; peduncles usually twin, shorter than the leaves.—Native of Brazil.

Clammy Conobea. Pl. erect.

Cult. For culture and propagation see *Herpéstis*, p. 546.

XLIX. MI'MULUS (from μιμω, *mimo*, an ape or actor; so named from the ringent corollas of the species.) Lin. gen. no. 783. Schrad. gen. no. 1049. Gærtn. fruct. 1. p. 245. t. 53. Juss. gen. 122. ed. Usteri, 137. R. Br. prod. 439. H. B. et Kunth, nov. gen. 2. p. 369. Benth. scroph. ind. 27.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx tubular, 5-angled, 5-toothed. Corolla ringent; upper lip 2-lobed: lower one trifid, usually bi-gibbous at the base; segments all flat. Stamens 4, didynamous, inclosed; cells of anthers diverging or divaricate, at length subconfluent. Stigma bilamellate. Capsule hardly furrowed, 2-valved, with a loculicidal dehiscence; valves entire, with flat margins; dissepiment at length free; placentas adnate.—Erect or procumbent, glabrous, rarely villous herbs; with usually tetragonal stems. Leaves opposite, usually toothed, rarely quite entire. Flowers axillary, solitary, pedicellate: superior ones sometimes racemose.

§ 1. *Stems erect. Leaves feather-nerved. Calyx tubular.*

1 M. linea'ris (Benth. scroph. ind. p. 27.) plant suffruticose, very clammy; stem erect, branched; leaves linear, quite entire, with revolute edges; peduncles subracemose; calyxes elongated, plicate, with lanceolate-linear, obtuse, unequal teeth. ♄. F. Native of California, Douglas.

Linear-leaved Monkey-flower. Shrub erect.

2 M. glutinòsus (Wendl. obs. p. 51.) shrubby, clammy; stem erect, downy; leaves glabrous above, oblong or lanceolate,

narrowed at the base, erosely toothed or quite entire; peduncles shorter than the leaves; calyx elongated, plicate, with lanceolate-linear, unequal segments. ♄. F. Native of California, Menzies and Douglas. M. aurantìacus, Curt. bot. mag. 354. Flowers orange-coloured, generally growing in pairs from the axils of the leaves.

Clammy Monkey-flower. Fl. Year. Clt. 1794. Shrub 2 to 4 feet.

3 M. rí'ngens (Lin. spec. 884.) quite glabrous; stem erect; leaves oblong or lanceolate, a little toothed, dilated at the base, cordately stem-clasping; calyx tubular, a little incurved, plicate, with lanceolate-linear unequal teeth. ♃. H. Native of North America, from Virginia to Canada. Curt. bot. mag. 283.—Lin. hort. ups. 176. t. 2. act. ups. 1741. p. 82.—Plukn. amalth. 83. t. 393. f. 3.—Mor. hist. 2. p. 479. sect. 5. t. 8. f. 6. Corolla violaceous or purple.

Gaping-flowered Monkey-flower. Fl. July, Aug. Clt. 1759. Pl. 1½ foot.

4 M. ala`tus (Ait. hort. kew. 2. p. 361.) glabrous; stem erect; leaves large, oblong-elliptic, acuminated, narrowed into the petioles at the base; calyx tubular, plicate, truncate, with linear teeth. ♃. H. Native of North America. Lodd. bot. cab. 410. Habit of the preceding. Stem 4-winged from the decurrence of the leaves. Corolla blue or purple. Leaves unequally serrated.

Winged-stemmed Monkey-flower. Fl. July, Aug. Clt. 1783. Pl. 1 foot.

5 M. stri'ctus (Benth. in Wall. cat. no. 3918. scroph. ind. p. 28.) erect, glabrous; leaves oblong-lanceolate, obtuse, almost quite entire, hardly narrowed at the base, cordately stem-clasping; peduncles longer than the leaves; calyx ovate-tubular, hardly plicate, with ovate, short, nearly equal teeth. ♃. H. Native of India, in Rajemahl, Wall.; and at Kheeree Pass, Royle.

Strict Monkey-flower. Pl.

6 M. hirsu`tus (Blum. bijdr. p. 756.) hairy; leaves petiolate, ovate-lanceolate, serrated; pedicels racemose, opposite; stem erect, sharply tetragonal. ♃. S. Native of Java, in the province of Bantam.

Hairy Monkey-flower. Fl. Feb. Pl. erect.

§ 2. *Stems generally procumbent or creeping, rarely erect. Leaves 3-5-nerved, toothed. Calyx ovate or tubular, usually inflated.*

7 M. bre'vipes (Benth. scroph. ind. p. 28.) downy; stem erect, clammy; leaves oblong-lanceolate or linear, a little toothed, narrowed at the base and nearly sessile; or the upper ones are stem-clasping; flowers nearly sessile; calyx ovate, plicate, cleft on one side: teeth lanceolate, unequal. ♃. F. Native of California, Douglas.

Short-peduncled Monkey-flower. Pl. erect.

8 M. Lewísii (Pursh, fl. amer. sept. 2. p. 427. t. 20.) plant small, erect, downy; leaves sessile, oblong-lanceolate, acute, nerved, mucronately denticulated; flowers few, terminal, on very long pedicels; teeth of calyx acuminated. ♃. H. Native on the head springs of the Missouri, at the foot of Portage Hill. Flowers large, beautiful pale purple.

Lewis's Monkey-flower. Fl. Aug. Clt. 1824. Pl. ½ to ¾ foot.

9 M. cardina`lis (Dougl. mss. ex Benth. scroph. ind. p. 28.) villous; leaves stem-clasping, ovate, with erosely toothed margins; peduncles longer than the leaves; calyx large, inflately tubular, hardly plicate, with ovate-acute teeth; anthers villous. ♃. F. Native of California, Douglas. Corollas large, red.

Cardinal Monkey-flower. Fl. June, Aug. Clt. 1835. Pl. 1 to 2 feet.

10 M. ròseus (Dougl. mss. Lindl. bot. reg. t. 1591. Benth. scroph. ind. p. 28.) pubescent; leaves stem-clasping, oblong, a little toothed, 5-nerved; peduncles shorter than the leaves; calyx large, subinflately tubular, with ovate-acute, nearly equal teeth; anthers glabrous. ♃. F. Native of North West America, along the Columbia river. Corollas rose-coloured.

Rose-coloured-flowered Monkey-flower. Fl. July, Aug. Clt. 1831. Pl. 1 foot.

11 M. lu`teus (Lin. spec. 884.) glabrous; leaves erosely toothed: lower ones on long petioles, ovate, or somewhat lyrate: superior ones rounded, cordately stem-clasping; calyx ovate, but campanulate in the fructiferous state, with ovate-acute teeth: the upper tooth larger. ♃. F. Native of Chili. Lindl. bot. reg. t. 1030. 1796. Hook. bot. mag. t. 3336. 3353. and 3363.—Feuill. per. 2. p. 745. t. 34. Corolla yellow, with a dark mark in the mouth. There are several hybrids reared from the seeds of this species, which vary much in the colour and size of the flowers, some of which are very showy.

FIG. 50.

Var. β, rivulàris (Lindl. bot. reg. no. 1030.)

Yellow-flowered Monkey-flower. Fl. June, Sept. Clt. 1826. Pl. ¾ foot.

12 M. lyra`tus (Benth. scroph. ind. p. 28.) glabrous at the base, and downy at top, clammy; leaves erosely toothed, cordately stem-clasping; calyx ovate, but inflately campanulate in the fructiferous state, with ovate-acute teeth: the upper tooth the largest. ♃. F. Native of California, Douglas.

Lyrate-leaved Monkey-flower. Pl. ¾ foot. ?

13 M. gutta`tus (D. C. cat. hort. monsp. p. 127.) glabrous; leaves almost quite entire: lower ones on long petioles: superior ones rounded, cordately stem-clasping; calyx ovate, inflated in the fructiferous state, with a contracted mouth: teeth of calyx ovate: the upper one very broad; corolla twice as long as the calyx. ♃. H. Native of California, and North America. M. lùteus, Sims, bot. mag. 1501. Pursh, fl. amer. sept. 2. p. 426. Corolla yellow, spotted in the mouth. Surculi creeping.

Spotted-flowered Monkey-flower. Fl. June, Sept. Clt. 1812. Pl. 1 to 1½ foot.

14 M. rivula`ris (Nutt. in journ. acad. nat. sc. phil. 7. p. 47.) leaves oval, obtuse, crenated: cauline ones sessile; flowers axillary and terminal; calycine teeth very short. ♃. H. Native in the valleys of the Rocky Mountains. Stoloniferous, quite glabrous. Leaves oval, sharply crenated, petiolate; cauline leaves similar, sessile. Flowers large, bright yellow.

Rivulet Monkey-flower. Pl. ¾ foot. ?

15 M. parvifòrus (Lindl. bot. reg. t. 874. Benth. scroph. ind. p. 28.) glabrous, or hardly downy; leaves broad-ovate, erosely toothed, broadly and truncately cordate at the base: lower ones petiolate: superior ones sessile; calyx ovate, but broadly campanulate in the fructiferous state: teeth broad, short: upper tooth large; corolla one half longer than the calyx. ⊙. H. Native of Chili. Flowers small, yellow.

Small-flowered Monkey-flower. Fl. Year. Clt. 1824. Pl.

16 M. glabra`tus (H. B. et Kunth, nov. gen. 2. p. 370.) glabrous, or scarcely pubescent; leaves broad-ovate, obtuse, erosely toothed, broadly and truncately cordate at the base:

lower ones petiolate: superior ones sessile; calyx ovate, inflately campanulate in the fructiferous state; teeth of calyx broad, short: upper tooth large; corolla one half longer, or hardly twice as long as the calyx. ♃. H. Native of Mexico, near Moran, at the altitude of 1338 hexapods, and near Jalapa, and at the foot of Mount Orizaba. M. propínquus, Lindl. bot. reg. 1330. Corolla yellow. Surculi creeping.

Smooth Monkey-flower. Fl. April, Oct. Clt. 1827. Pl. ¾ foot.

17 M. Andi'colus (H. B. et Kunth, l. c.) quite glabrous; leaves petiolate, ovate, obtuse, toothed, subcordate or cuneated at the base; calyx campanulate, 5-toothed: upper tooth the largest; corolla longer than the calyx. ♃. F. Native on the declivities of the burning Mount Pichincha, near Chorro de Cantuna, at the altitude of 1730 hexapods. Stems creeping, branched, 2-3 inches. Peduncles longer than the leaves. Corolla yellow?

Andicolous Monkey-flower. Pl. creeping.

18 M. pilosiu'sculus (H. B. et Kunth, l. c.) rather pilose; leaves petiolate, roundish-ovate, obtuse, subcordate at the base, toothed; peduncles shorter than the leaves; calyx sub-campanulate, 5-toothed, the upper tooth the largest; corolla twice as long as the calyx.. ♃. F. Native of Peru, near Patibilca, in shady places. Stems creeping. Leaves 3-5-nerved. Corolla yellow.

Rather-hairy Monkey-flower. Pl. creeping.

19 M. moscha'tus (Dougl. in bot. reg. t. 1118.) stems diffuse, clothed with woolly villi; leaves petiolate, ovate, or ovate-lanceolate, a little toothed, rounded at the base, rather pilose, and somewhat clammy; calyx tubular, but oblong in the fruit-bearing state, with lanceolate, unequal teeth. ♃. H. Native about the Columbia river, on the north-west coast of America. The plant exhales a strong scent of musk. Flowers small, yellow. Plant diffuse, rooting at the base.

Musk-scented Monkey-flower. Fl. June, Sept. Clt. 1826. Pl. diffuse.

20 M. floribu'ndus (Dougl. in bot. reg. 1125.) diffuse, loosely pilose, clammy; leaves petiolate, broad-ovate, a little toothed, truncate at the base, or rounded; calyx small, ovate-tubular, almost equally truncate, with very short, acute teeth. ⊙. H. Native of California, and the north-west coast of America, at the Columbia river. Corollas yellow.

Bundle-flowered Monkey-flower. Fl. Aug. Clt. 1826. Pl. ¾ foot.

21 M. alsinoìdes (Doug. mss. ex Benth. scroph. ind. p. 29.) glabrous, diffuse; leaves on long petioles, ovate, a little toothed, cuneated or rounded at the base; calyx small, tubularly-ovate, obliquely truncate, with short teeth. ⊙.? H. Native of the north-west coast of America, Douglas; and California, Menzies. Corollas yellow.?

Var. α, paniculàtus (Benth. l. c.)

Var. β, minimus (Benth. l. c.) peduncles 1-3-flowered.—Native at the Columbia river, Douglas and Scouler.

Chickweed-like Monkey-flower. Pl. diffuse.

22 M. primuloìdes (Benth. scroph. ind. p. 29.) glabrous, stoloniferous; floriferous branches short; leaves nearly sessile, obovate, obscurely toothed, and quite entire; peduncles elongated, solitary, terminal; calyx tubular, with short teeth. ⊙.? H. Native of the north-west coast of America, Douglas.

Primrose-like Monkey-flower. Pl. creeping.

23 M. peduncula'ris (Dougl. mss. ex Benth. scroph. ind. p. 29.) plant downy, humble; leaves petiolate, ovate, acute, a little toothed, cuneated or rounded at the base; calyx small, tubularly ovate, with short, acute, nearly equal teeth. ⊙.? H. Native of the north-west coast of America, Douglas.

Peduncular Monkey-flower. Pl. dwarf.

24 M. Java'nicus (Blum. bijdr. p. 755.) stem creeping; leaves petiolate, ovate, toothed, rather scabrous; peduncles axillary, solitary, or terminal, subfastigiate. ♃. S. Native of Java, in grassy places in the western provinces, where it is called *Dinkut-matta-Kujup*. Plant downy. There is also a *var. β, pusílla*, Blum. bijdr. 756.

Java Monkey-flower. Pl. creeping.

§ 3. *Stems diffuse. Leaves feather-nerved, thin, toothed. Calyx tubularly ovate.*

25 M. Nepale'nsis (Benth. in Wall. cat. no. 3917.) glabrous, diffuse; leaves petiolate, ovate, serrated, cuneated at the base, or rounded; calyx ovate-tubular, with short, acute teeth: the upper tooth a little larger than the rest.—Native of Nipaul.

Nipaul Monkey-flower. Pl. diffuse.

§ 4. *Stems creeping. Leaves thickish, quite entire, and quite glabrous.*

26 M. orbicula'ris (Wall. cat. no. 3919.) Benth. scroph. ind. p. 29.) glabrous, creeping; leaves petiolate, orbicular, quite entire, thickish; calyx ovate-tubular, truncate, with very short teeth.—Native of the Birmann Empire, at Rangoon and Tavoy, Wall.

Orbicular-leaved Monkey-flower. Pl. creeping.

27 M. re'pens (R. Br. prod. p. 439.) glabrous, creeping; leaves ovate, obtuse, quite entire, half stem-clasping, thickish; calyx ovate-tubular, truncate, with very short teeth. ♃. F. Native of Van Diemen's Land, Gunn.; and New South Wales. Habit of *Hèrpéstis Monnièra*.

Creeping Monkey-flower. Pl. creeping.

28 M. gra'cilis (R. Br. l. c.) quite glabrous, erect; leaves linear-oblong, or oblong, obtuse, entire; peduncles elongated. ♃. G. Native of New South Wales, about Port Jackson.

Slender Monkey-flower. Pl. erect.

Cult. Most of the species are showy, and worth cultivating for ornament. The shrubby kinds grow well in a light rich soil; and cuttings of them strike root readily under a hand-glass in the same kind of soil. The perennial herbaceous kinds are well adapted for decorating flower-borders, thrive in any common garden soil, and all prefer a moist shady situation. All of them require some protection in severe weather: they are readily increased by division and seeds. The seeds of annual species may either be sown where the plants are intended to remain, or they may be reared on a hot-bed, and afterwards planted out into the open ground.

L. LEUCOCA'RPUS (from λευκος, *leucos*, white; and καρπος, *karpos*, a fruit; in reference to the white baccate fruit.) D. Don, in Sweet, fl. gard. n. s. t. 124. Conòbea species, Graham. Mímulus species, Kunth.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-toothed, 5-angled, or 5-ribbed; teeth nearly equal. Corolla tubular, ringent; throat furnished with 2 elevated bearded plicæ; limb bilabiate; lobes roundish, with revolute edges. Stamens 4, didynamous: the 2 superior ones the shortest; lobes of anthers divaricate, inserted into a hemispherical connective. Stigma bilamellate; lobes or lamellæ ovate, acuminated, papillose above. Berry roundish, succulent, spongy, 2-celled, indehiscent, many-seeded; placentas 2, large, succulent, fixed to the dissepiment, which is contrary, with revolute edges. Seeds disposed in a single series, not cumulated, reticulately wrinkled, hardly scrobiculate.—An erect, branched, green, annual? herb. Angles of the stem and branches winged, acute. Leaves opposite, stem-clasping, perfoliate, lanceolate, acuminated, sharply serrated, membranous, varicose and paler beneath, a hand to a span long. Flowers axillary, cymose. Cymes usually twice trifid, many-flowered, rarely 3-flowered: the middle flower

generally solitary: the rest by threes, or sevens. Corolla sulphur coloured, hardly an inch long. Bracteoles subulate, adpressed. Berries white, size of those of *Symphoricárpus racemòsus*, with a nauseous bitter sweet taste.

1 L. ALA'TUS (D. Don, l. c.) ⊙.? H. Native of Mexico, by the sides of streams at Cuesta Grande de Chiconquiera, in the province of Vera Cruz. Conòbea alàta, Graham, in edinb. phil. journ. oct. 1830. Mímulus perfoliàtus, H. B. et Kunth, nov. gen. 2. p. 271. Graham, in bot. mag. t. 3067.

Winged-stemmed Leucocarpus. Fl. Clt. Pl. 2 to 3 feet.

Cult. The seeds of this plant should be reared on a hot-bed, and when the plants are of sufficient size, or about the end of May, they should be planted out into the open border in a warm sheltered situation, where, if the summer prove fine, they will flower and ripen seed.

LI. UVEDA'LIA (named by the author in memory of —— Uvedale, L.L.D., who had a fine botanic garden near Enfield, where he cultivated many exotic plants, on which account he is much lauded by Plukenet and Petiver.) R. Br. prod. p. 440.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx prismatic, 5-toothed. Corolla ringent: upper lip 2-lobed: lower one trifid, having the middle segment unlike the lateral ones, bigibbous at the base. Stamens didynamous; lobes of anthers divaricate. Stigma flattened. Capsule inclosed, 2-celled, 4-valved; dissepiment formed from the inflexed margins of the valves, inserted in the central placenta.—Herbs with opposite leaves. Peduncles axillary and terminal, 1-flowered, bractless. Corollas blue.

1 U. LINEA'RIS (R. Br. l. c.) leaves linear, much shorter than the peduncles. ↄ ? G. Native of New Holland, within the tropic.

Linear-leaved Uvedalia. Pl. 1 foot.?

Cult. For culture and propagation see *Leucocárpus* above.

LII. HEMIPHRA'GMA (from ἡμισυς, *hemisus*, half; and φραγμος, *phragmos*, a dissepiment; in reference to the dissepiment being bifid at the apex.) Wall. tent. fl. nep. 17. t. 8. Benth. scroph. ind. p. 47.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla tubular; limb 5-cleft, sub-bilabiate; lower segments rather the broadest. Stamens 4, inserted in the base of the corolla, nearly equal, distant; anthers 2-celled; cells parallel. Style simple; stigma hardly thickened. Capsule baccate, 2-celled, 2-valved; valves bipartite; dissepiment parallel, bifid at apex; placentas adnate. Seeds numerous, naked.

1 H. HETEROPHY'LLUM (Wall. tent. fl. nep. p. 17. t. 8.) ↄ.? G. Native of Nipaul, Wall.; and at Jumnotri, Royle. Herb procumbent; branches flagelliform. Cauline leaves roundish-cordate, crenated, rather pilose. Axillary branches short, covered with short, linear, quite entire, ciliated leaves. Flowers sessile, solitary, within the leaves. Capsule size of a pea, shining.

Variable-leaved Hemiphragma. Pl. procumbent.

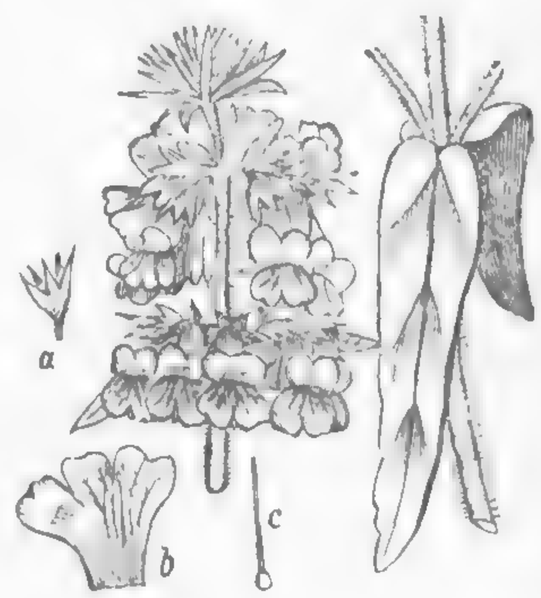
Cult. For culture and propagation see *Leucocárpus* above.

LIII. COLLI'NSIA (named by Nuttall, in honour of Zaccheus Collins, a vice-president of the Academy of Natural Sciences of Philadelphia.) Nutt. in journ. acad. nat. sc. phil. 1. t. 9. gen. amer. 2. p. 45.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-cleft, equal. Corolla bilabiate; orifice closed; tube gibbous on the back; upper lip erect, bifid: lower one trifid: the middle segment cucullate, and clasping the stamens. Stamens didynamous, with the rudiment of a fifth. Anthers glabrous. Ovarium 2-celled; placenta fleshy. Ovula peltate. Capsule globose, partly 2-celled, 2-valved; valves bipartite. Seeds few, umbilicate.—Annual plants, with entire, opposite and verticillate leaves and pedicels. Corolla party coloured.

1 C. VE'RNA (Nutt. in journ. acad. nat. sc. phil. 1. t. 9. gen. amer. 2. p. 46. Sweet, fl. gard. t. 220.) stem erect, a little branched; leaves lanceolate; pedicels axillary, solitary, much longer than the flowers; calyx downy, about equal in length to the corolla. ⊙. H. Native of north-west America, upon inland rocks; banks of the Missouri and Mississippi; on the Alleghanies; and on the borders of Lake Erie. Antirrhìnum tenéllum, Pursh, fl. amer. sept. 2. p. 421. Corolla white, except the lower lip, which is blue (fig. 51).

FIG. 51.



Spring Collinsia. Fl. May, July. Clt. 1826. Pl. 1 foot.

2 C. GRANDIFLÒRA (Lindl. bot. reg. 1107.) stem erect, branched; lower leaves spatulate: superior ones oblong-linear; pedicels verticillate, shorter than the flowers; segments of corolla dilated, retuse; calyx glabrous, about half the length of the corolla. ⊙. H. Native of the dry banks of the Columbia river. Stem downy. Leaves glabrous, entire, or denticulated. Corolla pale purple, except the lower lip, which is blue.

Great-flowered Collinsia. Fl. May, July. Clt. 1826. Pl. 1 foot.

3 C. BÍCOLOR (Benth. in hort. trans. n. s. vol. 1. p. 480. Lindl. bot. reg. 1734.) stem erect, downy; leaves glabrous, ovate-lanceolate, subcordate at the base; pedicels verticillate, racemose. ⊙. H. Native of California. Leaves nearly sessile, serrated: upper ones smaller, and quite entire. Calyx clothed with glandular down. Corollas twice the size of those of *C. grandiflòra:* upper lip and tube white: lower lip of a rosy purple colour.

Two-coloured-flowered Collinsia. Fl. Aug. Sept. Clt. 1833. Pl. 1 foot.

4 C. VIOLA'CEA (Nutt. in amer. phil. trans. n. s. vol. 5. p. 179.) puberulous; leaves ovate-lanceolate, remotely denticulated; corolla almost of one colour: upper lip one half smaller than the lower one: segments bifid at apex; capsule about 10-seeded. ⊙. H. Native of North America, on hills and upland woods of the Arkansas and Red rivers. Stems purplish. Radical leaves oblong-ovate: cauline ones sessile, opposite: uppermost ones 3 in a whorl. Corolla bright violet, like that of many species of *Phlòx;* upper lip paler. Allied to *C. grandiflòra.* Seeds smaller than those of *C. vérna.*

Violaceous-flowered Collinsia. Pl. ¼ to 1 foot.

5 C. MI'NIMA (Nutt. in journ. acad. nat. sc. phil. 7. p. 47.) leaves opposite, cuneate-oblong, obtuse, somewhat denticulated; segments of the calyx hardly half so long as the corolla. ⊙. H. Native of North America, at Flat Head river, flowering early in spring. Peduncles axillary, longer than the leaves. Flowers smaller than in *C. vérna,* but larger than in *C. parviflòra.* The upper lip of corolla is white, the lower blue. Very closely allied to *C. violàcea,* Nutt.

Least Collinsia. Fl. Spring. Pl. 1 to 2 inches.

6 C. PARVIFLÒRA (Lindl. bot. reg. 1082.) stem prostrate,

downy; leaves ovate-oblong, nearly entire, downy; pedicels axillary, solitary, much longer than the flowers; segments of corolla acutish, entire; calyx downy, about equal in length to the corolla. ⊙. H. Native of America, in the vicinity of the river Columbia. Corollas small, purple and blue.

Small-flowered Collinsia. Fl. June, July. Clt. 1826. Pl. procumbent.

7 C. sparsiflòra (Fisch. et Meyer. cat. sem. hort. petrop. 2d. 1836.) diffuse; leaves all opposite; flowers solitary; pedicels a little longer than the calyx; capsule globose. ⊙. H. Native of California, about the Russian colony, Ross. Smoothish, much branched. Stems and branches filiform. Leaves all, or only the upper ones opposite, on which account it is distinguished from the other species. The flowers are solitary, rarely opposite, of a size intermediate between those of *C. grandiflòra* and *C. parviflòra*. Corolla pale violet: lateral segments of the lower lip deep purple.

Scattered-flowered Collinsia. Fl. June, July. Clt. 1836. Pl. diffuse.

Cult. All the species being showy, they are well fitted for decorating flower borders, or to be grown in beds or large patches. The seeds only require to be sown where the plants are intended to remain in March or April.

Tribe IV. GERARDIE'Æ (this tribe contains plants agreeing with *Gerárdia* in the characters indicated below.) D. Don, in edinb. phil. journ. vol. 19. p. 111. July, 1835. Benth, in bot. reg. under no. 1770. Calyx tubular, 5-toothed. Corolla campanulate, funnel-shaped, or tubular; limb 5-lobed, bilabiate. Stamens 4, didynamous; anthers approximate, 2-celled, often bearded; cells diverging, distinct at apex, for the most part spurred at the base. Stigma clavate, undivided. Capsule bipartible; dissepiment composed of 2 connate lamina; valves entire, or bifid; placentas narrow, spongy. Seeds angular, with a thick favosely cellular, loose testa. Albumen fleshy. Embryo sub-foliaceous, almost the length of the seeds. Radicle short, obtuse.—Herbs or under shrubs, for the most part natives of America. Leaves opposite, scabrous. Flowers axillary, solitary, or disposed in terminal, spicate racemes, yellow or purple.

LIV. GERA'RDIA (a name originally given by Plumier to a plant now hardly known, and intended by him to commemorate our old English botanist, John Gerarde, author of the Herbal, 1597, folio, and a great cultivator of exotic plants, of which he published a catalogue in 1596.) Lin. gen. no. 747. Schreb. gen. no. 1004. Juss. gen. p. 119. ed. Usteri. p. 134. Benth, in Hook. comp. 1. p. 204. Virgulària, Ruiz. et Pav.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-toothed, or 5-cleft. Corolla campanulate, or ventricosely and tubularly-campanulate: limb 5-cleft, with roundish, half-spreading segments. Stamens didynamous, or rarely nearly equal, shorter than the corolla, sometimes all antheriferous, and sometimes the 2 smaller or shorter ones sterile. Capsule acute, or obtuse, without a beak.—Herbs or under shrubs natives of America. Flowers solitary, axillary, sessile, or pedicellate; pedicels generally bractless. Corollas yellow, or of a rosy purple colour.

Sect. I. Cyrtocòdon (from *κυρτος, kyrtos*, a curve; and *κωδων, kodon*, a little bell.) Benth. in Hook. comp. 1. p. 204. Calyx deeply 5-cleft. Corolla yellow; tube usually short and incurved. Anthers mutic. Species natives of North America.

1 G. serpyllifòlia (H. B. et Kunth, nov. gen. 2. p. 343.) procumbent; leaves ovate, obtuse, quite entire; flowers axillary, solitary, sessile; calycine segments entire. ♄. G. Native of New Spain, near Carpio, and on the borders of Lake St. Christopher, at the altitude of 1180 hexapods. Plant glabrous in every part. Leaves about 2 lines long. Corolla pale yellow, almost funnel-shaped; tube 3 times as long as the calyx. Stamens and ovarium glabrous.

Wild-Thyme-leaved Gerardia. Shrub procumbent.

2 G. prostra'ta (H. B. et Kunth, l. c.) prostrate; leaves pinnatifid: segments linear, acutely mucronate: lower ones cut; flowers axillary, solitary, sessile; calycine segments pinnatifidly cut. ♄. G. Native of New Spain, between Pachuca and Mount Ventosa, at the altitude of 1320 hexapods. Plant glabrous, tufted, 2-3 inches long. Leaves 3-4 lines long. Corolla an inch and a half long.

Prostrate Gerardia. Shrub prostrate.

3 G. virga'ta (H. B. et Kunth, l. c. p. 344.) erect, pubescent; leaves pinnatifid: segments linear, obtuse, entire, or cut; calycine segments oblong, entire, and toothed; tube of corolla incurved; stamens nearly equal; anthers erect, glabrous; capsule ovate, acute. ♄. G. Native of Mexico, between Guanaxuato and Santa Rosa, at the altitude of 1330 hexapods. Leaves 5-6 lines long, and 2-3 lines broad. Flowers pedicellate. Corolla campanulate, yellow, glabrous. Filaments woolly. Tube of corolla longer than in *G. macrophýlla*.

Twiggy Gerardia. Pl. erect.

4 G. macrophy'lla (Benth. ger. in Hook. comp. 1. p. 205.) pubescent; leaves deeply toothed, pinnatifid, or the lower ones are bipinnatifid: segments ovate, or oblong-lanceolate: upper leaves almost quite entire; flowers nearly sessile; calyx hairy, with ovate, subdentate segments; tube of corolla short, incurved, villous inside; stamens didynamous; anthers rather pilose. ♃. H. Native of the United States; Ohio; Kentucky; Arkansas. Seymèria macrophýlla, Nutt. gen. amer. 2. p. 49. The form and colour of the corolla connect this species with the following. The shorter stamens have smaller anthers than the longer ones.—Habit nearly that of *G. grandiflòra*. Capsule small, ventricose, with a compressed point, somewhat 4-valved.

Large-leaved Gerardia. Pl. 4 to 5 feet.

Sect. II. Otophy'lla (from *ους ωτος, ous otos*, an ear; and *φυλλον, phyllon*, a leaf; in reference to the auriculately lobed leaves.) Benth. ger. in Hook. comp. 1. p. 205. Calyx deeply 5-cleft. Corollas purple, campanulate. Stamens didynamous; anthers of the longer ones fertile, of the shorter ones smaller, and bearded.

5 G. auricula'ta (Michx. fl. bor. amer. 2. p. 48.) ♃. H. Native of the United States, chiefly in the Western ones. Seymèria auriculàta, Spreng. syst. 2. p. 810. An erect herb. Leaves oblong-lanceolate, generally auriculately lobed at the base. Flowers almost sessile.

Auricled Gerardia. Pl. ½ to 1 foot.

Sect. III. Pedicularioìdes (so called by reason of the plants having the habit of the species of *Pediculàris*.) Benth. ger. in Hook. comp. 1. p. 205. Calyx semi-5-cleft. Corolla yellow, tubularly campanulate. Stamens didynamous; anthers nearly equal; cells twin, fertile, spurred at the base.—Herbs natives of North America. Leaves broadish, usually cut. Lobes of corolla often ciliated.

6 G. fla'va (Pursh, fl. amer. sept. 2. p. 423. Benth. l. c. but not of Lin.) downy; leaves ovate-lanceolate, or oblong, obtuse, quite entire, or sinuately lobed; calyx downy, with oblong, obtuse segments, which are rather shorter than the tube. ♃. H. Native of the United States, common. Plukn.

almalth. t. 389. f. 1. Corolla about an inch and a half long, glabrous, yellow.

Yellow-flowered Gerardia. Fl. July, Aug. Clt. 1796. Pl. $1\frac{1}{2}$ to 2 feet.

7 G. QUERCIFÒLIA (Pursh, l. c.) quite glabrous; lower leaves large, bipinnatifid: superior ones oblong-lanceolate, pinnatifid, or quite entire; calyx a little inflated, with lanceolate, acute segments, which are shorter than the tube. ♃. H. Native of the United States, common. G. flàva, Lin. spec. 848, but not of Pursh. Rhinánthus Virgínicus, Gron. virg. 192. Lin. spec. p. 841. Corolla rather larger than that of the preceding. Calyx larger. The leaves vary much, but are always more divided than in *G. flàva*, ex Benth.

Oak-leaved Gerardia. Fl. July, Aug. Clt. 1812. Pl. 3 to 4 feet.

8 G. GRANDIFLÒRA (Benth. ger. in Hook. comp. 1. p. 206.) downy; leaves ovate-lanceolate, acute, serrated at top, pinnatifid at the base; calyxes longer than the pedicels; calycine segments obtuse, entire, or toothed; corolla 4 times as long as the calyx. ♃. H. Native of Mexico, in the province of Texas. Corolla 20 lines long. Capsule coriaceous, large, pointed.

Great-flowered Gerardia. Pl. 2 to 3 feet. ?

9 G. PEDICULA'RIA (Lin. spec. p. 849.) smoothish, or pubescent; leaves ovate-lanceolate, obtuse, pinnatifid, with toothed segments; calyxes shorter than the pedicels, with toothed segments; corolla 3 times as long as the calyx. ♃. H. Native of the United States, common. Corolla 15 lines long. Capsule coriaceous, pointed. Plant drying black like *Pediculàris*.

Pedicularis-like Gerardia. Pl. 1 to 2 feet. ?

10 G. PECTINA'TA (Torrey, mss. ex Benth. ger. in Hook. comp. 1. p. 206.) hairy; leaves pectinately pinnatifid; lobes a little toothed; pedicels very short; calyx very hairy, deeply 5-cleft, with toothed segments; corolla 3 times as long as the calyx. ♃. H. Native of Carolina and Georgia, in sandy forests, Nuttall; Rocky Mountains, Torrey. G. pediculària, β, pectinàta, Nutt. gen. amer. 2. p. 48. Corolla as in *G. pediculària*, from which it differs in being more hairy, the leaves usually smaller, and more divided, and in the pedicels being much shorter.

Pectinate-leaved Gerardia. Pl. 1 to 2 feet. ?

11 G. DENSIFLÒRA (Benth. ger. in Hook. comp. p. 206.) scabrous and hispid; leaves pinnatifid, with narrow-linear, stiff, ciliately scabrous segments; flowers secund, spicate; calycine segments lanceolate, very acute; tube of corolla attenuated at the base, and dilated at top; capsule obtuse. ♃. H. Native of Mexico, in the province of Texas. Corolla an inch long. Filaments hairy. Anthers like those of the next section *Eugerárdia*, but more pointed, and slightly pilose at the base.

Dense-flowered Gerardia. Pl. ?

SECT. IV. EUGERA'RDIA (from *eu*, well or good, and *Gerárdia*; this section contains what are considered the genuine species of the genus.) Benth. l. c. Calyx 5-toothed, rarely half 5-cleft. Corolla purple, campanulate, or tubularly campanulate, rarely ventricosely tubular. Anthers nearly equal; cells twin, fertile, mutic.—Herbs or under shrubs natives of America. Leaves linear, rarely lanceolate, quite entire, or the lower ones are a little cut.

12 G. DIGITA'LIS (Benth. l. c.) glabrous; leaves linear, smoothish; flowers nearly sessile; teeth of calyx short, truncate, mutic, with very villous edges; corolla amply campanulate, villous, 4-5 times longer than the calyx. ♃. G. Native of South America, at Maldonado. Flowers disposed in terminal interrupted spikes; the floral leaves being very small. Calyx of *Sopùbia*. Corolla above an inch long, very open.

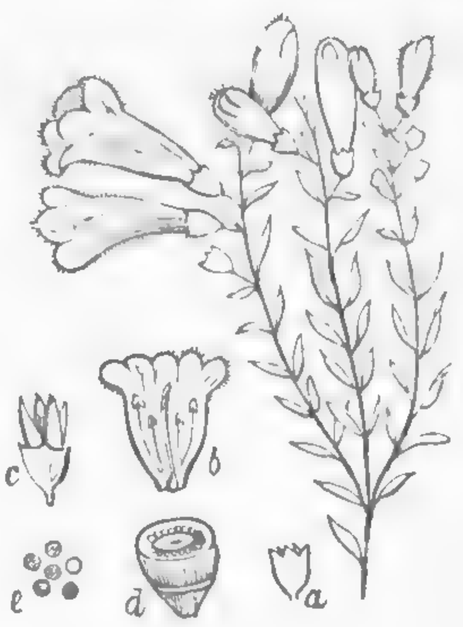
Fingered Gerardia. Pl. ?

13 G. RÍGIDA (Gill. mss. ex Benth. l. c.) glabrous and scabrous; leaves linear, very acute; flowers racemosely spicate; calyx longer than the pedicels, truncate: teeth short, acute; corolla amply and tubularly campanulate, villous, 4-5 times longer than the calyx. ♃. G. Native of South America, in the province of San Louis, Gillies. Flowers the same size, but more hairy than in *G. linarioìdes*.

Stiff Gerardia. Pl. ?

14 G. BRACHYPHY'LLA (Cham. et Schlecht, in Linnæa, 3. p. 15.) shrubby, glabrous, smooth; leaves small, narrow-lanceolate, mucronulate; flowers pedicellate; teeth of calyx short, acute, shorter than the ovoid calyx. ♄. S. Native of Tropical Brazil. Esterhàzya alpéstris, Spix. et Mart. reise in bras. 1. p. 397. Virgulària alpéstris, Mart. nov. gen. 3. p. 10. t. 205. Leaves rather fleshy, 4 lines long. Pedicels shorter than the leaves. Corollas like those of *G. linarioìdes*, but rather smaller. Filaments with a few hairs at the base. Valves of capsule at length split. (fig. 52.)

FIG. 52.



Short-leaved Gerardia. Pl. 1 foot.

15 G. LANCEOLA'TA (Benth. l. c. p. 207.) glabrous, smooth; leaves oblong-linear, mucronate, narrowed at the base; flowers on short pedicels; calycine teeth short, acute; corolla amply and tubularly campanulate, villous, 4 times as long as the calyx. ♃. G. Native of Peru, between Huariaco and Huanuco, Mathews. Virgulària lanceolàta, Ruiz. et Pav. syst. fl. per. p. 161. Virg. revolùta, Ruiz. et Pav. l. c. Closely allied to the preceding, of which it may be a variety. It differs chiefly in the leaves being rather broader, especially near the apex, and longer. The anthers and filaments are perfectly glabrous.

Lanceolate-leaved Gerardia. Pl. 1 to 2 feet.

16 G. LINARIOÌDES (Cham. et Schlecht. in Linnæa, 3. p. 13. Benth. l. c.) glabrous, rather scabrous; leaves linear, acute, 1-nerved; flowers racemose; calyx shorter than the peduncles: teeth ovate, truncate, or lanceolate acuminated, much shorter than the tube; corolla amply and tubularly campanulate, downy, 4-5 times as long as the calyx. ♃. G. Native of South America; at Banda Oriental, Tweedie; southern provinces of Brazil, Sello. Differs chiefly from the preceding by its narrower leaves.

Toad-flax-like Gerardia. Pl. $1\frac{1}{2}$ to 2 feet.

17 G. GENISTIFÒLIA (Cham. et Schlecht. l. c. p. 15. Benth. l. c.) glabrous and rather scabrous; leaves lanceolate, acute, sub-trinerved; flowers racemose; calyxes shorter than the peduncles: teeth ovate, truncate, or lanceolate, acute, much shorter than the tube; corolla ample, tubularly campanulate, downy, 4-5 times as long as the calyx. ♃. F. Native along with the preceding, Tweedie and Sello. Plant woody at the base. Corolla almost $1\frac{1}{2}$ inch long. Leaves and branches 3 in a whorl. Largest cauline leaves $2\frac{1}{2}$ inches long.

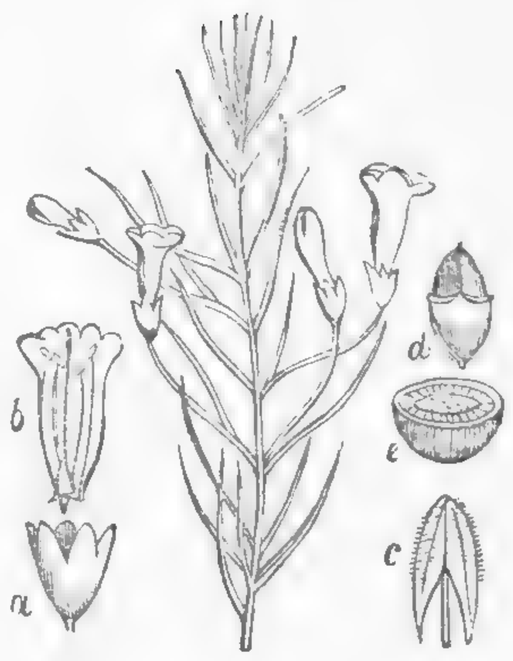
Genista-like Gerardia. Pl. 1 to 2 feet.

18 G. ANGUSTIFÒLIA (Mart. bras. 3. p. 12. t. 206. Benth. l. c.) quite glabrous; stem erect, virgately branched; leaves

more than an inch long, narrow linear, acute, erectly spreading; peduncles bractless, about equal in length to the leaves; teeth of calyx equal, mucronulate; corolla 5 times as long as the calyx. ♃. G. Native of Brazil, in the province of Minas Geraes. Habit of *G. pedunculàris*, but with a tubular corolla a little dilated at the top, and about an inch long (fig. 53.)

Narrow-leaved Gerardia. Pl. 1 to 2 feet.

FIG. 53.



19 G. HISPÍDULA (Mart. bras. 3. p. 13. t. 207.) plant beset with spreading hairs; stem fastigiately branched; leaves beyond an inch long, linear, acute, spreading, papillose, especially along the margins; peduncles bibracteate, exceeding the leaves; calyx equal, with acute teeth; corollas 3 times as long as the calyx. ☉. G. Native of Brazil, in the provinces of Pianhia and Para. No other species of this genus has bracteate peduncles. Corolla form of the preceding, but about half the size.

Hispid Gerardia. Pl. 1 to 2 feet.

20 G. COMMU'NIS (Cham. et Schlecht, in Linnæa, 3. p. 12.) glabrous, smooth; leaves linear, cartilaginously marginate; flowers nearly sessile; teeth of calyx longer than its tube; corolla tubularly campanulate, exceeding the calycine teeth a little. ☉. G. Native of the South of Brazil, from Rio Janeiro to the Banda Oriental. Corolla downy, $\frac{1}{2}$ an inch long. Filaments and anthers slightly hairy. Capsule truncate, or emarginate.

Common Gerardia. Pl. 1 to 2 feet.

21 G. DASYA'NTHA (Schiede, et Deppe, ex Cham. et Schlecht, in Linnæa, 5. p. 104.) stem bifariously pubescent; leaves linear, glabrous; teeth of calyx a little longer than its tube; corolla downy outside, about twice as long as the calyx. ♃. G. Native of Mexico, in the Terra Fria, Schiede et Deppe. Said to resemble *G. purpùrea* in its appearance.

Thick-flowered Gerardia. Pl. 1 to 2 feet.

22 G. HETEROPHY'LLA (Nutt. in amer. phil. trans. n. s. 5. p. 180.) glabrous; radical leaves broad, cut: cauline ones linear, or linear-lanceolate, acute, stiff, with scabrous margins; flowers almost sessile; calyx angular, with lanceolate-linear, very acute teeth, which are a little shorter than the tube; corolla amply campanulate, clothed with pubescent tomentum outside, 3-4 times as long as the calyx. ♃. H. Native of the Arkansas territory, in prairies near the great salt river, Nuttall. Texas, Drummond. Corollas very open, from 8 lines to 1 inch long, purple, crowded towards the summits of the branches. The lower leaves are described as trifid, or laciniated, by Nuttall and Drummond.

Var. β, grandiflòra (Nutt. l. c.) flowers larger.

Variable-leaved Gerardia. Pl. 2 feet.

23 G. FASCICULA'TA (Elliott. bot. car. 2. p. 115.) very scabrous; stem stiff, branched at top; leaves narrow-linear, acute; peduncles very short; calyx truncate, with short acute teeth; corolla ample, campanulate, downy, 5 times as long as the calyx. ♃. H. Native of Jacksonville, Drummond; South Carolina and Georgia, Elliott. Corolla 10-11 lines long. Young leaves sometimes fascicled in the axils of the stem leaves. Perhaps only a variety of *G. purpùrea*.

Fascicled-leaved Gerardia. Pl. 1 to 2 feet.

24 G. DOMINGE'NSIS (Spreng. syst. 2. p. 817.) finely hispid; stem strict, erect, somewhat fastigiately branched; leaves about an inch long, narrow-linear, acute, erectish, 3 times as long as the short peduncles; calyx equal, with acute teeth; corolla 3 times as long as the calyx. ♃. S. Native of St. Domingo. Appears to be allied to *G. purpùrea* and *G. fasciculàta*, but the flowers are described as but 4 lines long. ex Benth.

St. Domingo Gerardia. Pl. 1 to 2 feet.

25 G. MARÍTIMA (Rafin. new york med. rep. 2. p. 361.) humble, glabrous, fleshy; leaves linear, obtuse; racemes terminal; peduncles short; calyx truncate, with short, obtuse, mutic teeth; corollas glabrous, campanulate, 3-4 times as long as the calyx. ♃. H. Native of New Jersey and New York, in salt marshes. G. crinìta, Eddy. G. purpùrea, β, crassifòlia, Pursh, fl. amer. sept. 2. p. 422. Plant usually 2-3 inches high. Corolla scarcely 8 lines long.

Var. β, grandiflòra (Benth. l. c. p. 208.) plant 4-6 inches high, with few leaves on the upper part; corolla about 8 lines long. ♃. H. Native of Texas.

Sea-side Gerardia. Pl. 2 to 6 inches.

26 G. PLUKENE'TII (Ell. bot. car. 2. p. 114.) quite smooth; leaves small, remote, filiform, sub-fascicled; peduncles shorter than the leaves and calyxes; calyx truncate, with short, acute teeth; corolla finely pubescent, 3 times as long as the calyx. ♃. H. Native of Carolina and Georgia, Elliott; of the Cherokee country, Banks herb. Said by Mr. Bentham to come near to var. γ, of *G. tenuifòlia*, but the leaves are still more slender, and the peduncles constantly very short.

Plukenet's Gerardia. Pl. 1 foot.

27 G. PURPU'REA (Lin. spec. 848.) leaves linear, acutish, flat, with scabrous edges; flowers on short peduncles; calyx almost nerveless, with acute teeth, which are one half shorter than the tube; corolla glabrous, amply campanulate, with a short, tubular base. ♂. H. Native of the United States, common in marshes; and of Mexico, in the Hacienda de La Laguna. Sims, bot. mag. 2048.—Plukn. phyt. t. 12. f. 2. mant. t. 388. f. 1.

Var. α, parviflòra (Benth. l. c. p. 208.) corolla hardly 7-8 lines long. ♃. H.

Var. β, grandiflòra (Benth. l. c.) corolla an inch long. ♃. H. Native of New Jersey. The two varieties at first sight appear different, Benth.

Purple-flowered Gerardia. Fl. July, Aug. Clt. 1772. Pl. $1\frac{1}{2}$ foot.

28 G. LONGIFÒLIA (Nutt. in amer. phil. soc. trans. n. s. 5. p. 180.) leaves narrow-linear, with scabrous edges: the floral ones exceeding the flowers; peduncles much longer than the calyx; calyxes almost nerveless; teeth lanceolate, acute, hardly shorter than the tube; corollas glabrous, ample, campanulate, shortly tubular at the base. ☉. H. Native on the banks of the Arkansas, Nutt.; Red River, on the north-west coast, Douglas. Leaves $1\frac{1}{2}$ to 2 inches long. Corolla of *G. purpùrea*, var. β, which it resembles in many respects, (Benth.)

Long-leaved Gerardia. Pl. 1 to $1\frac{1}{2}$ foot.

29 G. LINIFÒLIA (Nutt. gen. amer. 2. p. 47.) stem twiggy, smooth, much branched; branches floriferous at apex; leaves linear, acute, smooth or roughish, longer than the peduncles; calyx truncate, campanulate, minutely toothed; corolla ample, campanulate, with a downy throat, and ciliated segments. ♃. H. Native of North Carolina to Florida, Nuttall; Alabama, Dr. Gates. Root creeping. Leaves smooth according to Nuttall; but according to Bentham they are rough on the margins.

Flax-leaved Gerardia. Pl. 2 to 3 feet.

30 G. PEDUNCULA'RIS (Benth. l. c. p. 209.) leaves linear, with revolute edges, and are, as well as the stem, very scabrous; racemes panicled; peduncles long; calyx angular, truncate, with

short acute teeth; corolla amply campanulate, downy, furnished with long cilia on the edges, 4 times as long as the calyx. ♂.? G. Native of Mexico, Tate. This species chiefly differs from *G. purpùrea*, by the narrow leaves and long peduncles. Capsule globose, longer than the calyx. (Benth.)

Long-peduncled Gerardia. Pl. 1 to 2 feet.

31 G. FILIFÒLIA (Nutt. gen. amer. 2. p. 48.) leaves filiform, for the most part alternate, subfasciculate, and are, as well as the stem, scabrous, ex Benth, smooth, ex Nutt.; racemes panicled; floriferous peduncles much longer than the leaves; calyx truncate, with short acute teeth; corolla ample, ventricosely campanulate. ♃.? F. Native of West Florida, Nuttall; Jacksonville, Louisiana, and Texas, Drummond. Intermediate between *G. pedunculàris* and *G. tenuifòlia*, γ; and is distinguished from the first in the slender stem and filiform leaves, which are often fascicled; and from the last in the large flowers and long peduncles. (Benth.)

Thread-leaved Gerardia. Pl. 1 to 2 feet.

32 V. STRICTIFÒLIA (Benth. l. c. p. 209.) leaves linear, stiff, very acute, and are, as well as the stem, much branched, and rather scabrous; racemes subpanicled; peduncles longer than the leaves; calyx truncate, with setaceous teeth; corolla campanulate, about 4 times longer than the calyx. ♂.? F. Native of Texas. Habit and foliage almost of *G. heterophýlla*, with the corolla of *G. tenuifòlia*, but larger; the peduncles are nearly as long as those of *G. filifòlia*. The anthers are very woolly, as in *G. tenuifòlia*.

Strict-leaved Gerardia. Pl. 1 to 2 feet.

33 G. TENUIFÒLIA (Vahl, symb. 3. p. 79. Benth. l. c. p. 209.) stem angular, smoothish; leaves linear, more or less scabrous from pili above; racemes panicled; peduncles at length a little longer than the leaves; calyx truncate, with very short acute teeth; corolla campanulate, smoothish, about 3 times longer than the calyx; capsule nearly globose, not exceeding the calyx. ⊙. H. Native of the United States, common in dry sandy forests. G. erécta, Walt. fl. carol. 170.—Plukn. alm. p. 34. t. 12. f. 4. The following varieties may perhaps be species, especially the last; but the characters are very slight. They all differ from *G. pedunculàris*, by the glabrous, hardly ciliated corolla; from *G. setàcea*, by the short capsule, and habit; and from *G. longifòlia*, by the truncate calyx with minute teeth. They have all the same slender branching habit; the stems always marked with decurrent lines from the base of the leaves; the anthers with long, white, woolly hairs. (Benth.)

Var. β, parviflòra (Nutt. in amer. phil. trans. n. s. 5. p. 179.) flowers smaller; tube of calyx equal in length to the corolla; teeth acuminated; fruit larger. ⊙. H. Native in the prairies of the Arkansas, above the Verdigris river. Apparently a distinct species. The stem is less branched, and inclined to grow taller than the species, whose flowers are larger, with a much smaller calyx.

Fine-leaved Gerardia. Fl. July, Aug. Clt. 1812. Pl. ½ to 1 foot.

34 G. SETA'CEA (Walt. fl. car. p. 170.) branches slender, and are, as well as the setaceous leaves, rather scabrous; flowers few, on long peduncles; teeth of calyx short, setaceous; capsule ovate, longer than the calyx. ⊙.? F. Native from Pennsylvania to Carolina, in sandy forests. Allied to *G. tenuifòlia*.

Var. β, parvifòlia (Benth. l. c. p. 210.) leaves distant, 3-6 lines long; flowers racemose. ♂.? F. Native of Jacksonville. This has some resemblance to *G. aphjlla*, but the leaves are never reduced to scales. It does not dry so black as other species of the genus.

Setaceous-leaved Gerardia. Pl. 1 foot.

35 G. APHY'LLA (Nutt. gen. amer. 2. p. 47.) branches elongated, filiform, nearly naked, scabrous; leaves short, remote, linear, or all minute and scale-formed; flowers pedunculate; calyx truncate, with very short acute teeth; capsule globose, exceeding the calyx. ⊙. F. Native from North Carolina to Florida, Nuttall; Jacksonville, Drummond.

Var. β, filicaúlis (Benth. l. c. p. 210.) branches very slender, few-flowered; flowers small.

Var. γ, grandiflòra (Benth. l. c.) branches stiff; flowers racemose, rather large.

Leafless Gerardia. Pl. 3 to 4 feet.

SECT. V. DARGERIA (an anagram of *Gerárdia*.) Benth. ger. in Hook. comp. 1. p. 210. Calyx 5-toothed. Corolla purple; segments emarginately bifid. Stamens didynamous; anthers all equally 2-celled, fertile. An Indian herb, with pinnate leaves, and linear segments. Perhaps a proper genus.

36 G. PARVIFLÒRA (Benth. in Wall. cat. no. 3888. scroph. ind. p. 48.) stems tall, acutely tetragonal; racemes numerous, disposed in an ample panicle; flowers on short pedicels; corolla hardly 2 lines long; capsule ovate-globose, retuse, a little compressed; valves recurved at maturity, entire.—Native of the Himalaya Mountains. Leaves subpinnatifid. Teeth of calyx short, acute.

Small-flowered Gerardia. Pl. tall.

Cult. All the species of *Gerardia* are elegant when in blossom, but are difficult to cultivate. The hardy species require to be planted in a bed of peat soil, as they will not grow in pots; and they are only to be increased by seeds, and then with much difficulty. The tender species may be grown in pots, in peat earth, should any of them hereafter be introduced to our gardens.

LV. SOPU'BIA (*Sopubi swa* is the Nawaricè name of the first species.) Hamilt. mss. ex D. Don, prod. fl. nep. p. 88. Gerárdia, sect. VI. Sopùbia, Benth. ger. in Hook. comp. 1. p. 210.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-toothed. Corolla campanulate, tubular at the base; limb spreading, 5-lobed, nearly equal; lobes rounded, entire. Stamens 4, exserted, nearly equal in length, somewhat didynamous, glabrous. Cells of anthers free, spurred at the base; the one fertile, erect; and the other sterile, small, and diverging, tubular. Stigma undivided. Capsule 2-celled, 2-valved; valves usually bifid. Dissepiment complete, continuous, parallel, placentiferous on both sides. Seeds numerous.—African and Indian perennial herbs. Leaves narrow, generally cut. Peduncles 1-flowered, solitary, in the axils of the upper leaves, opposite or alternate, therefore racemose, bibracteate. Corollas purple or yellow.

1 S. TRI'FIDA (Hamilt. mss. ex D. Don, prod. p. 88.) stiff, branched; leaves pinnate, with linear scabrous segments; teeth of calyx ovate, with ciliately membranous edges, much shorter than the tube. ♃. F. Native of the Himalaya range of mountains, Common; Upper Nipaul, at Suembu; Ceylon, Macrae; Madagascar, Lyall. Gerárdia scàbra, Wall. cat. no. 3889. Benth. scroph. ind. p. 49. but not of Lin. Gerárdia Sopùbia, Benth. ger. in Hook. comp. p. 210. Manùlea Sopùbia, Hamilt. mss. Leaves pinnate, simple or trifid. Flowers purple, ex D. Don, l. c.; yellow? Benth. l. c.

Trifid-leaved Sopubia. Pl. ½ to 1 foot.

2 S. STRI'CTA; rough, stiff, a little branched; leaves lanceolate-linear, toothed or cut; teeth of calyx lanceolate, acute, naked, much shorter than the tube. ♃. S. Native of Martaban and Prome, Wall. Gerárdia stricta, Benth. in

Wall. cat. no. 3889. scroph. ind. p. 49. ger. l. c. Corollas pale purple, like those of *S. delphinifòlia*. Capsule globose at the base, but compressed at top.

Strict Sopubia. Pl. 2 to 3 feet.

3 S. DELPHINIFÒLIA; much branched, smooth; leaves pinnatifid, with narrow-linear segments; calycine teeth linear-subulate, longer than the tube. ♃. S. Native of India, chiefly in the Peninsula, and as far North as Lohargan, Royle, always in wet soil, and sometimes even in water. Gerárdia delphinifòlia, Lin. spec. p. 848. Roxb. cor. 1. t. 90. Benth. scroph. ind. p. 49. ger. in Hook. comp. 1. p. 211. t. 11. Euphràsia Coromandeliàna, Rottl. in Spreng. syst. 2. p. 775.—Plukn. alm. 17. t. 358. f. 3. Leaves simple, trifid or tripinnatifid. Corolla 7-8 lines long, reddish, with a deep coloured spot on the under lip. Lower pair of anthers united.

Var. β, parviflòra (Benth. in scroph. ind. p. 49. ger. l. c. p. 211.) ♃. S. Gerárdia Heyneàna, Benth. in Wall. cat. no. 3891. Corolla 5-6 lines long.

Lark-spur-leaved Sopubia. Fl. June, July. Clt. 1800. Pl. 3 to 4 feet.

4 S. SCA'BRA; glabrous; leaves oblong-lanceolate, entire, cuneately 3-5-cleft, with rather scabrous edges; teeth of calyx lanceolate, scarcely shorter than the tube; corolla tubularly campanulate, more than 3 times longer than the calyx. ♃. F. Native of the Cape of Good Hope. Gerárdia scàbra, Lin. suppl. 279. Benth. ger. in Hook. comp. p. 211. Stems usually simple. Flowers almost sessile, near together. Corolla an inch long, apparently purple. Filaments hairy.

Scabrous Sopubia. Pl. ½ to 1 foot.

5 S. OBTUSIFÒLIA; stem hairy at top; leaves oblong-lanceolate, entire, or a little toothed, obtuse, scabrous, glabrous; calycine teeth broad-lanceolate, obtuse, scarcely shorter than the tube, which is a little inflated; corollas tubularly campanulate, twice as long as the calyx. ♃. S. Native of Madagascar. Gerárdia obtusifòlia, Benth. ger. l. c. p. 211. Flowers similar to those of *S. scàbra*, but the calyx is larger. Filaments almost glabrous. Empty cells of anthers terminated by a long point.

Obtuse-leaved Sopubia. Pl. 1 to 2 feet.

6 S. FILIFÓRMIS; leaves filiform, scabrous; peduncles opposite, short, 1-flowered, subsolitary. ♃. S. Native of Guinea, near Pramprom and Ningo, Thonning. Gerárdia filifórmis, Schum. pl. guin. p. 272. Root horizontal. Stem simple at bottom, and fastigiately branched at top. Corolla pale purple; throat large, campanulate. Anthers bipartite; the lobes oblong, unequal, diverging.

Filiform Sopubia. Pl. ½ foot?

Cult. The species of *Sopùbia* might be grown in pots placed in pans of water. A peat soil is that best suited to them; and they may either be increased by cuttings or seeds. They are, however, extremely difficult to cultivate.

LVI. SEYME'RIA (named by Pursh after Henry Seymer, an English naturalist.) Pursh, fl. amer. sept. 2. p. 737. Benth. ger. in Hook. comp. p. 203.—Afzèlia, Gmel., but not of Smith. Gerárdia species, Michx. and Pers.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx campanulate; segments 5, linear, longer than the tube. Corolla with a short tube, and 5 oblong segments, which are at length subrotately spreading. Stamens 4, almost equal in length, rather longer than the corolla; anthers erect, all 2-celled and fertile. Stigma slender. Capsule globose at the base, and compressed at apex. —Herbs natives of North America. Leaves pinnate, with linear or filiform segments. Flowers small, somewhat paniculately racemose. Corollas yellow.

1 S. TENUIFÒLIA (Pursh, fl. amer. sept. 2. p. 737.) clothed with fine clammy down; leaves setaceously pinnatifid; segments cut; capsule glabrous, beaked. ⊙. H. Native of Carolina, Georgia, Florida, and Louisiana, &c. Gerárdia Afzèlia, Michx. fl. bor. amer. 2. p. 20. Afzèlia cassioìdes, Gmel. syst. nat. 927. Gerárdia cassioìdes, Pers. ench. 2. p. 154. Branches slender. Leaves small, distant. Flowers ⅛ an inch in diameter. Capsule size of a grain of pepper.

Thin-leaved Seymèria. Fl. July, Aug. Clt. 1730. Pl. 1 foot.

2 S. PECTINA'TA (Pursh. l. c.) downy; leaves pinnatifid, with linear, obtuse, rather cut segments; capsule downy, obtuse. ⊙. H. Native of South Carolina, Pursh; Louisiana, Drummond; from North Carolina to Florida, Pursh. Leaves large, and their lobes much broader than in the preceding. Capsule larger, compressed, obtuse, and almost emarginate at apex.

Pectinate-leaved Seymeria. Fl. July, Aug. Clt. 1820. Pl. 1 foot.

Cult. For culture and propagation see *Gerárdia*, p. 559.

LVII. MACRANTHE'RA (from μακρος, *makros*, long; and ανθηρα, *anthera*, an anther; in reference to the long anthers.) Torrey, mss. ex Benth. ger. in Hook. comp. 1. p. 203. —Conràdia, Nutt. and Pickering, in journ. acad. nat. sc. phil. 7. p. 88. t. 12. but not of Mart.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx campanulate, with 5 linear foliaceous segments, which are longer than the tube. Corolla tubular; limb of 5 short, nearly equal, spreading segments. Stamens 4, nearly equal, exserted; anthers erect, all 2-celled, fertile. Stigma slender. Capsule nearly globose, acute.—An erect American herb. Leaves opposite, dissected. Flowers racemose, yellow.

1 M. FUCHSIOI'DES (Benth. l. c.) ♃. H. Native of the southern states of North America; Louisiana, Drummond. Conràdia fuchsioìdes, Nutt. l. c. Plant slightly downy. Segments of the leaves lanceolate: those of the lower ones divided. Racemes long, unilateral. Peduncles opposite, spreading or slightly reflexed. Flowers erect. Corolla an inch long, slightly incurved at the top; mouth oblique. Stamens downy. (Benth.) Leaves like those of *Gerárdia quercifòlia*, ex Nutt.

Fuchsia-like Macranthera. Pl. 2 to 3 feet.

Cult. For culture and propagation see *Gerárdia*, p. 559.

LVIII. ESTERHA'ZIA (probably named after some member of the family of Prince Esterhazy.) Mikan, del. pl. et faun. bras. t. 5. Benth. ger. in Hook. comp. 1. p. 203.—Virgulària species, Mart.—Gerárdia species, Cham. et Schlecht, in Linnæa, vol. 3.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-toothed. Corolla tubularly funnel-shaped; lobes of the limb ovate-roundish, nearly equal. Stamens didynamous, exserted, villous: anthers all fertile; cells very villous, acute at the base. —Much branched shrubs, natives of Brazil, naked at the base. Leaves usually opposite, quite entire, rather fleshy. Flowers disposed in short racemes, pedicellate towards the top of the branches; pedicels bracteate.

1 E. CAMPE'STRIS (Spix et Mart. reise in bras. 1. p. 397.) leaves lanceolate or oblong-lanceolate, mucronulate, contracted at the base, 1-nerved: floral ones exceeding the peduncles; racemes almost simple. ♄. G. Native of Brazil, in the province of Minas Geraes, in the Diamond district. Virgulària campéstris, Mart. gen. bras. 3. p. 7. t. 203.

Field Esterhazia. Shrub.

2 E. MONTA'NA (Spix, et Mart. l. c.) leaves linear, acute at both ends, 1-nerved, fascicled; flowers exceeding the calyxes;

racemes compound. ♄. G. Native of the province of Minas Geraes, Martius; tropical Brazil, Sello. Virgulària montàna, Mart. l. c. 3. p. 9. t. 204. Gerárdia cæsàrea, Cham. et Schlecht, in Linnæa, 3. p. 17.

Mountain Esterhazia. Shrub.

3 E. sple'ndida (Mikan, del. pl. et faun. bras. t. 5.) leaves narrow-lanceolate, acute, narrowed into the petioles at the base; racemes nearly simple, few-flowered, leafy. ♄. G. Native of tropical Brazil, Mart. and Sello. Virgulària splèndida, Mart. gen. bras. 3. p. 11. Gerárdia gnidioìdes, Cham. et Schlecht, in Linnæa, 3. p. 16. Segments of corolla ovate, very blunt, ciliated. According to Cham. et Schlecht, l. c. the 3 foregoing species run so into each other, that they may only be varieties of one.

Splendid Esterhazia. Shrub.

4 E. macrodónta (Cham. et Schlecht, in Linnæa, 8. p. 26.) leaves lanceolate, narrowed at the base, acute and mucronate at apex; panicle terminal, pyramidal, comose, composed of 2-flowered branches; peduncles exceeding the leaves and branchlets; teeth of calyx subulately acuminated. ♄. G. Native of Brazil. Corolla villous outside; segments ciliated, and glabrous on both surfaces. Filaments villous or bearded.

Long-toothed Esterhazia. Shrub.

Cult. For culture and propagation see *Gerárdia*, p. 559.

LIX. GLOSSO'STYLIS (from γλωσσα, *glossa*, a tongue; and στυλος, *stylos*, column; in allusion to the form of the stigma in *G. áspera*.) Cham. et Schlecht, in Linnæa, 3. p. 22. Benth. ger. in Hook. comp. p. 211.—Gerárdia species, Vahl. Stárbia, Pet. Th. gen. mad. p. 7.?

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx campanulate, 4 to 5-toothed. Corolla obliquely campanulate, with a short 5-lobed limb; limb the largest below. Stamens didynamous. Cells of anthers all equal and fertile, acute at the base. Seeds small, with a thin, linear-cuneated membrane. —Rough erect herbs, with the habit of *Melampyrum*, natives of America, South Africa, and South Asia. Leaves opposite, sinuately toothed: floral ones or bracteas broadest at the base, and more deeply toothed, acuminated at apex. Flowers nearly sessile, solitary, alternate, spicate.

1 G. Ave'nsis (Benth. scroph. ind. p. 49. ger. l. c. p. 211.) leaves ovate-lanceolate or lanceolate, cuneated at the base, on very short petioles, and are, as well as the stem, rough from tubercles; teeth of calyx broad, acute, with short cilia. ☉. S. Native on Taong Dong, a mountain near Ava.

Ava Glossostylis. Pl. 1 to 2 feet.

2 G. a'spera (Cham. et Schlecht, in Linnæa, 3. p. 23.) leaves nearly sessile, oblong-lanceolate, truncately cordate at the base, and are, as well as the stem, hispid and very rough; teeth of calyx broad, acute, and are, as well as the bracteas, hispid. ☉. S. Native of Brazil, at Bahia, Salzmann; and Rio Janeiro, in ditches, Chamisso. Corolla 5 lines long. Stigma lanceolate, cochleate, uncinately recurved. Capsule size of a pea.

Rough Glossostylis. Pl. 1½ to 3 feet.

3 G. Cape'nsis (Benth. scroph. ind. p. 50. ger. l. c. p. 212.) leaves nearly sessile, ovate-cordate: lower ones obtuse: superior ones acuminated, and are, as well as the stem, scabrous from minute tubercles, and smooth; calycine teeth lanceolate, very acute, and are, as well as the bracteas, nearly naked, glabrous. ☉. G. Native of the Cape of Good Hope, and Madagascar. Rhinánthus scàber, Thunb. prod. p. 98.? Bártsia scàbra, Spreng. syst. 2. p. 775. Gerárdia sessiliflòra, Vahl, symb. 2. p. 79. According to Bentham, there is a specimen in Hooker's Herbarium which appears to be a fourth species of this genus with the leaves of *G. Capénsis*, but hispid, like *G. áspera*, with larger and more foliaceous calyxes than any of the other species.

Cape Glossostyles. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Sopùbia*, p. 560.

LX. PHTHEIROSPE'RMUM (from φθειρω, *phtheiro*, to corrupt; and σπερμα, *sperma*, a seed; in reference to the seeds being wrapped in a spongy reticulated membrane.) Bunge. Fisch. et Meyer, ind. sem. hort. petrop. 1835. Benth. ger. in Hook. comp. 1. p. 212.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx campanulate, 5-cleft. Corolla campanulately ringent; upper lip flat, bifid; lobes replicate: lower lip a little longer and trifid; throat gaping. Stamens didynamous, almost straight; anthers free; with mucronate parallel cells. Stigma 2-lobed. Capsule beaked, compressed, 2-valved, 2-celled, many-seeded. Seeds oblong, angular, wrapped in a spongy reticulated membrane.

1 P. Chine'nsis (Bunge, l. c.) ☉. H. Native of the North of China.—An annual or biennial herb, with the habit, leaves, calyx, and capsule of *Pedicularis palústris*; but the corolla is almost that of *Mimulus*, of a dirty red colour; throat marked by 2 yellow lines.

China Phtheirospermum. Pl. 1 to 2 feet?

Cult. For culture and propagation see *Sopùbia*, p. 560.

LXI. ESCOBE'DIA (named after George Escobedo, a Spanish naturalist.) Ruiz. et Pav. syst. fl. per. et chil. p. 158. H. B. et Kunth, nov. gen. amer. 2. p. 371. Benth. in Hook. comp. 1. p. 202.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx long, tubular, pentagonal, 5-cleft at apex; segments acute, spreading a little. Corolla funnel-shaped; with a long slender tube; and an ample, 5-lobed, oblique, spreading limb. Stamens didynamous, inclosed; anthers all fertile, linear-sagittate; cells awned at the base. Capsule covered by the calyx, 2-celled, 2-valved.—American herbs, with generally opposite leaves. Peduncles axillary, solitary, 1-flowered, bibracteate. Flowers large, showy, white.

1 E. scabrifòlia (Ruiz. et Pav. l. c. p. 159. H. B. et Kunth. nov. gen. amer. 2. p. 571. t. 174.) leaves ovate and oblong, cordate at the base, toothed, scabrous on both surfaces. ♃. G. Native of New Granada, among stones between the town of Mariquita and the mine of Santa Anna, at the altitude of 530 hexapods, Humb. et Bonpl.; Eastern declivities of the Cordillera of Peru, Mathews; Brazil, in the province of Minas Geraes, Langsdorff. Branches furrowed, hairy. Leaves sessile, 4 inches long. Both species are called *Asafran* by the natives of New Granada.

Rough-leaved Escobedia. Pl. 2 to 4 feet.

2 E. linea'ris (Schlecht, in Linnæa, 8. p. 246.) leaves long-linear, denticulated. ♃. G. Native of Mexico, in grassy places at the Hacienda de la Laguna. C. læ'vis, Cham. et Schlecht, in Linnæa, 5. p. 108. Leaves 4-5 inches long, scabrous. Tube of corolla 4 inches long, and the limb 2 inches in diameter.

Linear-leaved Escobedia. Pl. 2 feet.

Cult. For culture and propagation see *Gerárdia*, p. 559.

LXII. PHYSOCA'LYX (from φυσα, *physa*, a bladder; and καλυξ, a *calyx*; in reference to the inflated calyx.) Pohl, pl. bras. 1. p. 65. t. 53. Mart. bras. 3. p. 2, 3. t. 201, 202.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx inflated, 5-toothed, coloured. Corolla tubularly salver-shaped; limb spreading, somewhat equally 5-lobed. Stamens didynamous, inclosed. Anthers all fertile; cells shortly awned at the base.

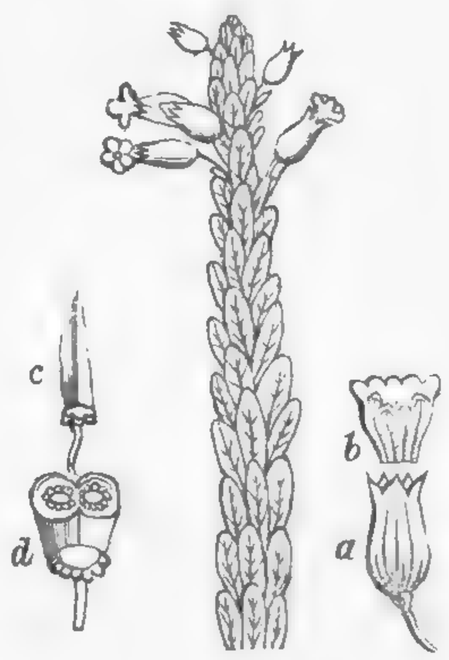
—Shrubs natives of Brazil, densely covered with erect, thickish, quite entire, opposite or alternate leaves. Peduncles axillary, 1-flowered, bibracteate, racemose at the tops of the branches. Corollas red or blood-coloured. The three species are very nearly allied, and are scarcely distinct.

1 P. ma'jor (Mart. bras. 3. p. 2. t. 201.) leaves ovate or ovate-oblong, obtuse, mucronulate; bracteoles subulately linear, beneath the flowers; filaments glabrous; anthers bearded on the back. ♄. G. Native of Brazil, in the province of Minas Geraes, in the Diamond district, Martius; on Sierra da Muela, Sello.

Larger Physocalyx. Shrub.

2 P. mi'nor (Mart. l. c. p. 3. t. 202.) leaves obovate, acutish; bracteas subulately linear under the flowers; filaments glabrous; anthers bearded on the back. ♄. G. Native along with the preceding, in the Diamond district, Martius (fig. 54.)

FIG. 54.



Smaller Physocalyx. Shrub 1 foot.

3 P. auranti'acus (Pohl, pl. bras. 1. p. 65. t. 53.) leaves obovate-elliptic; bracteas oblong-lanceolate under the flowers; filaments villous above, and the anthers on the back. ♄. G. Native of Brazil, in the province of Minas Geraes; on Serro Frio; and on the tops of mountains, in arid, gravelly, rocky places, between Rio Jetiquinhonha, on the road between Bonfin and Villa de Fanado. Leaves oval-elliptic, obtuse, sessile, ex Pohl.

Orange-coloured-calyxed Physocalyx. Shrub 1 foot.

Cult. For culture and propagation see *Gerárdia*, p. 559.

LXIII. MELA'SMA (from μελας, *melas*, black; application not evident in any way, unless from the plants turning black on drying—a circumstance common to this order.) Berg. cap. t. 3. Gærtn. fruct. t. 55. Benth. ger. in Hook. comp. p. 202. Nigrìna, Lin. mant. p. 42.—Gerárdia species, Lin. fil. suppl. 278. Physocàlyx and Lýncea species, Cham. et Schlecht, in Linnæa.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx loose, foliaceous, at length inflated, 5-cleft at apex. Corolla campanulately funnel-shaped; lobes of limb short, broad. Stamens subdidynamous, shorter than the corolla; anthers all fertile; cells apiculate at the base.—American or Cape herbs; with usually opposite leaves; and axillary, 1-flowered, bracteate pedicels, which are disposed in a subracemose manner.

1 M.? hi'spidum (Benth. l. c.) plant hispid from white pili; leaves lanceolate, a little toothed, narrowed at the base; peduncles bracteate at apex. ♃. G. Native of Mexico, near Hacienda de La Laguna, Schiede and Deppe. Lýncea híspida, Cham. et Schlecht, in Linnæa, 5. p. 108, and 8. p. 24. Leaves alternate or falsely opposite, on short petioles, quite entire or sinuately denticulated. Calycine segments 3-nerved. Lobes of corolla obtuse.

Hispid Melasma. Pl. 3 to 4 feet.

2 M. rhinanthoi'des (Benth. l. c.) plant very scabrous; leaves oblong, a little toothed, hardly narrowed at the base; peduncles shorter than the calyx, bracteate in the middle. ♃. G. Native of Brazil, at Rio Grande, in many places, Sello and Tweedie. Physocàlyx rhinanthoìdes, Cham. et Schlecht, in Linnæa, 8. p. 23. Floriferous calyx about half an inch long. Corolla nearly an inch long. Fructiferous calyx resembling that of *Phýsalis*. Capsule obtuse; valves apparently entire, ex Benth. Leaves linear-lanceolate, obtuse, toothed, ex Cham. l. c.

Yellow-rattle-like Melasma. Pl. a span to 2 feet.

3 M. sca'brum (Berg. fl. cap. 162. t. 3. f. 4.) leaves lanceolate, broadest at the base, toothed, scabrous; peduncles longer than the calyx, bracteate in the middle. ♃. G. Native of the Cape of Good Hope. Nigrìna viscòsa, Lin. mant. p. 42. Gerárdia Nigrìna, Lin. suppl. 278. Flowers closely resembling those of the preceding, and of the same size. Teeth of calyx rather shorter; and corolla rather fuller, ex Benth.

Scabrous Melasma. Pl.

Cult. For culture and propagation see *Gerardia*, p. 559.

LXIV. GASTROME'RIA (from γαστηρ, *gaster*, a belly; and μερις, *meris*, a part; in reference to the inflated calyx.) D. Don, in Sweet, fl. gard. n. s. vol. 1. in a note under no. 75.—Lophospérmum species, D. Don, in Lin. trans. vol. 15. p. 353.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx almost globose, membranous, inflated, 5-toothed. Corolla campanulate, nearly equal at the base; limb 5-lobed, bilabiate. Stamens 4, didynamous; filaments glabrous; anthers oblong; cells confluent at apex, loose at the base, diverging, mutic. Ovarium 2-celled; dissepiment placentiferous on both sides; ovula minute, angular, very numerous. Fruit unknown.—A Mexican shrub, scabrous from callous bristles. Leaves opposite, on short petioles, oblong, acute, toothed, pinnately nerved. Flowers axillary, solitary, pedunculate. Peduncles bibracteate. Calyx green. Corolla large, purple? an inch and a half long.

1 G. physaloi'des. ♄. G. Native of Mexico, Sesse and Mocinno. Lophospérmum physaloìdes, D. Don, in Lin. trans. 15. p. 353. Scrophulària physaloìdes, Moc. et Sesse, mss.

Physalis-like Gastromeria. Shrub erect.

Cult. For culture and propagation see *Gerárdia*, p. 559.

LXV. CENTRANTHE'RA (from κεντρον, *kentron*, a spur; and ανθηρα, *anthera*, an anther; cells of anthers mucronate or spurred.) R. Br. prod. p. 438. Benth. scroph. ind. p. 50.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx compressed, cleft on one side, entire, or at length somewhat 4-cleft. Corolla tubular or funnel-shaped; limb spreading or bilabiate; lobes 5, roundish: the lower one the largest. Stamens shorter than the corolla. Anthers approximate by pairs, 2-celled; cells parallel or transverse, mucronate or spurred. Stigma oblong, thickened. Capsule ovoid or oblong, 2-valved; valves entire. Seeds minute, with a loose aril-formed testa.—Erect or diffuse, scabrous, stiff herbs, becoming black on drying. Leaves almost sessile, opposite, oblong or lanceolate, quite entire or few-toothed. Flowers sessile, alternate, or the lower ones are opposite, usually secund: lower ones remote: superior ones sometimes spiked.

1 C. grandiflòra (Benth. in Wall. cat. no. 3880. scroph. ind. p. 850.) erect, glabrous, scabrous from tubercles; flowers secund, approximate, large; calyx oblong, inflated, cleft on one side and very acute on the other. ♃.? G. Native of Silhet, on the mountains, Wall. Calyx 9 lines long. Corolla 21 lines long, purplish.

Great-flowered Centranthera. Pl.

2 C. hi'spida (R. Br. prod. 438.) erect, clothed with hoary pili; flowers remote; calyx ovate, cleft on one side and acutely 2-3-cleft on the other. ⊙. G. Native of New Holland, within the tropic, R. Br.; East Indies, throughout Hindostan, Nipaul, Kamaon, and the mountains of Prome, Wall.; and at Kidarkonta, Royle. Wall. pl. rar. asiat. 1. p. 39. t. 45. C. Nepal-

énsis, D. Don, prod. fl. nep. p. 88. Digitàlis strícta, Roxb. fl. ind. 3. p. 99. Gumtèolis, Hamilt. mss. ex D. Don, l. c. Corollas purplish.

Hispid Centranthera. Pl. ½ to 1 foot.

3 C. Brunonia'na (Wall. cat. no. 3882. Benth. scroph. ind. p. 50.) erect, hispid; flowers remote; calyx oblong, cleft on one side and acute on the other. ⊙.? G. Native of the Birmann Empire, at Moolmyne and Martaban, Wall.

Brown's Centranthera. Pl. ½ foot?

4 C. humifu'sa (Wall. cat. no. 3883. Benth. scroph. ind. p. 50.) diffuse, humble, much branched, almost glabrous; flowers distant; calyx ovate, cleft on one side and acutish or bifid on the other. ⊙.? G. Native of the Peninsula of India, Wight; at Nathpur, Hamilt. Razumòvia Tranquebárica, Spreng. syst. 2. p. 812.? Calyx hardly 2 lines long. Corolla 4 lines long.

Trailing Centranthera. Pl. diffuse.

Cult. For culture and propagation see *Sopùbia*, p. 560.

Tribe V.

VERONI'CEÆ (This tribe contains plants agreeing with the genus *Verónica* in the characters indicated below.) D. Don, in edinb. phil. journ. vol. 19. p. 111. Benth. scroph. ind. p. 43. Calyx 4-5-parted, imbricate in æstivation. Corolla rotate or funnel-formed, 4-lobed, rarely irregularly bilabiate. Stamens 2-4, exserted, distant, nearly equal, all antheriferous. Anthers incumbent; cells parallel, distinct. Stigma capitate or slender. Capsule membranous, 2-valved, with a loculicidal dehiscence; valves usually bifid or bipartite. Dissepiment narrow, composed of 2 separable lamina; placenta short, inserted into the middle of the dissepiment. Seeds compressed, naked or inclosed in an aril-formed testa. Albumen cartilaginous. Embryo minute, terete, located in the base of the albumen.—Herbs or under-shrubs, common in the temperate zones of both hemispheres. Leaves usually opposite. Flowers axillary, terminal, or racemose, blue, white, or red.

LXVI. VERO'NICA (the derivation of this word is uncertain. Linnæus says it is changed or corrupted from Vetonica, from the Vetones, a people of Spain; but that confounds it with Betonica. Limery derives it from *ver*, the spring. There is also a Roman female saint of the name of Veronica.) Tourn. inst. t. 60. Lin. gen. no. 25. Schreb. gen. no. 32. Juss. gen. p. 99. Gærtn. fruct. t. 54. R. Br. prod. p. 434. Lam. ill. t. 13. f. 4. Benth. scroph. ind. p. 44.

Lin. syst. *Diándria, Monogýnia.* Calyx 4, rarely 5-parted, campanulate or compressed. Corolla rotate, with a very short tube, and a 4-parted spreading limb; segments all entire: upper one the broadest. Stamens 2, situated at the sides of the upper segment of the corolla, diverging, without any vestige of the lower ones. Anthers 2-celled; cells confluent at top. Stigma hardly thickened. Valves of capsule septiferous in the middle or bipartible. Seeds naked.—Herbs, under-shrubs, or shrubs. Leaves opposite, alternate, or verticillate. Inflorescence axillary, racemose, or spicate. Flowers blue, white, or red.

Sect. I. Verónica (see genus for derivation.) Reichb. Benth. scroph. ind. p. 44. Capsule swollen, emarginate at top. Seeds oblong, compressed a little.

§ 1. *Racemes terminal.*

* *Leaves verticillate, and opposite, serrated. Racemes numerous.*

1 V. foliòsa (Waldst. et Kit. hung. 2. p. 106. t. 102.) leaves 3-4 in a whorl, ovate, or ovate-lanceolate, deeply and unequally serrated. ♃. H. Native of Hungary; Galicia; about Halle, in Saxony, in humid meadows. Schrad. spic. p. 35. Willd. enum. p. 18. Spreng. fl. hal. p. 6. no. 9. t. 1. f. 2. V. brevifòlia, Bieb. cauc. 1. p. 6.? V. tríquetra, Kit. Root creeping, scaly. Leaves cuneated at the base, glabrous, shining. Racemes long, and loose. Flowers blue, or purple. Bracteas one half shorter than the pedicels. Calycine segments obtuse, shorter than the capsule.

Var. β, nítida; taller and more glabrous. ♃. H. V. nítida, Ehrh. pl. exsicc. no. 21. V. marítima, β, Willd. spec. 1. p. 55.

Var. γ, spùria. ♃. H. V. spùria, Spreng. fl. hal. t. 1. f. 1.

Leafy Speedwell. Fl. July, Sept. Clt. 1805. Pl. 2 to 4 feet.

2 V. crenula'ta (Vahl, enum. 1. p. 57. Hoffm. phyt. blat. p. 95. t. E. f. 3.) leaves 3 in a whorl, and opposite, oblong-lanceolate, subcordate; calycine segments acute; segments of corolla undulated and crenulated. ♃. H. Native country unknown. V. villòsa, Schrad. Stem downy at top. Racemes downy. Leaves villous, or downy. Capsule glabrous.

Crenulated-flowered Speedwell. Fl. July, Sept. Clt. 1814. Pl. 1½ foot.

3 V. marítima (Lin. spec. p. 13. fl. suec. no. 8. fl. lapp. p. 4.) leaves 3-4 in a whorl, ovate-lanceolate, cordate at the base, deeply and doubly serrated, and are, as well as the stems glabrous; calycine segments shorter than the capsule. ♃. H. Native of the North of Europe. Retz. obs. 1. p. 9. Hoffm. phyt. blat. t. E. f 2. Schrad. comm. ver. p. 29. t. 1. f. 1. Vahl, enum. 1. p. 57.? Vahl, fl. dan. t. 374. Racemes dense. Flowers blue, purple, or white. Leaves in some varieties opposite, and in others the flowers are white. This is a very variable plant.

Sea-side Speedwell. Fl. July, Sept. Clt. 1570. Pl. 1 to 3 feet.

4 V. Ticine'nsis (Poll. fl. veron. 3. append. p. 768.) leaves 3-4 in a whorl, and opposite, linear-lanceolate, acuminated, serrated, and are, as well as the calyxes and capsules, glabrous. ♃. H. Native about Ticin, in humid meadows. V. marítima, Noc. et Balb. fl. tic. 1. p. 6, but not of Lin. V. Hóstii, Moretti, in bibl. ital. 12. p. 369.—Tab. kreut. 2. p. 99. f. 4. Racemes terminal, numerous. Flowers azure blue.

Ticin Speedwell. Fl. July, Sept. Clt. 1819. Pl. 2 to 3 feet.

5 V. spu'ria (Lin. spec. p. 13.) leaves 3-4 in a whorl, or opposite, lanceolate, cuneated at the base, simply serrated, downy; serratures equal. ♃. H. Native of the South of Europe, Siberia, &c. Vahl, enum. 1. p. 57, exclusive of the syn. of Pollich. Schrad. ver. no. 19. t. 2. f. 4. V. amethýstina, Willd. enum. 1. p. 17. V. rubélla, Pall.—Barrel. icon. t. 891. —Gmel. itin. 1. p. 169. t. 39. This differs from *V. foliòsa* in the more slender habit, in the lanceolate, more acute, simply and equally serrated leaves, in the bracteas being about equal in length to the pedicels, not much shorter.

Spurious Speedwell. Fl. July, Sept. Clt. 1731. Pl. 2 to 3 feet.

6 V. serrula'ta (Pall. in herb. Willd. Link, jahrb. 1-3. p. 38.) stem slender, tomentose; leaves opposite, or 3 in a whorl, petiolate: lower ones oblong: superior ones alternate, lanceolate, attenuated at the base, serrulated; lower bracteas longer than the pedicels; calyx downy. ♃. H. Native of Siberia. Flowers blue, or purple.

Serrulated-leaved Speedwell. Pl. 2 to 3 feet.

7 V. Stephania'na (Rœm. et Schultes, syst. p. 96.) stem slender, tomentose; leaves opposite, and 3 in a whorl, lanceolate, attenuated at the base, acute, serrated, white from fine

tomentum; bracteas shorter than the pedicels. ♃. H. Native of Persia. V. móllis, Link, jahrb. 1-3. p. 39, but not of Zea. Very nearly allied to *V. spùria*, but differs in the whole plant being white from tomentum.

Stephan's Speedwell. Fl. July, Aug. Clt. 1821. Pl. 1 to 2 feet.

8 V. panicula'ta (Pall. itin. 1. p. 196.) downy; leaves opposite, and 3 in a whorl, lanceolate, attenuated and entire at the base, sharply and distantly serrated, stems ascending. ♃. H. Native of Tartary, Siberia, and Caucasus. Lepechin, itin. 1. p. 206. V. capitulàta, Poir. suppl. 5. p. 466. V. virgàta, Willd. herb. Link, jahrh. 1-3. p. 39. V. spùria, Gmel. itin. 1. p. 169. t. 39. Bieb. fl. cauc. 1. p. 6. V. brevifòlia, Bieb. fl. cauc. 1. p. 6. ex Stev. in mem. soc. mosc. 5. p. 338. V. angustifòlia, floribus paniculatis, Amm. ruth. p. 32. Racemes very long and loose. Flowers blue, or purple. Calyx 4-5-cleft, hairy, ciliated, ex Poir.

Var. β, leucántha; flowers white. ♃. H. Native of Altaia. V. leucántha, Helm. mem. soc. mosc. 2. p. 104. t. 8. V. Altàica, Fisch. cat. hort. gorenki, 1812.

Panicled-flowered Speedwell. Fl. June, July. Clt. 1797. Pl. 1 to 1½ foot.

9 V. complica'ta (Hoffm. phyt. blatt. p. 98. t. E. f. 4.) leaves opposite, rarely 3 in a whorl, complicate, lanceolate, toothed; teeth thickened. ♃. H. Native of Europe. Vahl, enum. 1. p. 58. Willd. enum. 1. p. 18. Radical leaves hoary, and more elliptic. Plant downy. Leaves coarsely crenate-toothed. Flowers blue, or purple. Leaves very long and narrow. Very nearly allied to *V. longifòlia*.

Complicate-leaved Speedwell. Fl. Aug. Sept. Clt 1812. Pl. 2 feet.

10 V. azu'rea (Schott, ex Link, enum. 1. p. 22.) leaves opposite, or 3 in a whorl, very long, gradually attenuated, sharply serrated even to the apex: the lower serratures deep; bracteas longer than the pedicels. ♃. H. Native country unknown. Plant downy. Leaves 3 inches long, and 4 lines broad, form of those of *V. complicàta;* the serratures are also similar, but much longer, fewer, and larger. Flowers blue, or purple.

Azure-blue Speedwell. Fl. July, Sept. Clt. 1821. Pl. 2 to 3 feet.

11 V. gla'bra (Ehrh. pl. exsic. no. 11. Vahl. enum. 1. p. 358. Link, enum. 1. p. 21.) leaves opposite, or 3 in a whorl, ovate-lanceolate, acute, attenuated at the base, quite entire at the apex, simply serrated, and are, as well as the stems, glabrous: serratures remote, nearly equal. ♃. H. Native of the South of Europe. Schrad. comm. ver. t. 1. f. 4. Willd. enum. 1. p. 17. This species is readily distinguished by its smoothness. It differs from *V. argùta* in its greater stature, in the leaves being longer, broader, and more equally serrated. Petioles ciliated. Lower leaves subcordate at the base. Flowers blue, or purple. There is also a variety with white flowers. This is, probably, nothing but a glabrous variety of *V. marítima*.

Glabrous Speedwell. Fl. July, Sept. Clt. 1804. Pl. 2 to 4 feet.

12 V. persicifo'lia (Schott. hort. vind. Link enum. 1. p. 21.) leaves opposite, or 3 in a whorl, ovate-lanceolate, or lanceolate, long-acuminated, serrated even to the apex; bracteas longer than the pedicels. ♃. H. Native country unknown. Stem glabrous at bottom. Leaves 3 inches long, and 7-8 lines broad, glabrous. Lower bracteas long. Calyx rather downy. Corollas blue. This seems to be intermediate between *V. longifòlia*, and *V. maritima*, but differs from both in the leaves being attenuated at the base.

Peach-leaved Speedwell. Fl. July, Sept. Clt. 1823. Pl. 2 to 3 feet.

13 V. ela'tior (Ehrh. pl. exsic. no. 31. Willd. enum. 1. p. 17. Bieb. suppl. p. 8.) glabrous; leaves 3 in a whorl, lanceolate, acuminated, somewhat cordate at the base, doubly and deeply serrated: the serratures at the base deeper. ♃. H. Native of the South of Europe, and Caucasus. V. marítima, Bieb. taur. no. 15, exclusive of the syn. Gorter ingr. p. 2. V. spicàta urticæ folio, Amm. ruth. no. 35.—Riv. mon. t. 97. Bases of the superior leaves cuneated, of the lower ones subcordate. Corollas blue or purple.

Tall Speedwell. Fl. Aug. Sept. Clt. 1808. Pl. 4 to 7 feet.

14 V. longibractea'ta (Link, enum. 1. p. 20.) stem smoothish; leaves opposite, and 3 in a whorl, oblong, or lanceolate, acute, serrated, gradually attenuated at the base; lower bracteas foliaceous, quite entire. ♃. H. Native country unknown. V. mèdia, Willd. enum. 1. p. 16. Leaves 3 inches long, and 5 lines broad, serrated, downy, ciliated. Lower bracteas much longer than the flowers. Corollas blue.

Var. β; stem smoothish; leaves from oblong, gradually attenuated at the base. ♃. H. V. hýbrida, Willd. diar. Schrad. 1799. p. 388. Leaves 5 inches long, and 1½ inch broad, long-acuminated.

Long-bracted Speedwell. Fl. Aug. Sept. Clt. 1817. Pl. 2 to 3 feet.

15 V. ni'tens (Link, enum. 1. p. 20, under V. nítida.) leaves opposite, or 3 in a whorl, ovate, acute, attenuated at the base, serrated in the middle, and sub-serrated at apex, glabrous. ♃. H. Native of Europe. V. argùta, Willd. enum. 1. p. 16. ex Link. Plant glabrous. Leaves 2½ inches long, and 1 broad. Bracteas longer than the pedicels. Corollas blue. This species differs from *V. argùta* in the leaves being shorter and broader, and racemes long.

Var. β, falcàta; serratures of leaves approximate, curved. ♃. H. V. falcàta. Mart. enum. hort. erl. p. 10. Corollas blue.

Shining Speedwell. Fl. July, Aug. Clt. 1817. Pl. 2 to 3 feet.

16 V. argu'ta (Schrad. comm. ver. no. 7. t. 2. f. 2.) downy; leaves lanceolate, acute, simply serrated, quite entire at base and apex, opposite, clothed with hoary down: serratures remote, equal, simple. ♃. H. Native in the groves of Ticin. Vahl, enum. 1. p. 360. Moretti, giorn. de fis. dec. 2. vol. 5. p. 41. V. mèdia, Moretti, bibl. ital. dec. 1816. t. 4. vol. 4. p. 494. Leaves cuneated at the base, deflexed, hoary, but rather naked above. Racemes numerous. Bracteas longer than the pedicels. There is a variety of this with more slender stems, and narrower leaves.

Var. β; raceme spicate, solitary; leaves not half so broad as those of the species.

Sharp-toothed Speedwell. Fl. July, Sept. Clt. 1812. Pl. 2 feet.

17 V. me'dia (Schrad. comm. ver. no. 8. t. 1. f. 2.) leaves opposite, or 3 in a whorl, lanceolate, acute, serrated, and are, as well as the stems, clothed with tomentose down: serratures approximate, unequal. ♃. H. Native of Carniola, Hungary, Bohemia, &c. in hedges and humid meadows. Vahl, enum. 1. p. 359. Link, enum. 1. p. 21. N. longifòlia, Fl. de wetter, no. 13. Roth, fl. germ. 2. p. 7. Mœnch. meth. p. 433. V. spùria and V. incàna, Schmidt. Leaves cuneated at the base. Calycine segments shorter than the capsule. Flowers blue, or purple.

Middle Speedwell. Fl. July, Sept. Clt. 1804. Pl. 2 to 4 feet.

18 V. austra'lis (Schrad. l. c. no. 9. t. 2. f. 3.) leaves opposite, or 3 in a whorl, ovate-lanceolate, simply serrated, quite entire at top, and are, as well as the stems, downy: serra-

tures approximate, unequal. ♃. H. Native of the South of Europe. Vahl, enum. 1. p. 360. Willd. enum. 1. p. 17. Link, enum. 1. p. 21. V. longibracteàta, *β*, poliocaúlis, Link, jahrb. 1-3. p. 36. Radical leaves ovate. Racemes spicate, 2-3 inches long. Bracteas linear-lanceolate, about equal in length to the calyx, or exceeding it: lower ones longer. Flowers blue, or purple.

Southern Speedwell. Fl. July, Sept. Clt. 1812. Pl. 1½ to 2 feet.

19 V. LONGIFO'LIA (Lin. spec. p. 13.) leaves opposite, or 3-4 in a whorl, cordate-lanceolate, acuminated, doubly serrated, and are, as well as the stem, clothed with downy tomentum. ♃. H. Native throughout Europe and Siberia, in humid meadows. Schrad. comm. ver. p. 26. t. 2. f. 1. Wahl. fl. lapp. p. 3. V. marítima, Hoffm. comm. gœtt. 1800. p. 118. exclusive of the synonymes. Spreng. fl. hal. t. 1. f. 3, with leaves 3 in a whorl. V. ciliàris, Hoffm. comm. gœtt. l. c. t. 5. V. marítima, Schmidt, boh. no. 5, and of many other authors. V. spùria, Schkuhr, handb. 1. p. 9. Thuill. fl. par. ed. 2d. p. 6. V. acùta, Mart. enum. hort. erl. p. 12.—Besl. eyst. vern. t. 10. f. 2. V. urticæfòlia, Amm. ruth. p. 26, with leaves 4 in a whorl. V. spicàta longifòlia altera, Amm. ruth. 34. Calyx unequal, equal in length to the capsule. Flowers blue, or purple. Lower bracteas longer than the flowers. Leaves opposite in the true specimens of Lin.

Var. α, angustifòlia (Link, enum. 1. p. 22.) leaves narrow, lanceolate. ♃. V. marítima, Willd. enum. p. 18. Wahl. fl. ups. p. 3. Ehrh. in gœtt. gel. anz. 1821. 1766.

Var. β, latifòlia (Link, l. c.) leaves broad-lanceolate. ♃. H. V. longifòlia, Willd. enum. 1. p. 19. V. grόssa, Mart. hort. erl. p. 12. Leaves deeply serrated.

Var. γ, abbreviàta (Link, l. c.) lower leaves generally short-acuminated. ♃. H. V. acùta, Mart. hort. erl. p. 13. V. rígens, Mart. l. c. in which the leaves are hardly cordate. V. ambígua, Mart.

Var. δ, subincìsa (Link, l. c.) leaves deeply serrated, like those of *V. elàtior*, but smaller.

Var. ε, quadrifòlia (Schkuhr.) leaves 4 in a whorl. V. petiolàris, Lapeyr. and V. Schrebèri, Lapeyr.

Long-leaved Speedwell. Fl. July, Sept. Clt. 1731. Pl. 2 to 4 feet.

20 V. RAMO'SA (Pall. ex Link, jahrb. 1-3. p. 39.) stem downy; stem leaves 3 in a whorl, oblong-lanceolate, remotely serrulated: rameal ones opposite, crowded, linear: uppermost ones quite entire. ♃. H. Native of Siberia. This is a very showy species.

Branched Speedwell. Pl. 1 to 2 feet.

* * *Leaves always opposite, never verticillate, serrated and crenated. Racemes numerous or solitary. Plants usually furnished with sterile surculi, or branches.*

21 V. NEGLE'CTA (Vahl, enum. 1. p. 59.) white from hoary tomentum; leaves lanceolate, crenately serrated, acute, cuneated at the base, and quite entire. ♃. H. Native of Hungary and Siberia, on hills. Willd. enum. 1. p. 15. V. canéscens, Schrad. comm. ver. no. 3. Link, enum. 1. p. 21. V. incàna, Waldst. et Kit. 3. p. 271. t. 244. Besser. fl. gall. p. 28. Schultes, fl. austr. ed. 2d. 1. p. 18. Radical leaves oblong, obtuse. Cauline leaves opposite, or alternate, attenuated at both ends: uppermost ones quite entire. Bracteas usually longer than the flowers. Racemes spicate, usually numerous, seldom solitary. Flowers blue, or purple.

Neglected Speedwell. Fl. July, Aug. Clt. 1797. Pl. 1½ to 2 feet.

22 V. INCA'NA (Lin. spec. p. 14. Vahl. enum. 1. p. 59.) white from hoary tomentum; leaves lanceolate, oblong, crenated, and nearly entire, obtuse. ♃. H. Native of the Ukraine and Samara, and Altaia. Bieb. fl. cauc. 1. p. 7. suppl. p. 9. Hoffm. in comm. gott. 15. p. 123. t. 6. Steven, mem. mosc. 5. p. 339. V. canéscens, Pall. itin. 2. p. 522.—Amm. ruth. no. 30. Stem simple. Radical leaves a foot long, ovate-oblong, very blunt. Raceme spicate, terminal, solitary. Flowers blue, or purple. There is a variety of this having all the cauline leaves, or only the upper ones, quite entire.

Hoary Speedwell. Fl. July, Sept. Clt. 1759. Pl. ½ to 1 foot.

23 V. CARTILAGI'NEA (Ledeb. fl. ross. alt. ill. t. 210. fl. alt. 1. p. 28.) stem downy: leaves glabrous: lower ones opposite, spatulate, serrated towards the apex: superior ones alternate, linear, serrulated; lower bracteas exceeding the calyxes; calyx 4-parted, with ovate, 3-nerved, glabrous, ciliated segments. ♃. H. Native of Dauria, near Nertschinsk. Surculose at the base. Raceme usually solitary. Corolla blue.

Cartilaginous Speedwell. Pl. 1 to 2 feet.

24 V. RUBICU'NDA (Ledeb fl. ross. alt. ill. t. 208. fl. alt. 1. p. 28.) villously downy; leaves tapering into the petioles, oblong, or lanceolate, serrated; bracteas all longer than the pedicels, and are, as well as the calyxes, clothed with glandular hairs. ♃. H. Native of Dauria. Superior leaves sub-alternate, coarsely serrated. Racemes several. Calyx 4-parted, unequal, obtuse. Corollas showy, rose-coloured. Perhaps the same as *V. rubélla*, Pall. Said to be nearly allied to *V. serrulàta*, Pall. and *V. élegans*, D. C., but differs from the first in the leaves being opposite, and from both in the leaves not being petiolate, but tapering to their insertion.

Reddish-flowered Speedwell. Pl. 1 to 2 feet.

25 V. E'LEGANS (D. C. cat. hort. monsp. 1813. p. 154. Link, enum. 1. p. 21.) leaves serrated, quite entire at top, petiolate, ovate-oblong, or oblong, attenuated, acute, and are, as well as the stems downy; racemes numerous; lower bracteas longer than the pedicels: upper ones shorter. ♃. H. Native about Verviers, in humid meadows. Flowers rose-coloured. V. incarnàta, G. Don, in Loud. hort. brit. p. 6. ?

Elegant Speedwell. Fl. May, June. Clt. 1822. Pl. 1 to 2 feet.

26 V. SPICA'TA (Lin. spec. p. 14.) downy, canescent, rather clammy; leaves crenated: radical ones oblong, or obovate, running into the petioles: cauline leaves lanceolate, or oblong-lanceolate, or linear-lanceolate, sessile, toothed, entire at top; bracteas and calyxes pilose. ♃. H. Native of Switzerland, Germany, France, Siberia; in England in high dry chalky pastures, especially on Newmarket Heath, and about Bury St. Edmund's. Smith, fl. brit. 1. p. 15. engl. bot. t. 2. Schmidt, fl. boh. no. 7. Oed. fl. dan. 52. Poit. et Turp. fl. par. 1. p. 19. t. 19. Schrad. fl. germ. exclusive of the synonymes of Poll. Crantz, Vaillant and Fl. dan. Wahl. fl. ups. p. 3. Svensk, fl. suec. t. 2. Bieb. fl. cauc. 1. p. 8. V. hýbrida, Bieb. 1. p. 8, and 3. p. 9. V. spicàta, and V. orchídea, Besser, enum. pl. volh. p. 2. no. 8 and 9.—Clus. hist. p. 347.—Hall. helv. no. 452.—Mor. hist. 2. p. 318. sect. 3. t. 22. f. 4. Root hard, creeping. Stems usually simple. Leaves sessile, firm, entire at top. Racemes spicate, dense, usually solitary. Flowers blue, or purple, or white; tube of corolla thicker than in its congeners, longer and white, and the segments of the limb narrower. Capsules downy.

Var. β, spicàta alpìna (Rœm. et Schultes, syst. 1. p. 93.) ♃. H. Native of the Pyrenees. V. Sterbergiàna, Bernh. Lapeyr, pl. des. pyr. p. 5. Leaves glabrous.

Spicate-flowered Speedwell. Fl. July, Sept. England. Pl. ½ to 1 foot.

27 V. CLU'SII (Schott. ex Rœm. et Schultes, syst. 1. p. 94.) tomentose from pedicellate glands; leaves toothed; radical ones

ovate, running into the petioles: cauline ones lanceolate, petiolate; bracteas and calyxes ciliated. ♃. H. Native of Hungary, Bohemia, Austria, and Denmark. V. spicàta, var. *α*, 2. Scop. carn. ed. 2d. p. 17. Poll. pal. no. 7. Schultes, fl. austr. ed. 2d. p. 7. V. hybrida, Schmidt, fl. boh. no. 8. V. spicàta, Vahl, fl. dan. t. 52.? Raceme usually solitary, spicate, dense. Flowers blue, or purple. This is probably only a variety of *V. spicàta*, clothed with viscid glandular pubescence.

Clusius's Speedwell. Fl. July, Sept. Clt. 1822. Pl. ½ to 1 foot.

28 V. HY'BRIDA (Lin. spec. p. 14.) leaves unequally and bluntly crenated, and are, as well as the stem, villous and canescent; radical ones petiolate, ovate: cauline ones nearly sessile, elliptic-oblong; bracteas linear, longer than the calyxes. ♃. H. Native of Europe, on the mountains; in England, at the sides of mountains, rare; on Craig Wreidhin, Montgomeryshire; on Humphrey Head, a steep rock near Cartmell Wells, Lancashire. Vahl, enum. 1. p. 60. Willd. spec. 1. p. 50. enum. 1. p. 16, and in Schrad. diar. bot. 1799. t. 3. Baumg. fl. trans. 1. p. 19. Ray. syn. p. 278. t. 11. f. 1. Smith, engl. bot. t. 673. good. Schrad. ver. p. 22. fl. germ. 1. p. 17. V. Barrelièri, Schott, ex Rœm. et Schultes, syst. 1. p. 94. V. spicàta mìnor, Vaill. par. t. 33. f. 7. V. spicàta, D. C. fl. fr. no. 2408.—Barrel. icon. t. 682. Leaves all obtuse. Raceme spicate, solitary, or few together. Bracteas and calyxes ciliated. Flowers blue, or purple. There is a variety of this with numerous spicate racemes.

Hybrid Speedwell. Fl. July, Sept. England. Pl. ½ to 1 foot.

29 V. CONFU'SA (Rœm. et Schultes, syst. 1. p. 95.) leaves opposite: lower ones cordate: superior ones ovate-lanceolate, acuminated, doubly and unequally serrated, and are, as well as the stem, clothed with soft canescent pubescence; segments of corolla divaricate, acuminated; capsules pilose. ♃. H. Native country unknown. Said to be nearly allied to *V. complicàta*. Young leaves soft: adult ones more rough: lower ones petiolate: superior ones almost sessile. Calycine segments pilose, ciliated. Racemes spicate, usually solitary.

Confused Speedwell. Fl. June, July. Clt. 1819. Pl. 1 foot.

30 V. LONGIFLO'RA (Rœm. et Schultes, syst. 1. p. 95.) leaves cordate-lanceolate, sharply and unequally serrated, almost glabrous; tube of corolla twice as long as the calyx, which is small and unequal. ♃. H. Native country unknown. Plant downy at top; petioles ciliated. Leaves cuneiform: superior ones having the teeth tipped with red. Pedicels and calyxes downy. Corolla lilac; tube 1½ line long. Capsule obcordate, pilose.

Long-flowered Speedwell. Fl. July, Aug. Clt. 1824. Pl. 1½ foot.

31 V. POLYSTA'CHYA (Link, enum. 1. p. 23.) leaves nearly sessile, ovate, acute, serrated, downy; spiciferous branches crowded; flowers nearly sessile. ♃. H. Native country unknown. V. corymbòsa, Hort. Plant downy. Leaves serrated even to the top, with a reflexed acumen. Lower bracteas longer than the flowers. Flowers small, pale blue. Racemes crowded in a corymbose manner at the tops of the branches. comose.

Many-spiked Speedwell. Fl. June, July. Clt. 1817. Pl. 1½ to 2 feet.

32 V. RUTHE'NICA (Hort. vind. ex Rœm. et Schultes, syst. 1. p. 96.) leaves ovate-lanceolate, unequally serrated; bracteas length of calyxes; calyx unequal; capsule a little longer than the calyx. ♃. H. Native country unknown, being gathered in the botanic garden of Vienna. Very like *V. argùta*, but the leaves are serrated to the apex. Flowers blue, or purple.

Russian Speedwell. Fl. July, Aug. Clt. 1821. Pl. 1 foot.

33 V. VILLO'SA (Schrad. ver. p. 13. t. 1. f. 3.) leaves oblong-ovate, serrated, and are, as well as the stems, villous and canescent. ♃. H. Native country unknown. Willd. enum. 1. p. 361. Poir. encycl. 8. p. 513. Stems ascending. Leaves reflexed at top, thickish, wrinkled, and shining above: lower ones ovate, obtuse: the rest ovate-oblong, acutish, tapering into the petioles. Racemes spicate, long for the size of the plant, erectish, often flexuous. Flowers blue, or purple, also white. Capsule a little higher than the calyx. This species has been joined by Willd. and Mart. with *V. crenulàta*.

Villous Speedwell. Fl. July, Aug. Clt. 1804. Pl. 1 to 1½ foot.

34 V. LUXU'RIANS (Ledeb. fl. ross. alt. ill. t. 211. fl. alt. p. 27.) stem pilose; leaves smoothish, petiolate, oblong, acuminated, rounded at the base, acutely and simply serrated: serratures nearly equal; bracteas about equal in length to the pedicels; calyx 4-cleft, spreadingly reflexed, unequal. ♃. H. Native of Siberia, near Irkutch. Leaves 4 inches long, or longer. Racemes 3 or more. Corolla blue.

Luxuriant Speedwell. Pl. 2 to 3 feet.

35 V. LINARIÆFÒLIA (Pall. in herb. Willd. Link, jahrb. 1-3. p. 35.) leaves opposite, linear, gradually attenuated, long-acuminated, remotely serrated; bracteas longer than the pedicels. ♃. H. Native of Siberia. V. angustifòlia, Fisch. hort. gorenk. Link, enum. 1. p. 19. Stem angular, with a few scattered hairs. Leaves entire at base and apex, serrated only in the middle. Raceme elongated; rachis downy. Calyx glabrous, with ciliated segments. Corollas large blue.

Toadflax-leaved Speedwell. Fl. July, Sept. Clt. 1822. Pl. 1 to 2 feet.

36 V. BRACHYPHY'LLA (Rœm. et Schultes, syst. 1. p. 96.) stem downy, simple; leaves opposite, lanceolate to oblong, gradually attenuated at the base, acuminated, serrated, quite entire at the apex: upper ones sub-serrated; lower bracteas foliaceous, longer than the pedicels. ♃. H. Native country unknown. V. brevifòlia, Link, enum. 1. p. 21. Leaves 2 inches long, and 4-5 lines broad. Calyx downy. Corolla blue.

Short-leaved Speedwell. Fl. June, July. Clt. 1822. Pl. 1 foot.

37 V. MENTHÆFÒLIA (Schott. l. c.) villous; leaves unequally crenated: radical ones ovate: cauline ones oblong, acute, petiolate, quite entire at base and apex; bracteas linear. ♃. H. Native of Austria, and on the shores of the Volga.—J. Bauh. hist. 3. p. 282.—Clus. hist. 347. Flowers racemose, blue, or purple. Schultes had specimens of this plant from the garden at Gorenki, under the name of *V. spicàta affìnis*. Raceme usually solitary. The segments of the corolla are twisted, as in *V. orchídea*, but shorter.

Mint-leaved Speedwell. Fl. July, Sept. Clt. 1823. Pl. ½ to 1 foot.

38 V. CRASSIFO'LIA (Kit. ex Rœm. et Schultes, syst. 1. p. 96.) leaves ovate-lanceolate, running into the petioles, remote: lower ones crenated: superior ones quite entire; corolla orchideous. ♃. H. Native country unknown. Stem red. Leaves rather downy beneath, fleshy. Racemes spicate, solitary, or tern, a foot and more long. Calyx downy, unequal. Bracteas all longer than the calyxes. Corolla violaceous, with twisted segments. Capsule downy. Allied to *V. orchídea*.

Thick-leaved Speedwell. Fl. July, Aug. Clt. 1822. Pl. 2 to 3 feet.

39 V. ORCHI'DEA (Crantz, austr. fasc. 4. p. 333, exclusive of the synonymes of Vaill. and Fl. dan.) downy; leaves deeply serrated: radical ones oblong-ovate, running into the petioles: cauline ones lanceolate, acutish, almost sessile; segments of corolla lanceolate, twisted a little, exceeding the anthers. ♃. H. Native of Austria, Pannonia, and Cape Caucasus, on arid

hills. Bess. fl. gal. 1. p. 27. Baumg. fl. trans. 1. p. 18. Wahl. fl. carp. p. 4. Sims, bot. mag. 2210. V. cristàta, Bernh. siber, einig. ehrenpreis, p. 14-21. V. Crántzii, Schultes, obs. bot. no. 16. V. hýbrida, Bieb. cauc. p. 8, exclusive of most of the synonymes.—Bauh. hist. 3. p. 283. icone.—Mor. hist. 2. sect. 3. t. 22. f. 2. bad. V. spicàta latifòlia, Bauh. pin. p. 246. Habit of *V. spicàta* and *V. hýbrida*. Racemes spicate, dense, usually solitary. Corollas purple or blue. This is a very singular species, from the long twisted segments of the corolla.

Orchideous-flowered Speedwell. Fl. July, Sept. Clt. 1819. Pl. 1 foot.

40 V. Pònæ (Gouan. ill. t. 1. f. 1.) leaves cordate-ovate, sessile, acuminated, and are, as well as the stems, which are quite simple, pilose; racemes few-flowered; calyxes downy. 4. H. Native of Mount Baldo, and the Pyrenees. Link, enum. 1. p. 23. Schrad. ver. p. 34, exclusive of *β*. V. sempervìrens, Lam. fl. fr. ed. 2d. p. 436. V. Gouànii, Moretti, giorn. de fis. 5. p. 41. Lower leaves small, roundish, crenated: the rest an inch long, acuminated and coarsely serrated, pale beneath. Bracteas length of pedicels. Flowers distant, size of those of *V. chamæ`drys*, blue. Calyx 5-parted. Capsule swollen a little. Seeds small, very flat.

Var. β, acutifòlia; leaves acute. 4. H. Lapeyr. pl. pyr. p. 5.

Var. γ, trîloba; leaves 3-lobed. 4. H. Lapeyr. l. c.

Var. δ, ramosíssima; branches numerous, axillary. 4. H. Lapeyr. l. c.

Var. ε, procèrior; taller, with broader leaves, and a long spicate raceme of flowers. 4. H. Lapeyr. l. c.

Var. ξ, nàna; dwarf, with large flowers. 4. H. Lapeyr. l. c. V. pùmila, All. pedem. no. 270. t. 22. f. 5.

Pona's Speedwell. Fl. May, July. Clt. 1822. Pl. ½ to 1 foot.

41 V. Stelle`ri (Pall. ex Link, jahrb. 1-3. p. 50.) stems simple, hairy; leaves sessile, cordate, serrately crenated, obtuse; raceme short, corymbose; bracteas crenated, shorter than the pedicels; calyx hairy. 4. H. Native of Kamtschatka. Nearly allied to *V. Pònæ*, but the stems and racemes are shorter, &c.

Steller's Speedwell. Pl. ¼ to ½ foot.

42 V. gra´ndis (Fisch. ex Spreng. neu. entd. 2. p. 122.) leaves cordate-oblong, obtuse, deeply toothed, somewhat pinnatifid at the base, naked; raceme elongated; capsules nearly globose, glabrous. 4. H. Native of Siberia. Stem usually simple, downy. Calyx nearly equal, 4-cleft. Corollas white; anthers and pistil flesh-coloured. This species has a habit of those species with lateral racemes, but with the characters of those of the present section.

Great Speedwell. Fl. July, Sept. Clt. 1826. Pl. 1 to 2 feet.

* * * *Leaves always opposite, never verticillate, pinnate, and pinnatifid. Racemes solitary or numerous.*

43 V. pinna`ta (Ait. hort. kew. ed. 1st. vol. 1. p. 19.) leaves somewhat fascicled: lower ones pinnate: superior ones pinnatifid and simple: leaflets and segments filiform, divaricate; calyx 5-parted. 4. H. Native of Siberia. Ait. hort. kew. ed. 1st. vol. 1. p. 19. ed. 2d. vol. 1. p. 28. Vahl, enum. 1. p. 61. Schrad. comm. ver. p. 32. Hoffm. in comm. gott. 15. p. 130. t. 10. Laxm. act. petrop. 1770. t. 29. f. 1. V. Hispánica, Meerb. t. 11. ex Poir. encycl. 8. p. 513.—Amm. ruth. no. 33. Stem ascending, downy, but usually glabrous in the cultivated state. Leaves approximate, very narrow, with unequal segments. Racemes solitary in the spontaneous plant, but many in the cultivated plant. Corollas blue or white. Capsule oval.

Var. β; leaves simple, filiform. Link, jahrb. 1. 3. p. 39.

Pinnate-leaved Speedwell. Fl. June, Aug. Clt. 1776. Pl. 1 foot.

44 V. sessiliflòra (Bunge, in Ledeb. fl. ross. alt. ill. t. 126. fl. alt. 1. p. 32.) leaves oblong, cuneated at the base, tapering into the petioles, pectinately pinnatifid, with entire bluntish segments; superior leaves linear, quite entire, and are, as well as the stem, downy; spike usually solitary, dense; flowers exactly sessile. 4. H. Native of Altaia, in sterile places at the rivers Kurai and Tschuja. The whole plant villously pubescent. Bracteas exceeding the calyxes. Calyx 4-parted, rather unequal. Corollas blue.

Sessile-flowered Speedwell. Pl. ½ foot.

45 V. incìsa (Ait. l. c.) leaves somewhat fascicled, petiolate, lanceolate, pinnatifid: segments almost entire; calycine segments lanceolate. 4. H. Native of Siberia. Vahl, enum. 1. p. 61. Schrad. comm. ver. p. 33. Lodd. bot. cab. 1397. Stem downy. Racemes numerous, never solitary. Leaves cuneated at the base. Calyx 5-cleft, unequal. Corollas blue or white.

Cut-leaved Speedwell. Fl. July, Aug. Clt. 1397. Pl. 1 to 2 feet.

46 V. lacinia`ta (Ait. l. c.) leaves somewhat fascicled, on short petioles, lanceolate, pinnatifid: segments quite entire, unequal, linear, or lanceolate; calycine segments oblong-ovate. 4. H. Native of Siberia. Vahl, enum. 1. p. 60. Willd. enum. 1. p. 19. V. spùria, Junghans, icon. rar. C. L. f. 2. Veronicástrum laciniàtum, Mœnch. Stem downy. Leaves spreadingly deflexed. Racemes usually solitary, about a foot long, loose. Bracteas equal in length, or exceeding the calyxes. Calyx 5-cleft, unequal. Flowers blue, or purple. Capsule equalling the calyx in length.

Jagged-leaved Speedwell. Fl. June, Aug. Clt. 1780. Pl. 2 feet.

47 V. sublacinia`ta; rather downy; leaves opposite or 3-4 in a whorl, subfascicled, ovate-lanceolate, shining above, so deeply and doubly toothed as to be almost pinnatifid; calyx 4-cleft, unequal. 4. H. Native country unknown. Corolla purplish-blue. V. marítima, Lin. herb.

Somewhat-jagged-leaved Speedwell. Fl. Aug. Sept. Clt. ? Pl. 1 to 1½ foot.

Sect. II. Gentianòides (from *gentiana*, gentian; and *idea*, form; in reference to the appearance of the plants.) Capsule swollen, emarginate. Seeds large, flat, oblique, somewhat saucer-shaped. Leaves opposite, connate, or sheathing at the base, smooth and glossy. Racemes usually solitary, terminal, elongated, loose.

48 V. gentianoìdes (Vahl, symb. 1. p. 1. enum. 1. p. 62.) radical leaves oblong, crenated: cauline leaves ovate-lanceolate, with cartilaginous edges, crenated at top, and narrowed at the base: uppermost leaves acute, quite entire; stems simple, ascending; upper segment of corolla smaller than the lateral ones. 4. H. Native of Tauria, Cappadocia, and Armenia. Vent. malm. t. 86. Sims, bot. mag. t. 1002. Sibth. et Smith, fl. græc. 1. p. 5. t. 5. V. Buxbaumiàna, Pall. ind. taur. ex Bieb. fl. cauc. 1. p. 9.—Buxb. cent. 1. t. 35. Stem glabrous at bottom. Leaves rather downy, obscurely 3-nerved. Bracteas villous. Calycine segments unequal. Flowers pale blue.

Gentian-like Speedwell. Fl. May, June. Clt. 1748. Pl. 1 to 3 feet.

49 V. pa´llida (Horn. hort. hafn. 1. p. 17.) leaves lanceolate, obtuse, subserrated; superior segment of corolla larger than the lateral ones; stem ascending. 4. H. Native country unknown. V. olýmpicum, Pall.? Very like the preceding; but the leaves are much thinner and narrower, length of internodes, not twice their length, as in that species. Flowers distant, pale blue.

Pale Speedwell. Fl. May, June. Clt. 1821. Pl. 1 to 1½ foot.

SECT. III. SERPYLLIFÒLIA (from *Serpýllium*, Wild Thyme; and *folium*, a leaf; in reference to the small leaves of the species.) Capsules ovate or obovate, usually emarginate, compressed. Seeds compressed. Leaves small, opposite. Racemes terminal, elongated, or corymbose, few-flowered. Small, alpine, erect, creeping, or trailing plants.

50 V. BELLIDIOI'DES (Lin. spec. p. 15.) leaves obovate, crenated, and are, as well as the stems, which are simple and ascending, hairy; cauline leaves remote, few; racemes corymbose, hairy, few-flowered; capsules obovate, hairy. 4. H. Native of Switzerland and the Pyrenees, on the alps. Vahl, enum. 1. p. 61. Lapeyr. pl. pyr. p. 6. D. C. fl. fr. 3. p. 2414. —Hall. helv. no. 543. t. 15. f. 1. The whole plant is clothed with articulated hairs. Leaves crenated from the middle to the apex, half stem-clasping at the base. Calyxes nearly equal. Corollas blue, with a white throat. Radical leaves rosulate.

Daisy-leaved Speedwell. Fl. June, July. Clt. 1775. Pl. ¼ to ½ foot.

51 V. BAUMGARTE'NII (Rœm. et Schultes, syst. 1. p. 100.) erect, glabrous; lower leaves opposite, sessile, oval, or ovate-lanceolate, serrated: upper ones alternate, half stem-clasping, linear-lanceolate; corymbs dichotomous; pedicels filiform, erectly spreading, 1-flowered; segments of the calyx equal; corolla twice as long as the calyx, pale blue. 4. H. Native of Transylvania, in the fissures of rocks on the alps. V. petræ'a, Baumg. trans. 1. p. 21. no. 27.

Baumgarten's Speedwell. Pl. ¼ foot.

52 V. NUMMULA'RIA (Gouan, ill. 1. t. 1. f. 2. exclusive of the synonymes) stem downy or smoothish; leaves obovate-orbicular, tapering into the petioles, crowded, entire, or obsoletely crenated; racemes short, few-flowered, crowded; calycine segments obtuse, ciliated; stem prostrate, fruticulose. ♄. H. Native of the Pyrenees. D. C. fl. fr. no. 2413. V. saxátilis, β, Vahl, enum. 1. p. 63. Willd. spec. 1. p. 62. V. strictiflòra, Lapeyr. abr. p. 6. no. 8. fl. pyr. t. 51. exclusive of the synonymes and figure, but not the diagnosis. Flowers nearly sessile, pale blue. Lower segments of corolla cuneiform, obtuse, the other 3 linear. Leaves decussate, imbricated.

Money-wort-leaved Speedwell. Fl. June, Aug. Clt. 1820. Pl. prostrate.

53 V. JAVA'NICA (Blum. bijdr. p. 742.) procumbent; leaves almost sessile, opposite, ovate, bluntly serrated, downy; spikes axillary and terminal; calycine segments obtuse.—Native of Java, on Mount Gede, and elsewhere.

Java Speedwell. Pl. procumbent.

54 V. NU'TANS (Bongard. mem. acad. imp. st. petersb. 2. p. 157.) stems simple, nutant at apex; leaves sessile, ovate, serrated, acutish; capsule nearly glabrous, about equal in length to the calyx; corymbs terminal. 4. H. Native of the Island of Sitcha. Stem downy. Leaves opposite, half stem-clasping, downy, about 4 on a stem. Bracteas and calyxes pilose; segments of calyx nearly equal. Corolla small, blue, unequal. Capsule ovate, emarginate. Nearly allied to *V. Stellèri;* but differs in the flowers being smaller; in the stems being nutant; and in the capsule being nearly glabrous, not pilose; and in the corolla being glabrous inside.

Nodding-stemmed Speedwell. Pl. ¼ to ½ foot.

55 V. DENSIFLÒRA (Ledeb. fl. ross. alt. ill. t. 125. fl. alt. 1. p. 34.) stem fruticulose, bifariously pilose; leaves sessile, elliptic, densely serrated, obtuse, smoothish, ciliated at the base; racemes terminal, crowded, subcapitate; bracteas and calyxes articulately pilose; calyx 5-parted: the fifth segment very short. 4. H. Native of Altaia, on the tops of the alps, at the river Koksun (Ledeb.); and at the rivers Aigulac, Kurai, and Tschuja (Bunge); and on the mountains of Farbagatai (Sievers). V. alpìna, Siev. in Pall. fl. nord. beytr. 7. Bracteas twice as long as the pedicels. Corolla large for the size of the plant, pale blue. Nearly allied to *V. nummulària* and *V. capitàta.*

Dense-flowered Speedwell. Pl. ¼ to ½ foot.

56 V. CAPITA'TA (Royle, mss. ex Benth. scroph. ind. p. 45.) pilose; stem simple; leaves sessile, ovate-roundish, a little toothed; raceme terminal, crowded, capitate, articulately pilose; stamens a little exserted. 4. H. Native of Kanaour, Royle. Flowers double the size of those of *V. alpìna.* Capsules not seen.

Capitate-flowered Speedwell. Pl. small.

57 V. ALPI'NA (Lin. spec. p. 15.) glabrous; leaves sessile, elliptic-ovate, obtuse, quite entire or subserrated; corymbs terminal, subspicate, articulately pilose; calyxes hairy; stamens shorter than the corolla; capsules oval, emarginate; stems tufted, simple. 4. H. Native of the alps of Europe; in Scotland, on the margins of rivulets on the highest mountains; in the Himalaya, at Peer Pungal, Royle. Smith, fl. brit. 1. p. 18. engl. bot. 484. Vahl, enum. 1. p. 64. Lapeyr, abr. p. 7. —Oed. fl. dan. 16.—Hall. helv. no. 544. t. 15. f. 2. Stem sometimes furnished with articulated hairs. Corollas blue. Capsule ovate, emarginate, downy. The Asiatic plant is rather more villous than the European, but otherwise similar.

Var. α, *alpìna;* leaves elliptic, ovate, obtuse, quite entire. 4. H. Native of the North of Europe, on the alps; as of Lapland, Denmark, Britain, and Switzerland. V. alpìna, Smith, engl. bot. t. 484. fl. dan. t. 16. Lin. fl. suec. no. 13. fl. lapp. p. 7. t. 9. f. 4.—Hall. helv. t. 15. f. 2.

Var. β, *pùmila;* leaves elliptic-ovate, acutish, serrated. 4. H. Native of Piedmont. V. pùmila, All. pedem. 1. p. 75. t. 22. f. 5. spec. 1. p. 19. t. 13. f. 3. V. Pònæ, var. ξ, Lapeyr.? —Hall. helv. 1. p. 235. t. 15. f. 2. V. Teùcrium Etscheriànum, Crantz, p. 337.

Var. γ, *integrifòlia;* leaves elliptic-ovate, obtuse, quite entire. 4. H. Native of Transylvania, Silesia, and Salisburgh, on the alps. V. integrifòlia, Willd. spec. 1. p. 63. Pers. ench. 1. p. 12. Braune, salisb. no. 12. Baumg. fl. trans. 1. p. 21. V. alpìna, Krock. fl. siles. t. 3.

Var. δ, *Schultèsii;* leaves almost quite entire: lower ones roundish: superior ones ovate. 4. H. V. alpìna, var. ε, Rœm. et Schultes, syst. 1. p. 101.

Var. ε, *rotundifòlia;* leaves serrated: lower ones ovate-roundish: superior ones ovate. 4. H. Native of Salisburgh. V. rotundifòlia, Braune, salisb. no. 15. t. 2. V. pygmæ'a, Braune, l. c. no. 11. f. 1. V. saxátilis, β, nummulària, Poir. dict.

Var. ξ; smaller, very hairy; leaves alternate, acute, nearly linear. 4. H. Native of the Pyrenees. Lapeyr. abr. p. 4.

Alpine Speedwell. Fl. May, June. Scotland. Pl. ½ to ¼ foot.

58 V. GRANDIFÒLIA (Vest. in litt. ex Rœm. et Schultes, l. mant. 1. p. 103.) stems firm, villous, prostrate; leaves sessile, ovate-oblong, smoothish: superior ones toothed: middle ones nearly one half the length of the stem; spike oblong-cylindrical; corolla exceeding the calyx a little; bracteas about equal in length to the calyx. 4. H. Native of the Tyrol, on the alps of Zillerthal. Leaves 1½ inch long, and more. From the axils of the upper leaves rise short few-flowered racemes.

Great-leaved Speedwell. Pl. ¼ to ½ foot.

59 V. EUPHRASIÆFÒLIA (Link, jahrb. 3. p. 41.) stems creeping, downy at top; leaves nearly sessile, oblong, serrately crenated, glabrous; racemes few-flowered: pedicels elongated; calycine segments ovate, glabrous. 4. H. Native of Persia, on Mount Ghilan. V. thymifòlia, Willd. herb. Plant slender.

Euphrasia-leaved Speedwell. Pl. creeping.

60 V. THYMIFÒLIA (Sibth. et Smith, fl. græc. 1. t. 6. prod. 1.

p. 6.) stems shrubby, diffuse; leaves elliptic, revolute, hoary, entire; racemes terminal, capitate or corymbose, solitary; calyx regular; lobes of capsule divaricate. 4. H. Native of Candia, on the tops of the Spaciotic mountains. Habit of *V. fruticulòsa*. Bracteas obovate. Corolla blue, with a white tube.

Thyme-leaved Speedwell. Pl. suffruticose.

61 V. pauciflòra (Kit. ex Link. l. c.) stems procumbent, downy at top; leaves nearly sessile, oblong, serrately crenated, acute, glabrous; racemes few-flowered; pedicels elongated; calycine segments ovate, glabrous. 4. H. Native of the Carpathian mountains. Plant slender.

Few-flowered Speedwell. Pl. procumbent.

62 V. Wormskiòldi (Rœm. et Schultes, syst. 1. p. 101.) villous; leaves ovate, quite entire, obtuse, villous, ciliated; racemes terminal, short, crowded; stems simple, ascending. 4. H. Native of Greenland. V. villòsa, Wormsk. V. alpìna, *β*, Wormskiòldi, Hook. bot. mag. t. 2975. V. alpìna, var. Unalaschénsis, Cham. et Schlecht, in Linnæa, 2. p. 556. V. alpìna, var. Fl. dan. 1961.? Stems creeping at bottom, dark purple, beset with long glandular hairs, as well as the calyxes and leaves. Radical leaves crowded: cauline ones sessile. Flowers blue.

Wormskiold's Speedwell. Fl. June, July. Clt. 1819. Pl. ½ foot.

63 V. saxa'tilis (Lin. suppl. 83.) glabrous; superior leaves oblong-obovate or elliptic, crenulated; racemes corymbose, few-flowered; capsules ovate, exceeding the calyx; stems fruticulose, diffuse. ♄. H. Native throughout Europe, on the alps; in Scotland, on rocks and stony ground, among the mountains. Ben Lawers, Dickson. Wulf. in Jacq. coll. 3. p. 25. Wahl. fl. lapp. p. 6. Vahl, enum. 1. p. 63. ex Willd. spec. 1. p. 63. exclusive of var. *β* and *γ*. Lapeyr. abr. p. 6. Baumg. trans. 1. p. 20. V. fruticulòsa, fl. dan. t. 342. Smith, in Lin. trans. 1. p. 190. engl. bot. t. 1027.—Pona, bald. 181. f.—Mor. hist. 2. p. 318. sect. 3. t. 22. f. 5.—Hall. helv. no. 545. *β*.—This is very like *V. fruticulòsa;* but the stems are procumbent; the leaves smaller, and deeper green; the pedicels longer than the bracteas; the flowers disposed in corymbose racemes; the segments of the calyx obtuse; and the corollas azure blue. The capsule is ovate, compressed, nearly entire, hairy or downy.

Rock Speedwell. Fl. July. Scotland. Pl. prostrate.

64 V. Cre'tica (Pall. ex Link, jahrb. 1-3. p. 41.) procumbent; leaves linear-spatulate, very scabrous; racemes short, dense. 4. H. Native of Candia. Allied to *V. saxátilis*, but smaller.

Cretan Speedwell. Fl. May, June. Clt. 1819. Pl. procumbent.

65 V. fruticulòsa (Lin. spec. p. 15.) nearly glabrous; superior leaves oblong, obtuse, entire, or nearly so: stems erect, fruticulose, rather downy; racemes loose, many-flowered, downy; capsule roundish-ovate, equal in length or shorter than the calyx; stems erectish. ♄. H. Native of Switzerland, Savoy, and the Pyrenees, on the alps; in Scotland, on Ben Cruachan, Argyleshire, Rev. Dr. Walker; Ben Lawers, R. Brown. —Vahl, enum. 1. p. 62.—Wulf, in Jacq. coll. 4. p. 229. t. 5. exclusive of Clus. syn. Smith, engl. bot. 1028. Lapeyr. abr. p. 6. D. C. fl. fr. no. 2411. V. frutéscens, Scop. carn. no. 20. exclusive of the syn. of Mor.—Hall. hist. 1. p. 235. t. 10. f. 1. Lower leaves obovate, tapering into the petioles. Corolla pale red, with deeper veins. Capsule hairy. Bracteas at first longer than the pedicels. Segments of calyx obtuse. Seeds compressed.

Fruticulose Speedwell. Fl. June, Aug. Scotland. Pl. ¼ to ½ foot.

66 V. lanòsa (Royle, mss. ex Benth. scroph. ind. p. 45.) stem woody at the base; branches tufted, erectish, woolly; leaves sessile, ovate-lanceolate, deeply serrated, glabrous above and hairy beneath; racemes rather loose; calyx unequally 4-5-parted; capsule ovate, acute in the immature state. ♄. H. Native of Kanaour, Royle.

Woolly-branched Speedwell. Pl. shrubby.

67 V. macroste'mon (Bunge, in Ledeb. fl. ross. alt. ill. t. 127. fl. alt. 1. p. 35.) stems fruticulose, branched; lower leaves roundish-ovate, quite entire: superior ones oblong, serrulated, villously pubescent; racemes villous, many-flowered, at length elongated; capsule downy, twice as long as the calyx, which is 5-parted and unequal. ♄. H. Native of Altaia, on alps at the river Tschuja, among stones. Corollas large, violaceous. Capsule obovate, emarginate. Stamens much exserted.

Long-stamened Speedwell. Pl. ¼ to ½ foot.

68 V. serpyllifòlia (Lin. spec. 15.) glabrous; leaves nearly sessile, oblong or ovate, 3-nerved, entire and crenated; racemes elongated; flowers distant; stems creeping. 4. H. Native of Europe, Siberia, and North America, in pastures and meadows; plentiful in all parts of Britain; in the Himalaya, Royle. Vahl, enum. 1. p. 21. Smith, engl. bot. t. 1075. Fl. dan. t. 492. Bieb. fl. cauc. 1. p. 9. Curt. fl. lond. fasc. 15. t. 3. Bertol. pl. rar. ital. dec. 3. p. 5. Lapeyr. abr. p. 7.—Lob. icon. 1. t. 472. f.—Riv. mon. t. 99. f. 1. Stem creeping at base, ascending at top, downy. Leaves fleshy, shining, glabrous. Bracteas shorter than the pedicels. Corolla blue, pale red and white. Capsule obcordate, didymous, compressed.

Var. β, tenélla; leaves ovate-roundish. 4. H. V. tenélla, Flor. wett. and Schmidt, fl. bohem.

Var. γ, neglécta; leaves 4 in a whorl. 4. H. V. neglécta, Schmidt.

Var. δ, nummulariæfòlia (Thuil.) 4. H. Native of France.

Var. ε, humifùsa; prostrate; leaves cordate-roundish; stems creeping. 4. H. Native of the Highlands of Scotland, on wet shady rocks; and on the Cheviot Hills, Northumberland. V. humifùsa, Dicks. in Lin. trans. 2. p. 288. Plant downy.

Var. ζ, hirsùta; hairy; hairs short, crowded. 4. H. Native of the Pyrenees.

Wild-Thyme-leaved Speedwell. Fl. April, July. Britain. Pl. creeping.

69 V. herniarioi'des (Pourr. chl. hisp. no. 60. Lapeyr. suppl. abr. p. 4.) leaves obovate, glabrous, quite entire, small: lower ones reflexed; stems prostrate, scattered, rooting; raceme terminal, dense, ovate. 4. H. Native of the Pyrenees, at Port de Jacca. Flowers blue, with pale claws.

Herniaria-like Speedwell. Pl. creeping.

70 V. fonta'na (Pall. ex Link, enum. 1. p. 102.) stem creeping, downy; leaves sessile, ovate, obtuse, crenated, glabrous; bracteas foliaceous; pedicels much shorter than the bracteas. 4. H. Native of the Island of Unalaschka and Kamtschatka, Pall.

Fountain Speedwell. Pl. creeping.

71 V. Gebhardia'na (Vest. ex Rœm. et Schultes, syst. 1. mant. 1. p. 104.) branches prostrate, rooting; leaves elliptic, roundish, quite entire, glabrous: lower ones petiolate; raceme terminal; flowers and capsules erect. 4. H. Native on alp Schwarzenstein, in Zillerthal, beside rivulets formed by the melting of ice. Pedicels length of bracteas. Capsule broadly obcordate.

Gebhard's Speedwell. Pl. creeping.

72 V. tene'lla (All. pedem. no. 272. t. 22. f. 1.) leaves roundish, a little wrinkled, subcrenated, all petiolate: stems creeping, and are, as well as the calyxes, villous. 4. H. Native of Piedmont, Pyrenees, &c. Vahl, enum. 1. p. 65. Lapeyr. abr. p. 8. Willd. spec. 1. p. 64. exclusive of the syn. of Dill.—Pluck. t. 233. f. 4. This is very like *V. serpyllifòlia*, and probably only a variety of it. Leaves on longer petioles. Flowers blue or purple, on long pedicels.

Var. β; stems erectish; leaves distant; flowers rose-

coloured. ♃. H. Native of the Pyrenees. Lapeyr. abr. suppl. p. 4.

Slender Speedwell. Fl. May, Aug. Clt. 1820. Pl. creeping.

73 V. MICROPHY'LLA (Kit. in Schultes, fl. austr. ed. 2d. vol. 1. p. 20.) leaves ovate, inordinately crenated; bracteas hardly the length of the pedicels; stems ascending. ♃. H. Native of Hungary, in sandy places. Stems creeping at the base. Perhaps only a variety of *V. serpyllifòlia*, occasioned by the dry sandy soil in which it grows.

Small-leaved Speedwell. Fl. April, July. Clt. 1822. Pl. $\frac{1}{8}$ to $\frac{1}{4}$ foot.

74 V. TELEPHIIFÒLIA (Tourn. cor. p. 7.) glabrous; leaves obovate, almost quite entire; stems creeping. ♃. H. Native of Armenia. Vahl, enum. 1. p. 64. Stems filiform. Leaves petiolate, hardly half a nail in length, obsoletely crenulated outside. Perhaps a variety of *V. serpyllifòlia*.

Telephium-leaved Speedwell. Pl. creeping.

75 V. RUDERA'LIS (Vahl, enum. 1. p. 66. H. B. et Kunth, nov. gen. amer. 2. p. 312.) leaves ovate-oblong, obtuse, crenated, somewhat 5-nerved: superior ones subciliated, quite entire; stems creeping. ♃. H. Native of Peru, in waste humid places; and near Santa Fe de Bogota, and on Mount Quindiu. Vahl, enum. 1. p. 66. V. serpyllifòlia, Ruiz. et Pav. fl. per. 1. p. 6. Stems filiform, diffuse, red. Bracteas longer than pedicels. Corolla violaceous; the smaller segment white. Probably a mere var. of *V. serpyllifòlia*.

Rubbish Speedwell. Pl. creeping.

SECT. IV. PIRI'TIA (the vernacular name of one of the species.) Capsule elliptic or roundish, acuminated. Leaves opposite, quite entire. Racemes terminal. Shrubs natives of New Zealand.

76 V. SPECIÒSA (R. Cunningh. ex bot. mag. no. 3461.) quite glabrous; stem shrubby, erectish or diffuse; leaves opposite, flat, obovate, coriaceous, decurrent, with a callous obtuse point, and quite entire, thickened, coloured margins; racemes terminal, short, erect, crowded with flowers; bracteas ovate-lanceolate, one half shorter than the pedicels; calycine segments ovate, acutish, finely ciliated, about equal in length to the middle of the tube of the corolla. ♄. F. Native of New Zealand, on the north side of the island; and on sandy hills near the estuary of the Hokianga, on the west coast. Leaves 3-4 inches long. Flowers showy, bluish-violet, almost like those of *Lysimàchia atropurpùrea*. Stamens exserted. Capsule elliptic, acuminated, glabrous, twice as long as the calyx.

Showy Speedwell. Shrub 3 to 6 feet.

77 V. LIGUSTRIFÒLIA (Cunningh. l. c.) quite glabrous; stem shrubby; leaves opposite, ovate-oblong or narrow-lanceolate, bluntish, quite entire; racemes peduncled, terminal, pubigerous, about equal in length to the leaves; bracteas oblong-lanceolate, about half the length of the pedicels; calycine segments ovate-lanceolate, acutish, length of the tube of the corolla. ♄. F. Native of New Zealand, on the north coast, on shady hills on the banks of the Kana-Kana river; and Bay of Islands. A slender shrub, 2 feet high. Leaves sessile. Flowers white, spicately racemose. Calyx equal. Segments of corolla acutish. Said to be very like *V. angustifòlia*, Richard.; but the racemes in that plant are slender, pedunculate, and axillary, and more than twice as long as the leaves; the segments of the calyx are obtuse, and not half so long as the tube of the corolla; and the leaves are linear-lanceolate, acute, and glaucescent beneath.

Privet-leaved Speedwell. Shrub 2 feet.

78 V. DIOSMÆFÒLIA (R. Cunningh. in bot. mag. under no. 3461.) shrubby, erect; leaves decussate, lanceolate, acute, quite entire or serrulated, petiolate, concave and smooth above, and of a different colour beneath: serratures simply cut, remote; corymbs axillary or terminal, many-flowered; bracteas ovate, about half the length of the pedicels; calycine segments oval, obtuse, equal in length to the middle of the tube of the corolla. ♄. F. Native of New Zealand, in dense woods near the source of the river Wycaddi; at the Bay of Islands, and elsewhere on the south coast, where it is called *Piriti* by the natives. A slender twiggy shrub, about 3-12 feet, with the habit of *Trachymène*. Leaves 9 lines long, keeled beneath. Flowers white. Capsule elliptic, acute, compressed, 3 times as long as the calyx, which is ciliated.

Diosma-leaved Speedwell. Shrub 3 to 12 feet.

SECT. V. HE'BE (a mythological name, the daughter of Juno.) Capsule ovate, or oval, or oblong, acute, or obtuse, compressed. Racemes lateral and axillary. Leaves quite entire. Plants natives of New Holland, Van Diemen's Land, and New Zealand.

79 V. PARVIFLÒRA (Vahl, symb. 3. p. 4. enum. 1. p. 67.) leaves linear-lanceolate, quite entire, glabrous, mucronate; stem shrubby. ♄. F. Native of New Zealand. V. floribúnda, R. Br. in herb. Smith. Plant glabrous. Leaves approximate, sessile, stiff, 2 inches long. Racemes erect, $1\frac{1}{2}$ inch long, many-flowered; bracteas minute. Segments of corolla obtuse. Capsule oval, twice as long as the calyx.

Small-flowered Speedwell. Fl. June, July. Clt. 1822. Shrub 1 foot.

80 V. MACROCA'RPA (Vahl, symb. 3. p. 4. enum. 1. p. 67.) leaves lanceolate, quite entire, glabrous, flat; racemes erect; stem shrubby. ♄. F. Native of New Zealand. Branches articulated. Leaves 4 inches long, nerveless. Racemes length of leaves. Bracteas minute. Tube of corolla twice as long as the calyx; segments obtuse. Capsule ovate, acute, 3 times as long as the calyx.

Large-fruited Speedwell. Shrub.

81 V. SALICIFÒLIA (Forst. prod. no. 11. Vahl, symb. 3. p. 4.) leaves lanceolate, attenuated at both ends, quite entire; racemes drooping; stem shrubby. ♄. F. Native of New Zealand. Glabrous. Leaves 2-3 inches long, subundulated. Racemes longer than the leaves; pedicels capillary. Calyx equal. Tube of corolla twice as long as the calyx; segments acute. Capsule oblong, acute, twice as long as the calyx.

Willow-leaved Speedwell. Shrub 2 to 3 feet.

82 V. ELLI'PTICA (Forst. prod. no. 10.) leaves elliptic, lanceolate, quite entire, glabrous; racemes short, few-flowered, corymbose. ♄. F. Native of New Zealand. Very nearly allied to *V. decussàta*.

Elliptic-leaved Speedwell. Shrub 1 to 2 feet.

83 V. DECUSSA'TA (Ait. hort. kew. ed. 1. vol. 1. p. 20. ed. 2d. vol. 1. p. 68.) glabrous; leaves permanent, elliptic, quite entire, decussate; racemes few-flowered; stem shrubby. ♄. F. Native of the Falkland Islands, and the Straits of Magellan. Curt. bot. mag. t. 242. Hèbe Magellánica, Juss. in Gmel. syst. p. 27. Leaves mucronate, stiff, with cartilaginous margins. Racemes shorter than the leaves. Bracteas ovate, ciliated. Corolla funnel-shaped, blue.

Decussate-leaved Speedwell. Fl. June, Aug. Clt. 1776. Shrub 1 to 2 feet.

84 V. PERFOLIA'TA (R. Br. prod. 434.) glabrous; leaves quite entire, ovate, acuminated, connate at the base; racemes lateral, pedunculate, many-flowered. ♃. G. Native of New South Wales, about Port Jackson. Sims. bot. mag. 1936. Plant glaucous. Leaves sometimes furnished with a few teeth. Racemes long, secund; pedicels hardly the length of the calyxes, which are 4-parted and unequal. Corolla purple or blue. Capsule oblong, oval. Flowers blue.

Perfoliate-leaved Speedwell. Fl. July, Aug. Clt. 1815. Pl. 1 to 2 feet.

85 V. FORMÒSA (R. Br. prod. p. 434.) leaves evergreen, decussate, lanceolate, quite entire, quite glabrous, acute at the base; racemes bifariously pilose; corymbs axillary, few-flowered; stem shrubby. ♄. F. Native of Van Diemen's Land.

Showy Speedwell. Shrub 1 to 2 feet.

86 V. GRA'CILIS (R. Br. prod. p. 435.) quite glabrous; leaves linear-lanceolate, entire; stems nearly simple; corymbs lateral, few-flowered. ♃. G. Native of New South Wales, about Port Jackson. Flowers blue.

Slender Speedwell. Fl. May, July. Clt. 1820. Pl. ¼ to ½ foot.

SECT. VI. CHAMÆ'DRYS (name of Germander.) Capsule compressed, emarginate at apex or obcordate. Seeds compressed, flat on one side, and convex on the other. Racemes lateral and axillary.

§ 1. *Leaves quite entire.*

87 V. BILLARDIE'RI (Vahl, enum. 1. p. 70.) leaves lanceolate-oblong, quite entire, hoary as well as the stem, which is prostrate; racemes 2-3 inches long; bracteas length of flowers. ♃.? H. Native of Syria, Labillardiere. Stems numerous, filiform, villous as well as the leaves, which are nearly sessile. Calycine segments linear, equal. Capsule obcordate, compressed, length of calyx.

La Billardier's Speedwell. Pl. prostrate.

§ 2. *Leaves serrated, crenated, or denticulated.*

* *Species natives of New Holland, New Zealand, &c.*

88 V. CATARA'CTÆ (Forst. prod. no. 9. Vahl, enum. 1. p. 67.) glabrous; leaves lanceolate, serrated; racemes loose, flexuous; stem shrubby. ♄. F. Native of New Zealand. Leaves an inch long, of a different colour beneath. Racemes a hand long. Capsule oblong, longer than the calyx. In New Holland Labillardiere collected a plant which he considers identical with that of Foster; to which he appends the following diagnosis: "Leaves sessile, lanceolate, acuminated, 3 inches long, with short-acute teeth; racemes strict; bracteas subulate, twice as long as the pedicels; calyx 4-cleft, unequal; capsule ovate, entire, turgid."

Cataract Speedwell. Pl. ascending.

89 V. LABIA'TA (R. Br. prod. p. 434.) leaves broad-lanceolate, long-acuminated, unequally and sharply serrated; racemes axillary, opposite, very long. ♃. G. Native of the south coast of New Holland, and Van Diemen's Land. Sims, bot. mag. 1660. Hook. bot. mag. 3461. V. Derwéntii, Andr. bot. rep. t. 531. Plant glabrous. Flowers pale blue. Calyx 4-parted, rather unequal. Ovarium emarginate. Corolla bilabiate, spreading; upper lip undivided: lower one 3-parted; middle lobe the smallest. Bracteas as long as the pedicels.

Lipped-flowered Speedwell. Fl. April, July. Clt. 1802. Pl. 1 to 2 feet.

90 V. CALYCI'NA (R. Br. prod. 435.) leaves broadly ovate, subcordate, wrinkled, unequally serrate-crenated, petiolate, and are hairy as well as the creeping stems; racemes lateral, few-flowered, much longer than the leaves; calyxes pilose, ciliated, longer than the capsule. ♃. G. Native of New Holland and Van Diemen's Land. R. Br.; New Zealand, on the banks of the river Keri-Keri, among grass, R. Cunningh. "Stems 5-6 feet, creeping or decumbent. Leaves opposite, hispid or discoloured beneath. Calyx 4-parted, longer than the capsule, which is roundish, compressed, emarginate or obcordate," ex Cunningh. in bot. mag. under no. 3461.

Large-calyxed Speedwell. Pl. creeping.

91 V. PLEBE'IA (R. Br. prod. p. 435.) leaves ovate, unequally and deeply serrated, glabrous; stem clothed with fine down; lower petioles one half longer than the leaves; racemes lateral, loose. ♃. G. Native of New Holland. Flowers blue.

Plebeian Speedwell. Fl. June, July. Clt. 1820. Pl. 1 foot?

92 V. DI'STANS (R. Br. prod. p. 435.) leaves ovate, broadly serrated, glabrous; petioles ciliated; stem decumbent, bifariously pilose; corymbs lateral, pedunculate, few-flowered. ♃. G. Native of New Holland. Flowers blue.

Distant-flowered Speedwell. Fl. May, June. Clt. 1825. Pl. decumbent.

93 V. BRÓWNEI (Rœm. et Schultes, syst. 1. p. 118.) leaves ovate-lanceolate, glabrous, unequally serrated; stem bifariously pubescent; lower petioles 3 times shorter than the leaves; racemes lateral, loose. ♃. H. Native of New South Wales, about Port Jackson. V. argùta, R. Br. prod. p. 435. Nearly allied to *V. plebèia*. There is a plant in Smith, herb. under this name, which has cordately-reniform, sharply-toothed leaves, which he there proposes to call *V. vitifòlia*.

Brown's Speedwell. Pl. 1 foot?

94 V. NÒVÆ-HOLLA'NDIÆ (Poir. encycl. 8. p. 526.) leaves ovate, deeply crenated, petiolate; racemes lateral; flowers on long pedicels; stems downy. ♃. G. Native of New Holland. Very like *V. Chamæ'drys*. Calyx glabrous. Bracteas ovate. Capsule obcordate, compressed, shorter than the calyx.

New Holland Speedwell. Pl. diffuse.

* * *Species natives of Europe.*

95 V. OFFICINA'LIS (Lin. spec. p. 14.) creeping, hairy; leaves oval or oblong, serrated; petioles sheathing at the base; racemes spicate, alternate or opposite; calyx 4-parted, nearly equal; bracteas longer than the pedicels. ♃. H. Native of Europe and North America, in woods and dry sandy banks; plentiful in Britain. Vahl, enum. 1. p. 74. Gærtn. fruct. 1. p. 257. t. 56. f. 7. Fl. dan. t. 248. Curt. fl. lond. fasc. 3. t. 1. Woodv. t. 219. Smith, engl. bot. 765. Bull. herb. t. 293. Plenck. off. t. 12. Lam. ill. t. 13. f. 2. Poit. et Turp. fl. par. 1. p. 12. t. 8. Svensk, bot. t. 59.—Riv. mon. irr. t. 93. Stem procumbent, rooting at the base. Corollas small, pale blue, with deeper veins. Capsule obcordate, compressed, downy, larger than the calyx. This species is recommended as a sort of medicinal tea; and Simon Paullix, an old Danish botanist, contended it was the identical tea of China. The flavour is astringent and bitter, and by no means agreeable.

Var. β; leaves obovate-roundish, pubescent. ♃. H. V. Tournefórtii, Schmidt, boh. no. 12.

Var. γ; leaves obovate or obovate-roundish, almost glabrous. ♃. H. V. Allióni, Schmidt, l. c. Hook. scot. 7. excluding the synonyme. Found on the mountains of Scotland and Ireland.

Var. δ, albiflòra; flowers white.

Var. ε, plena; flowers double.

Var. ζ, variegàta; leaves variegated with white or yellow.

Officinal Speedwell. Fl. April, July. Britain. Pl. creeping.

96 V. TOURNEFÓRTII (Vill. dauph. 2. p. 9.) creeping, hairy; leaves ovate, entire at the base, and serrated at apex, narrowed into the short petioles at the base; racemes spicate, opposite; calyx 4-parted. ♃. H. Native of the South of France. Stem procumbent. Corolla blue. Hardly distinct from *V. officinàlis*.

Var. β, dùbia (D. C. fl. fr. 3. no. 2395.) leaves glabrous, ovate, toothed; stem rooting at the base, ascending; hairs spreading, or disposed in 2 rows. ♃. H. This variety differs from *V. chamæ'drys*, in the stems being procumbent: from *V. officinàlis*, in the leaves being glabrous; and in the calyxes being longer; and from *V. Allióni*, in the stem and peduncles being villous; and from *V. pilòsa*, in the leaves being entire at the base, and in the calyxes being equal.

Tournefort's Speedwell. Fl. May, June. Clt. 1821. Pl. creeping.

97 V. ALLIÒNI (Vill. dauph. 2. p. 8.) glabrous, creeping, procumbent; leaves oblong, stiff, shining, slightly crenated; racemes spicate, crowded; calyx 4-parted. 4. H. Native of Switzerland, South of France, Italy, on the Alps. Vahl, enum. 1. p. 74. Smith, in Lin. trans. 1. p. 190. D. C. fl. fr. 3. p. 463. V. pyrenàica, All. ped. 1. p. 73. no. 265. V. rèpens, All. spec. 1. t. 4. f. 3. V. officinàlis, β, Lin. This species differs from *V. officinàlis* in the rigidity and smoothness of the parts. Flowers blue, crowded into a short ovate spike.

Allioni's Speedwell. Fl. June, Aug. Clt. 1748. Pl. creeping.

98 V. SETI'GERA (D. Don, rar. pl. scot. p. 4.) very hairy; hairs stiff, glandular; stems ascending; leaves elliptic-lanceolate, serrated, subcrenated; racemes elongated; calyx 4-parted; capsule abrupt, undivided. 4. H. Native of Scotland, in Ayrshire, in heathy parts of Garick. V. hirsùta, Hopk. fl. glott. p. 9. Link, enum. 1. p. 24. Leaves small. Bracteas longer than the flowers. Corolla very pale blue. Capsule ovate, compressed, glabrous. Perhaps only a small hispid variety of *V. officinàlis*.

Setigerous Speedwell. Fl. April, July. Scotland. Pl. ¼ foot.

99 V. MULLERIA'NA (Vest. in litt. ex Rœm. et Schultes, syst. 1. mant. 1. p. 108.) leaves elliptic, quite entire, obtuse, hairy, ciliated, on short petioles; stems short, prostrate, rooting; racemes lateral; flowers and capsules erect. 4. H. Native of Upper Styria. Pedicels length of bracteas. Calyx 4-cleft. Nearly allied to *V. officinàlis*, *V. Alliòni*, and *V. Tournefórtii*, but the flowers are larger.

Muller's Speedwell. Fl. June, July. Clt. 1825. Pl. prostrate.

100 V. APHY'LLA (Lin. spec. 14.) villous; stems creeping; leaves radical, roundish or oblong, slightly crenated; peduncles scape-formed, usually 3-flowered. 4. H. Native of the southern alps of Europe. Vahl, enum. 1. p. 68. V. subacaúlis, Lam. ill. no. 171.—Seguier, pl. veron. 1. p. 241. t. 3. f. 2.—Bocc. mus. t. 10. t. 9.—Pluck. alm. t. 114. f. 3. Plant hairy. Scapes 1-2 inches long, bearing each 2-4 large blue flowers. Capsule large, violaceous, thrice as long as the calyx, obovate, compressed, more or less emarginate, downy.

Var. β, *Kamtchática* (Lin. suppl. p. 83.) leaves ovate or oblong, serrated, hairy; scapes hairy, 3-5-flowered. 4. H. Native of Kamtschatka. V. grandiflòra, Gærtn. nov. comm. petrop. 14. t. 18. f. 1. Racemes lateral, loose. Stem ascending, stoloniferous.

Var. γ, *nudicaúlis* (Lam. ill. no. 181.) capsule obtuse, not emarginate. 4. H. V. nudicaúlis, Pers. ench. 1. p. 11.

Leafless-stemmed Speedwell. Fl. May, July. Clt. 1775. Pl. ⅛ foot.

101 V. MONTA'NA (Lin. spec. p. 17.) leaves cordate-ovate, petiolate, obtuse, coarsely serrated; stem and petioles hairy; racemes elongated, filiform, loose, axillary. 4. H. Native of Europe, in groves; in Britain, in woods, chiefly in moist calcareous soil, but not very common. Vahl, enum. 1. p. 68. Jacq. fl. austr. 2. p. 6. t. 109. Fl. dan. t. 1201. Curt. fl. lond. 4. t. 2. Hoffm. fl. germ. t. 1. Poit. et Turpin, fl. par. 1. p. 14. t. 10. Smith, engl. bot. t. 766. V. procúmbens, Riv. mon. irr. t. 93. Stems weak, procumbent, rooting at the joints, villous. Leaves usually villous, with generally purplish margins. Corolla pale blue or white, variegated with purplish veins. Calyx 4-parted, unequal. Capsule orbicular, compressed, emarginate at both ends, ciliated, didymous; cells 4-seeded.

Mountain Speedwell, or Mountain Madwort. Fl. June, July. Britain. Pl. prostrate.

102 V. CHAMÆ'DRYS (Lin. spec. 17.) downy or hairy; leaves deeply and unequally serrated: lower ones petiolate, ovate: upper ones cordate-ovate, sessile; stems bifariously pilose, creeping at the base; racemes axillary, exceeding the stems. 4. H. Native of Europe, common on dry banks, and in groves, meadows, pastures, and hedges. Vahl, enum. 1. p. 77. Lam. ill. t. 13. f. 1. Curt. fl. lond. 1. t. 2. Martyn, fl. rust. t. 66. St. Hil. pl. fr. t. 8. Smith, engl. bot. 623. Fl. dan. t. 448. Poit. et Turp. fl. par. 1. p. 13. t. 9. Svensk, bot. t. 239. Teùcrium V. Clus. hist. p. 350.—Riv. mon. irr. t. 94. Chamæ'drys, Brunsf. herb. 1. p. 125. f. 1. Herb pale green. Stems more or less ascending, 1-2 feet long. Flowers large, blue, rarely flesh-coloured or white. Calyx 4-cleft, lanceolate. Capsule compressed, obcordate, shorter than the calyx. There are many varieties of this plant. Some take this for the true German *Forget-me-not*.

Var. β, *lamiifòlia*; leaves cordate, cuneated at the base, obtuse: lower ones sessile, the rest petiolate. 4. H. Native country unknown. V. lamiifòlia, Hayne, in mag. amic. hist. nat. berol. 7. (1805.) p. 132. V. Rudolphiàna, Hayne, l. c. p. 133.

Germander Speedwell. Fl. July, Aug. Britain. Pl. ½ to 1 foot.

103 V. MICRA'NTHA (Hoffm. et Link, fl. port. p. 286. t. 57.) downy and canescent, soft; leaves nearly sessile, ovate, obtuse, coarsely crenated, hairy; racemes axillary; flowers rather crowded. 4. H. Native of Portugal. V. Teùcrium, Brot. fl. lus. 1. p. 13. V. móllis, Zea. ex Rœm. et Schultes, syst. 1. p. 112. V. mollíssima, Hort. Hairs of plant curled. Bracteas linear, longer than the pedicels. Calycine segments 4, lanceolate, acute, nearly equal. Corolla small, white, with a purplish ring in the throat. Capsule compressed, emarginate, shorter than the calyx, with ciliated edges. Very like *V. chamæ'drys*; but the flowers are smaller, and the whole plant hoary.

Small-flowered Speedwell. Fl. May, July. Clt. 1819. Pl. ½ foot.

104 V. PLICA'TA (Pohl, tent. fl. boh. p. 15. f. 1.) leaves cordate-ovate, plicate, deeply toothed, clothed with white hairs as well as the stems; racemes axillary, alternate; flowers imbricate, nearly sessile. 4. H. Native of Bohemia, on hills. V. pilòsa, Schmidt, 1. p. 17. Willd. spec. 1. p. 66. Root creeping. Stem bifariously pilose. Lower leaves petiolate: upper ones sessile. Calyx unequal. Bracteas linear, length of pedicels. Flowers blue.

Plicate Speedwell. Fl. May, Aug. Clt. 1817. Pl. ¼ to ½ foot.

105 V. UMBRÒSA (Bieb. fl. cauc. 1. p. 11. fl. ross. 1. t. 7.) lower leaves ovate, coarsely serrated: superior ones oblong, subserrated; racemes lateral, few-flowered; stems creeping; calyx nearly equal in length to the corolla. 4. H. Native of Tauria, in woods about Karassubasar. Plant loosely tufted. Pedicels elongated. Corolla showy. The leaves of sterile branches are sometimes nearly entire.

Shaded Speedwell. Pl. creeping.

106 V. PEDUNCULA'RIS (Bieb. casp. 126. append. no. 2. fl. cauc. 1. p. 11.) downy; leaves ovate, deeply and doubly serrated; racemes loose; stem hairy, with 2 more dense rows of hairs; pedicels capillary, twice as long as the bracteas. 4. H. Native of Caucasus, in shady groves. V. pedunculàta, Vahl, enum. 1. p. 77. Pers. ench. 1. p. 12.—Buxb. cent. 1. p. 26. t. 41. f. 1. Flowers blue. This plant differs from *V. Chamæ'drys* in the stems being villous all over, and also having 2 lines of more dense hairs; in the leaves being more villous on both surfaces, and more deeply cut, in the pedicels being slender and elongated, and in the calycine segments being blunter.

Var. β; stems flaccid; leaves more deeply cut. 4. H. Native of Caucasus, in groves.

Var. γ; humble, prostrate; leaves small, obtuse, crenated. ♃. H. Native of Caucasus, on rocks; and about Chinalug. V. némorum, Pall. Very like *V. petræ`a*. Bracteas all toothed.

Peduncular Speedwell. Fl. May, June. Clt. 1826. Pl. ½ to 1 foot.

107 V. PETRÆ`A (Stev. in mem. mosc. vol. 3. p. 250, and 5. p. 340.) stems creeping, much branched, prostrate, densely leafy; leaves elliptic, obtuse, subcrenated, and are, as well as the stems, hairy; racemes subcorymbose, many-flowered; pedicels filiform, longer than the calyx, which is 4-parted. ♃. H. Native of Caucasus, on the alps of Schuchdagh and Tyfendagh; also in stony places about the Terek. Bieb. suppl. cauc. p. 12. V. pedunculàris, γ, Bieb. fl. canc. 1. p. 27. Capsule hispid, obcordate, a little shorter than the calyx. This plant differs from the preceding in all its parts being pubescent, in the leaves being smaller and much firmer, and narrower, in the stems being short and prostrate. Calyx nearly equal. Corolla blue.

Rock Speedwell. Fl. May, June. Clt. 1821. Pl. prostrate.

108 V. PILÒSA (Lin. spec. p. append. 1663. syst. 59. Willd. spec. 1. p. 66.) leaves ovate, obtuse, plicate, deeply toothed; racemes axillary; stems prostrate, bifariously pilose. ♃. H. Native of Bohemia. See Smith in Lin. trans. 1. p. 191. Lower leaves petiolate: upper ones sessile, pilose; lower teeth elongated. Bracteas pilose, longer than the pedicels. Calyx unequal. Segments of corolla acute, connivent. Leaves smaller than those of *V. Chamæ`drys*. This is a very doubtful plant, and probably only a variety of *V. Chamæ`drys*, or *V. prostràta*, or *V. plicàta*.

Pilose Speedwell. Fl. May, June. Clt. 1819. Pl. prostrate.

109 V. MINU`TA (Meyer, verz. pflanz. p. 105.) rather pilose; stems filiform, branched, diffuse; leaves obovate-lanceolate, obtuse, crenated or quite entire; racemes lateral, few-flowered; pedicels capillary, longer than the bracteas, which are spatulate; calyx 4-parted, with obtuse segments; capsule reniform: lobes orbicular. ♃. H. Native of the alpine regions of Caucasus, in stony places. Said to be nearly allied to *V. pilòsa*.

Minute Speedwell. Pl. diffuse.

110 V. CA`NA (Wall. cat. no. 401. Benth. scroph. ind. p. 45.) procumbent at the base; stem pilose, or woolly; leaves petiolate, ovate, deeply crenated, hoary from hairs, at length glabrous; racemes few, axillary and terminal; calyx unequally 4-parted; capsule broadly and rhomboidally dilated, entire. ♃. H. Native of Gosainsthan, and Nipaul, Wall.; Kanaour, Royle.

Hoary Speedwell. Pl. procumbent.

111 V. DELTI'GERA (Wall. cat. no. 402. Benth. scroph. ind. p. 45.) procumbent at the base; stem glabrous, bifariously woolly under the leaves; leaves sessile, ovate-lanceolate, crenately serrated, glabrous; racemes few, alternate, downy; calyx 4-parted; immature capsules rhomboidally dilated, emarginate. ♃. H. Native at Gosainsthan, Wall.

Delta-bearing Speedwell. Pl. proc.

112 V. LA'XA (Benth. scroph. ind. p. 45.) sparingly pilose; leaves nearly sessile, ovate, or ovate-oblong, deeply serrated, rather pilose; racemes alternate; calyx 4-parted; capsule roundish, emarginate, hairy. ♃. H. Native of the Himalaya, at Kidarkonta, Royle.

Loose-flowered Speedwell. Pl.

113 V. PU'RSHII; glabrous, creeping; leaves reniformly cordate, deeply crenated; racemes spicate, lateral, pedunculate, short, oblong; calyx 5-cleft, unequal. ♃. H. Native on the banks of the Missouri. V. renifórmis, Pursh, fl. amer. sept. 1. p. 10, but not of Rafin. Leaves on long petioles. Stem creeping, rooting at the joints. Peduncles alternate, length of leaves. Bracteas oblong, crenated. Flowers large, crowded, pale blue. Filaments length of corolla.

Pursh's Speedwell. Pl. creeping.

114 V. ACUTIFLÒRA (Lapeyr. abr. suppl. p. 7. Rœm. et Schultes, syst. 1. p. 112.) pilose; leaves linear, obtuse: lower ones deeply serrated, pilose: upper ones lanceolate, nearly entire, rugose; racemes elongated; segments of corolla acuminated. ♃. H. Native of Tolosa, at La fontaine d'amour, among rushes. Pedicels longer than the bracteas. Corollas red. Very nearly allied to *V. Chamæ`drys* and *V. pilòsa*.

Acute-flowered Speedwell. Fl. May, June. Clt. 1821. Pl. 1 foot.

115 V. MICHAU'XII (Lam. ill. no. 163. Poir. encycl. 8. p. 532.) stems a little fistular, clothed with clammy villi; leaves half stem-clasping, oblong-lanceolate, denticulated, smooth; racemes spicate, short, on axillary, stiff peduncles; calyx 4-cleft: segments ovate, acutish. ♃. H. Native of the Levant. Leaves 1½ inch long, and 6 lines broad. Corollas middle sized.

Michaux's Speedwell. Pl. ¼ to ½ foot.

116 V. DEPAUPERA`TA (Waldst. et Kit. hung. 3. p. 273. t. 245.) creeping and ascending, pilose; leaves obovate, obtuse, subserrated; peduncles axillary, subracemose; calyx 4, rarely 3-5-cleft. ♃. H. Native of Hungary and Liptavia, on calcareous rocks. Corolla blue, upper segments emarginate. Capsule obcordate-ovate. Probably the V. aphýlla, var. β, Baumg. trans. 1. p. 22, of which he gives the following diagnosis. Sterile stems creeping; leaves crowded in a rosulate manner at apex, hairy, subdentate; scapes half an inch high, hairy, very simple, leafy at the base, ascending, terminating in 2-3-flowered racemes; pedicels a little drooping in the flower-bearing state; bracteas oblong, bluntish. Corolla pale blue. Calyx unequally 4-parted.

Impoverished Speedwell. Fl. April, July. Clt. 1823. Pl. creeping.

117 V. SYRI`ACA (Rœm. et Schultes, syst. 1. p. 116.) erect; leaves ovate, serrated: lower ones petiolate: superior ones sessile; pedicels spreading, 3 times longer than the bracteas; capsule ciliated. ⊙. H. Native of Syria, near Damascus, on a mountain called Dgebelcher. V. pedunculàta, Labill. pl. syr. dec. 5. p. 8. t. 5. f. 2, exclusive of the synonymes of Buxb. and Bieb. Leaves subciliated. Pedicels rather pilose, 2 to 4 times longer than the bracteas, which are lanceolate and ciliated. Calycine segments equal, obtuse. Capsule compressed.

Syrian Speedwell. Pl. ½ to ¾ foot.

118 V. DIVARICA`TA (Tausch. bot. zeit. 1821. p. 562.) stem decumbent, bifariously pilose, much branched; branches opposite, divaricate; leaves all petiolate, cordate, smooth, doubly crenated; racemes axillary, about equal in length to the stems; pedicels capillary; calyx 4-parted, nearly equal. ♃. H. Native of Savoy, in shady valleys, particularly at Petersgrund. Root creeping. Leaves pilose, most so beneath, 3 times the size of those of *V. Chamæ`drys*, not wrinkled. Racemes opposite. Flowers remote, pale blue, larger than those of *V. Chamæ`drys*. Pedicels twice as long as the bracteas.

Divaricate Speedwell. Pl. prostrate.

119 V. STOLONI'FERA (Lehm. sem. hort. hamb. 1820. ex Linnæa, 3. p. 8.) stolons creeping, hairy; hairs at length distinct; leaves petiolate, cordate-ovate, coarsely serrate-toothed, rather hairy; racemes axillary; calyx foliaceous, longer than the capsule. ♃. H. Native of North America.

Stoloniferous Speedwell. Fl. June, July. Clt.? Pl. creeping.

120 V. MA'XIMA (Stev. in mem. mosc. 2. p. 173. Bieb. cauc. 3. p. 13.) leaves ovate, almost sessile, coarsely serrated, pilose; racemes lateral; calyxes and capsules ciliated. ⊙. H. Native of Iberia, in mountain meadows.—Buxb. cent. 1. p. 23. t. 34. Plant hairy. Calyx 4-parted, exceeding the capsule. Corolla

small, blue, hardly exceeding the calyx. Capsule compressed, obcordate.

Largest Speedwell. Fl. May, July. Clt. 1824. Pl. 1 to 2 feet.

121 V. URTICÆFÒLIA (Lin. syst. p. 60.) erect, pilose; leaves sessile, cordate-ovate, acute, coarsely serrated; racemes lateral, slender, few-flowered. ♃. H. Native of the South of Europe, in shady places, and of Bithynia. Vahl, enum. 1. p. 77. D. C. fl. fr. no. 2388. Jacq. fl. austr. 1. p. 37. t. 59. Bertol. amœn. p. 324. Guss. pl. rar. p. 5. V. galeopsifòlia, Gilib. V. latifòlia, Lam. fl. fr. 2. p. 441, exclusive of the syn. of Vill. but not of Lin. V. circæoìdes, G. Don, in Loud. hort. brit. p. 7. V. máxima, Dalech. hist. 1165. f. 1.—Mor. hist. 2. p. 322. sect. 3. t. 23. f. 18.—Buxb. cent. 2. p. 23. t. 34. Stems simple. Leaves with rufescent nerves, those in the middle of the stem broad. Pedicels longer than the branches. Calyx 4-parted, equal. Corollas small, red, or pink. This species has much the habit of a species of *Circæ'a*.

Nettle-leaved Speedwell. Fl. May, June. Clt. 1776. Pl. ½ to 1 foot.

122 V. MELISSÆFÒLIA (Poir. encycl. 8. p. 526.) leaves sessile, subcordate-ovate, crenately cut, downy beneath; racemes spicate, lateral, opposite. ♃. H. Native country unknown. Stem erect, downy, slender. Leaves obtuse, an inch long, and 10 lines broad. Bracteas ovate, hardly the length of the calyx. Calyx equal. Corollas small, pale blue, or white. Capsule glabrous, obcordate. Seeds red.

Balm-leaved Speedwell. Fl. May, June. Clt. 1826. Pl. 1 foot.

123 V. VESTIA'NA (Rœm. et Schultes, syst. 1. mant. 1. p. 111.) stems hoary, villous; leaves coarsely serrated, petiolate: cauline ones ovate: rameal ones oblong; style thicker than the filaments; racemes spicate, elongated; bracteas filiform, exceeding the calyxes a little. ♃. H. Native country unknown. V. melissæfòlia, Vest. in litt. Leaves entire at the base, usually subcordate. Calyx rather unequal.

Vest's Speedwell. Pl. 1 foot.

124 V. PROSTRA'TA (Lin. spec. p. 17.) canescent and pubescent; leaves sessile, oblong, obtuse, serrated: superior ones lanceolate, flat; racemes axillary, opposite, elongated; floriferous stems ascending: barren ones prostrate. ♃. H. Native of Germany, Italy, and Switzerland, on hills. Vahl, enum. 1. p. 75. Mœnch. hass. t. 1. V. Teùcrium, β, Savi, bot. etrusc. 1. p. 12. V. canéscens, Bastard, suppl. fl. Main et Loire, p. 21.—Bauh. hist. 3. p. 287, with a good figure. Flowers blue. Capsule compressed, glabrous. Calyx unequal, nearly glabrous.

Var. β, *mìnor* (Riv. mon. t. 95.) plant smaller.

Var. γ, *satureifòlia* (Poit. et Turp. fl. par. p. 22.) racemes exceeding the prostrate stems: lower leaves oblong, serrated at top: middle ones subdenticulated: the rest linear, and quite entire.

Var. δ, *álba*; flowers white, wrinkled.

Prostrate Speedwell. Fl. May, June. Clt. 1774. Pl. pros.

125 V. TEU'CRIUM (Lin. spec. p. 16.) downy; lower leaves ovate-oblong, half stem-clasping, obtuse, coarsely serrated: superior leaves sessile, narrower, serrated; racemes axillary, opposite, on long peduncles; stems ascending, or prostrate. ♃. H. Native of Italy, Switzerland, Germany, in argillaceous soil. Vahl, enum. 1. p. 76. Schmidt, fl. bohem. p. 16. D. C. fl. fr. 2290. Lodd. bot. cab. 425.—Lob. icon. 473. Verònica montàna, Riv. mon. t. 95. Pall. itin. 2. p. 522. V. Teùcrium, var. intermèdia, Led. fl. alt. 1. p. 40. V. latifòlia, β, mìnor, Schrad. fl. germ. 1. p. 36. Racemes rather dense. Calyx 4-5-parted, unequal. Corollas blue, larger than those of *V. latifòlia*. Capsule compressed, emarginate, nearly glabrous, slightly ciliated, shorter than the unequal calyx. There is in gardens a stiffer variety, with rather broader leaves, and having capsules longer than the calyx. V. flórida, of Schmidt, fl. boh. cent. 1. p. 23, is probably also a variety of this, but the stems are said to be bifariously pilose, and the leaves equally serrated.

Germander-leaved Speedwell. Fl. May, June. Clt. 1596. Pl. 1 to 1½ foot.

126 V. CHAI'XI (Lapeyr. pyr. abr. suppl. 1. p. 6.) leaves sessile, wrinkled, elongated, deeply toothed; racemes lateral; calyx 4-parted, unequal. ♃. H. Native of the Pyrenees, on the Pic de Gerard. V. latifòlia, γ, dùbia, Lapeyr. abr. p. 9. V. dùbia, Chaix, herb. et fl. fr. no. 2395. Plant smaller than *V. latifòlia*. Leaves narrower, more acute; calyxes and bracteas more elongated. The whole plant pilose. Flowers large, blue.

Var. β, *mìnor* (Lapeyr. l. c.) leaves obtuse, somewhat pinnatifid at the base. ♃. H. Native of the Pyrenees.

Chaix's Speedwell. Fl. June, July. Clt. 1825. Pl. 1 foot.

127 V. LUTETIA'NA (Rœm. et Schultes, syst. 1. mant. 1. p. 109.) leaves lanceolate, quite glabrous, a little toothed, obtuse; racemes lateral, very long. ♃. H. Native country unknown. V. nítida, Hort. par. ex Poir. suppl. 5. p. 467, but not of Ehrh. Perhaps only a variety of *V. Teùcrium*, having the stems hardly downy, and the leaves deep green and shining, and almost entire. Corollas pale blue. Capsule glabrous, compressed.

Lutetian Speedwell. Pl. 1 foot.

128 V. LATIFÒLIA (Lin. spec. p. 18. Ait. hort. kew. ed. 1. p. 24. ed. 2d. vol. 1. p. 33.) downy; stems erect; leaves subcordate-ovate, sessile, half stem-clasping, bluntly serrated; racemes axillary, opposite, dense; calyx 5-parted. ♃. H. Native of Sweden, Switzerland, and Germany, and of Siberia, &c. Vahl, enum. 1. p. 76. Schrad. fl. germ. 1. p. 35. Sweet, fl. gard. t. 23. Link, enum. 1. p. 25. V. Teùcrium, Poll. pal. no. 13. Hoppe, cent. sic. 1. no. 76, and of many other authors. V. Teùcrium, α, latifòlia, Led. fl. atl. 1. p. 40. V. chamæ'drys, Patrin, mss. V. pseùdo-chamæ'drys, Jacq. fl. austr. 1. p. 37. t. 60.—Weinm, phyt. t. 1005. a. Flowers dense. Bracteas a little longer than the pedicels. Capsule compressed, emarginate, downy. Corollas blue, with deeper veins. There is a dwarf variety of this, having leaves so deeply serrated, as to be almost jagged. The variations of the five preceding species run so gradually into each other, as hardly to be distinguished; in *V. latifòlia*, however, the leaves are perfectly ovate, and broad in the middle; in *V. Teùcrium* they are ovate-oblong, broad at the base; and in *V. prostràta* the leaves are elliptic to nearly linear.

Broad-leaved Speedwell. Fl. May, June. Clt. 1748. Pl. 2 feet.

129 V. HIMALE'NSIS (D. Don, prod. fl. nep. p. 92. Benth. scroph. ind. p. 44.) pubescently hairy, but at length glabrous; leaves sessile, ovate, or ovate-oblong, deeply crenated, hairy while young; racemes opposite, on long peduncles; calyx unequally 5-parted; capsule ovate, acute, exceeding the calyx. ♃. H. Native of Nipaul, at Gosainsthan, Wall. V. grandiflòra, Wall. cat. no. 403. Bracteas lanceolate, longer than the pedicels. Calycine segments ciliated. Flowers azure blue. Said to be very nearly allied to *V. Teùcrium*.

Himalaya Speedwell. Pl. ½ to ¾ foot.

130 V. CRINÌTA (Kit. in Schultes, fl. austr. ed. 2d. vol. 1. p. 26.) erect, downy; leaves nearly sessile, ovate-lanceolate, unequally serrated; racemes axillary, twice as long as the leaves; calyx 5-parted, unequal. ♃. H. Native of Hungary, on hills. Stem tomentose. Lower leaves obtuse: upper ones acute, quite entire at base and apex. Bracteas longer than the pedicels. Capsule emarginate, compressed. Perhaps a variety of *V. Teùcrium*, or *V. latifòlia*.

Hairy Speedwell. Fl. July, Aug. Clt. 1822. Pl. 1 foot.

131 V. DENTA'TA (Schrad. fl. germ. 1. p. 37, exclusive of the dentata of Schmidt.) ascending, nearly glabrous; leaves dark green, oblong-lanceolate, or lanceolate, acutish, remotely serrated; racemes axillary, elongated; calyx 5-parted. ♃. H. Native of the South of Europe, and Siberia, on dry hills. Besser. fl. gal. no. 26. V. Teùcrium, Host, syn. p. 8. Wahl. fl. carp. p. 7. no. 14, exclusive of the synonymes of Lin. V. prostràta, Geners, elench. scep. no. 13. Bieb. cauc. 1. p. 10. ex Wahl. V. Teùcrium, β, angustifòlia, Vahl, enum. 1. p. 76.? Led. fl. alt. 1. p. 40. D. C. fl. fr. 3. no. 2390. β. V. angustifòlia, Bernh. Teùcrium IV. tertia species, Clus. hist. p. 349. Very like a narrow-leaved variety of *V. Teùcrium*, but of more humble growth. Leaves glabrous to the naked eye, but being examined by a lens they will be found to be ciliated; they are sessile, almost all lanceolate.

Toothed-leaved Speedwell. Fl. May, June. Clt. 1818. Pl. ascending, 1 foot.

132 V. SCHMI'DTII (Rœm. et Schultes, syst. 1. p. 115.) nearly glabrous, dark green, ascending, or erect; leaves narrow-lanceolate, remotely serrated, and linear, quite entire, with revolute edges; racemes axillary, opposite, elongated; calyx 5-parted. ♃. H. Native of Bohemia. Link, enum. 1. p. 25. V. dentàta, Schmidt. fl. boh. cent. 1. p. 20. V. paniculàta, Willd. spec. 1. p. 71. enum. 1. p. 23, exclusive of the syn. of Pall. Leaves usually opposite, but sometimes 3 in a whorl. Lower bracteas longer than the flowers: superior ones length of pedicels. Calyx unequal, hairy, ciliated. Corollas large, showy, deep blue. Stems prostrate, sub-tomentose, ex Link.

Schmidt's Speedwell. Fl. May, June. Clt. 1820. Pl. pros.

133 V. MACROSTA'CHYA (Vahl, enum. 1. p. 71.) hoary and villous; leaves linear-oblong, deeply serrated outside; racemes axillary; stems prostrate. ♃. H. Native of Syria, Labill. Stem filiform. Leaves sessile, obtuse. Calyx 4-cleft. Capsule obcordate, compressed, length of calyx. In cultivated plants of this species the stems are a foot and a half long, and the racemes 2 feet long.

Long-spiked Speedwell. Pl. prostrate.

§ 3. *Leaves pinnatifid, or bipinnatifid, or pectinately toothed.*

134 V. PECTINA'TA (Vahl, enum. 1. p. 71.) leaves oblong, pectinately serrated; stems prostrate; racemes elongated, leafy at the base. ♃. H. Native about Constantinople.—Buxb. cent. 1. t. 39. f. 1. Stem shrubby at the base, and branched, ascending, and, like the whole plant, canescent from pubescence. Leaves subpetiolate, acute at the base.

Pectinate-leaved Speedwell. Fl. May, June. Clt. 1819. Pl. prostrate.

135 V. PARVIFÒLIA (Vahl, enum. 1. p. 72.) ascending, pubescent; leaves small, pinnatifid; racemes many-flowered; bracteas equal in length to the pedicels. ♃. H. Native of Cappadocia, and Armenia, in grassy places.—Buxb. cent. 1. t. 41. f. 2. Leaves all deeply pinnatifid, except the upper ones. Flowers and capsules 3-4 times smaller than those of *V. orientàlis*. Capsule compressed, obcordate.

Small-leaved Speedwell. Pl. ascending.

136 V. RO'SEA (Desf. fl. atl. 1. p. 13.) downy; stem shrubby, ascending; leaves pinnatifid, on short petioles, acute, with 2-3 segments on each side; racemes elongated, axillary; bracteas equal in length to the pedicels. ♄. G. Native of Mount Atlas, near Tlemsen. Pedicels capillary. Calyx unequal. Corollas rose-coloured, size of those of *V. latifòlia*.

Rose-coloured-flowered Speedwell. Shrub ascending.

137 V. ORIENTA'LIS (Ait. hort. kew. ed. 1. vol. 1. p. 23. ed. 2d. vol. 1. p. 32.) procumbent, downy; leaves linear-lanceolate: lower ones pectinately pinnatifid: superior ones entire; racemes axillary, elongated. ♃. H. Native of Armenia and Iberia. Vahl, enum. 1. p. 73. Bieb. fl. cauc. 1. p. 12. Willd. spec. 1. p. 69. Lodd. bot. cab. t. 419. V. Austrìaca, β, Lin. spec. no. 17. V. heterophýlla, Sal. par. lond. p. 7. t. 4. Pedicels longer than the bracteas. Flowers blue. Calyx unequal, 5-parted.

Oriental Speedwell. Fl. June, Aug. Clt. 1748. Pl. proc.

138 V. TAU'RICA (Willd. spec. 1. p. 70.) procumbent; leaves crowded, tridentate at apex, or linear, and pinnatifidly toothed, rather pilose; pedicels longer than the bracteas; calyx downy, 4-parted, unequal. ♃. H. Native of Tauria. Lodd. bot. cab. 914. V. orientàlis, β, Vahl, enum. 1. p. 72. Bieb. fl. cauc. 1. p. 12. Flowers blue.

Taurian Speedwell. Fl. May, July. Clt. 1820. Pl. pros.

139 V. JACQUI'NI (Schott. ex Rœm. et Schultes, syst. 1. p. 108. Baumg. fl. trans. 1. p. 26.) hairy or downy, erectish; lower leaves sessile, bipinnatifid: superior ones pinnatifid; racemes long, filiform, axillary: lower bracteas trifid, longer than the pedicels; calyx 5-cleft, unequal. ♃. H. Native of Austria, Carniola, Croatia, and Tauria. V. Austrìaca, and V. multìfida, Jacq. austr. 4. p. 16. t. 329, exclusive of the synonymes of Bauh. and Buxb. V. multífida, Scop. fl. carn. ed. 2d. p. 16. no. 15, exclusive of the synonymes of Lin. Ait. hort. kew. 1. p. 23, but not of Lin. V. Austrìaca, Willd. spec. 1. p. 70, exclusive of the syn. of Jacq. vind. Crantz, Bauh. and Morison. Hoffm. fl. germ. p. 8. Vahl, enum. 1. p. 73, exclusive of the syn. of Lin. Bauh. Crantz. V. tenuifòlia, Schrad. fl. germ. 1. p. 39, exclusive of the syn. of Host, Schrank, Schmidt, Morison, and Bauhin. Pers. ench. 1. p. 12, and Bieb. fl. cauc. p. 13, exclusive of the syn. of Morison. Besser. fl. gall. 1. p. 35, exclusive of var. α. Ait. hort. kew. ed. 2d. vol. 1. p. 32. Plant ascending. Stems terete, much branched, clothed with minute, white, short hairs. Leaves rather pilose, multifidly parted; segments pinnatifid, linear, acute, toothed: lower ones longer, divaricate. Racemes filiform, erect, long, pilose. Lower bracteas trifid, or bifid, the rest entire, ciliated. Flowers blue. Capsules glabrous.

Jacquin's Speedwell. Fl. May, June. Clt. 1748. Pl. 1 foot.

140 V. TRICHOCA'RPA (Rœm. et Schultes, syst. 1. mant. 1. p. 106.) stems erectish; lower leaves bipinnatifid; pedicels longer than the bracteas; capsules hairy. ♃. H. Native country unknown. V. pilocárpa, Link, enum. 1. p. 25. V. orientàlis, Willd. enum. 1. p. 22, but not of Ait. Very nearly allied to *V. Jacquìni*, but the capsule is hairy. Calyx 5-parted.

Hairy-fruited Speedwell. Fl. May, July. Clt. 1820. Pl. ½ foot.

141 V. AUSTRI'ACA (Lin. spec. p. 17.) plant weak, trailing, or ascending; leaves sessile, lanceolate, deeply serrated, and pinnatifid: racemes lateral, elongated; calyx 4-parted; bracteas entire, shorter than the pedicels. ♃. H. Native near Vienna, and of Bohemia, also of Spain. Jacq. enum. vind. p. 3. Schultes, fl. austr. ed. 2d. vol. 1. p. 27, exclusive of the syn. of Jacq. Krok. fl. siles. p. 23, exclusive of the syn. of Riv. Schwenkf. and Jacq. Mill. dict. no. 9. Host, syn. p. 9, exclusive of all syn. Link, enum. 1. p. 25. V. polymórpha, Willd. enum. suppl. p. 2. Schweig. enum. hort. regiom. p. 78. V. laciniàta, Mœnch.—Bauh. hist. 3. p. 287.—Mor. hist. 2. sect. 3. t. 23. f. 12. V. Austrìaca, foliis tenuissime laciniatis, Tourn. inst. p. 144. V. praténsis, var. α. Crantz, austr. p. 344, exclusive of the syn. of Tourn. V. multífida, Schmidt, fl. boh. p. 21, exclusive of the syn. of Lin. and Jacq. Plant downy. Flowers blue.

Austrian Speedwell. Fl. May, June. Clt. 1748. Pl. 1 foot.

142 V. ORSINIA'NA (Tenore, prod. append. 5. ex Linnæa, 3. p. 97.) stems erectish, villous, with 2 lines of more dense villi; leaves oblong, obtuse, pectinately sub-pinnatifid; calyx 5-parted, with linear segments; pedicels capillary, about equal in

length to the bracteas. ♃. H. Native of Abruzzo, on the mountains. Plant canescent from pubescence. It differs from *V. Austrìaca* in the calyx being 5-parted, in the leaves being less cut, and in the whole habit; and from *V. pedunculàris* in the calyx being 5-parted, in the segments being narrower, in the leaves being oblong, and in the pedicels being shorter.

Orsin's Speedwell. Pl. 1 foot.

143 V. CAUCA'SICA (Bieb. fl. cauc. 1. p. 13. suppl. p. 14.) erectish, nearly glabrous; leaves bipinnatifid; segments lanceolate and linear; racemes axillary, few-flowered; pedicels capillary; calyx large, 4-parted, nearly equal. ♃. H. Native of Caucasus and Iberia. Lodd. bot. cab. 1369. Calyx 4-cleft. Pedicels much longer than the bracteas, pendulous in the fructiferous state. Flowers pale red, or white, variegated by deeper veins. There are varieties of this, having the segments of the leaves narrower and broader. In mem. soc. nat. mosc. 2. p. 180. no. 8. Steven defines a variety of this, or a new species nearly allied, under the name of "*V. ossética*; leaves bipinnatifid; bracteas shorter than the pedicels, and are, as well as linear calycine segments, downy."

Caucasian Speedwell. Fl. June, July. Clt. 1816. Pl. ½ foot.

144 V. TENUIFÒLIA (Stev. ex Bieb. cauc. 1. p. 13.) ascending; leaves pinnatifid, with linear, filiform segments; racemes axillary; calyx unequal. ♃. H. Native of Iberia. Very nearly allied to *V. multífida*, but the stems are more elongated, the leaves less compound; the pedicels are equal in length to the bracteas, or longer. The 3 superior segments of calyx are small. Perhaps the same as V. parviflòra, Vahl.? but the flowers are never smaller than those of *V. orientàlis*, *V. multífida*, &c.

Fine-leaved Speedwell. Fl. May, July. Clt. 1821. Pl. ½ foot.

145 V. MULTI'FIDA (Lin. spec. 17.) procumbent, rather woody at the base, canescent; leaves bipinnatifid, with lanceolate, or linear segments; racemes axillary. ♃. H. Native of Siberia, on hills; also of Tauria and Caucasus; and between Smyrna and Bursa. Bieb. fl. cauc. 1. p. 12. Willd. spec. 1. p. 69. Smith, in Lin. trans. 1. p. 191. Sims, bot. mag. 1679. Calycine segments unequal, subulate. Corollas pale blue. Pedicels equal in length to the bracteas, or shorter.

Var. β, hirsùta; plant more hairy; corollas rose-coloured. ♃. H. Amm. ruth. p. 25. no. 33.

Multifid-leaved Speedwell. Fl. May, June. Clt. 1748. Pl. procumbent.

SECT. VII. SCUTELLA'TA (from *scutella*, a little saucer; shape of valves of capsule.) Capsule orbicular, deeply 2-lobed, compressed. Seeds compressed on one side, and convex on the other. Aquatic plants with opposite leaves, and loose, axillary racemes of flowers.

146 V. SCUTELLA'TA (Lin. spec. p. 16.) erectish, creeping, and rooting at the base; leaves linear-lanceolate, nearly entire; racemes axillary, alternate, loose; pedicels pendulous, or spreading; calyx 4-parted, equal. ♃. H. Native of Europe, Siberia, and North America, in inundated places, particularly in watery spongy bogs, chiefly on a sandy soil. Vahl, enum. 1. p. 70. Fl. dan. t. 209. and t. 1561. Curt. lond. t. 56. Smith, engl. bot. t. 782. Poit. et Turp. fl. par. 1. p. 15. f. 13. Riv. mon. irr. 96. f. 1. Root creeping. Leaves sessile, nearly connate, rarely furnished with a few teeth. Racemes alternate, longer than the leaves; pedicels longer than the bracteas. Corolla of a pale flesh colour, the smaller segment palest. In the American plant the peduncles are opposite, and shorter than the leaves, and the flowers are nearly sessile.

Var. α, glàbra; leaves subovate-lanceolate, denticulated, and are, as well as the stem, glabrous. ♃. W. H. Gesn. icon. aen. t. 10. f. 87.

Var. β, pilòsa (Vahl, l. c.) plant pilose, or villous; leaves linear-lanceolate, sub-denticulated. ♃. H. V. villòsa, Schum. fl. saell. 1. p. 7. Serrature glandular.

Var. δ, latifòlia (Rosen, et Weber, hols. no. 13.) leaves ovate, lanceolate. ♃. H. Lapeyr. pl. pyr. suppl. ined. (Stem pilose.) V. parmulària, Poit. et Turp. fl. par. t. 14, ex Lois.

Saucer-capsuled Speedwell. Fl. June, Aug. Britain. Pl. 1 to 2 feet.

147 V. PARMULA'RIA (Tratt. fl. austr. t. 20.) stem erectish, hairy; leaves narrow-lanceolate, denticulated, ciliated. ♃. W. H. Native of Austria. Very nearly allied to *V. scutellàta*; and differs from it only in the leaves being acute, not acuminated, hardly length of the internodes, not longer. Bracteas bluntish. Probably only a slight variety of *V. scutellàta*.

Small-shielded Speedwell. Fl. June, Aug. Clt. 1824. Pl. 1 to 2 feet.

148 V. CAROLINIA'NA (Poir. encycl. 8. p. 520.) glabrous; stem erect, dichotomous at top; leaves ovate-oblong, obtuse, nearly entire: lower ones petiolate. ♃. W. H. Native of Carolina, in water. Leaves rather fleshy, 6 lines long and 3 broad. Racemes loose, leafy; bracteas petiolate, longer than the pedicels. Calycine segments ovate. Capsule obcordate. Perhaps this is *V. scutellàta* of American authors.

Carolina Speedwell. Fl. June, July. Clt. 1821. Pl. ½ to 1 foot.

SECT. VIII. BECABU'NGA (the name *Becabúnga* comes from the German Bach-pungen; bach meaning a rivulet; in Yorkshire and Norfolk a beck.) Capsule inflated, entire, or emarginate, subdidymous. Seeds oblong, or globose. Aquatic plants.

149 V. BECABU'NGA (Lin. spec. p. 16.) glabrous, shining; stems procumbent, rooting at the base; leaves elliptic, oval or oblong, obtuse, on short petioles, crenately serrulated or entire; racemes loose, axillary. ♃. W. H. Native throughout Europe, Siberia, and North America, in ditches and rivulets of clear water, and in running streams; plentiful in Britain. In Nipaul, Hamilt., and Kanaour, Royle. Vahl, enum. 1. p. 69. Fl. dan. t. 511. Curt. fl. lond. 2. t. 3. Woodv. t. 7. Smith, engl. bot. t. 655. Svensk, bot. t. 127. V. punctàta, D. Don, prod. fl. nep. p. 93.—Bocc. mus. p. 22. t. 6.—Riv. mon. irr. t. 100. f. 1. Stems terete. Leaves running into the short petioles. Bracteas narrow, lanceolate, shorter than the pedicels. Calyx 4-parted. Corolla blue, veined with red. Capsule entire, or hardly emarginate. The Nipaul plant differs from the European, in the bracteas and calyxes being obtuse; and in the capsule being entire. This plant is considered medicinal, being included in *Pharmacopœias*.

Brook-lime Speedwell. Fl. May, July. Britain. Pl. ½ to 2 feet.

150 V. TE'NUIS (Ledeb. fl. ross. alt. ill. t. 217. fl. alt. 1. p. 39.) stem erect, strict, and are, as well as the leaves, glabrous; leaves oblong-lanceolate, acutish, serrulated; racemes axillary: intermediate ones opposite; calyx 4-parted; capsule elliptic-obovate, obtuse, entire. ☉. H. Native of the North of Persia. Leaves opposite, nearly connate. Racemes axillary, opposite. Pedicels twice as long as the bracteas. Seeds minute, globose, not flat on one side, and convex on the other, as in *V. scutellàta*.

Slender Speedwell. Pl. ½ to 1 foot.

151 V. ANAGALLOI'DES (Guss. pl. rar. p. 5. t. 3.) erect, glabrous; leaves linear-lanceolate, stem-clasping, entire; racemes lateral; calyx 4-parted, about equal in length to the corolla; capsules elliptic, obtuse. ☉. H. Native of the East of the Calabria, in low marshy places near Catanzaro. Stem rooting at bottom. Pedicels longer than the bracteas. Corolla pale blue or white. Capsule rather emarginate. Seeds roundish. Very like *V. anagállis*.

Var. β; stem downy; hairs glandular at top.

Anagallis-like Speedwell. Pl. ½ to 1 foot.

152 V. ANAGA'LLIS (Lin. spec. p. 16.) glabrous, erect, rooting at the base; leaves oblong-lanceolate or lanceolate, serrated, acute, cordately stem-clasping or subconnate; racemes opposite, many-flowered, longer than those of *V. Becabúnga*. ⊙. W. H. Native of Europe, Siberia, Levant, Virginia, Japan, in rivulets and ditches, and muddy water; also of Nipaul, Silhet, Hindostan, and Kanaour. Vahl, enum. 1. p. 69. Fl. dan. t. 903. Curt. lond. fasc. 5. t. 2. Smith, engl. bot. t. 721.? 781. St. Hil. pl. fr. 37. t. 6. Svensk, bot. 127. V. undulàta, Wall. in Roxb. fl. ind. 1. p. 147. Stem subtetragonal; superior leaves sessile. Flowers pale blue, or white lined with blue. Calycine segments 4, acute. Capsules roundish, emarginate.

Var. β, *mìnor* (Vahl. l. c.) stem and leaves much shorter. ⊙. H. V. Anagállis, β, pusílla, Poir.—Tabern. icon. 1718.

Var. γ, *tenérrima* (Schmidt, boh. cent. 1. no. 23.) leaves ovate, flat, quite entire; stem erect; racemes terminal and axillary. ⊙. H.

Var. δ; raceme solitary; leaves lanceolate, crenated. ⊙. H.

Pimpernell-like Speedwell. Fl. July. Britain. Pl. 1 to 2 feet.

SECT. IX. COCHLIDIOSPE'RMA (from κοχλος, *kochlos*, a shell; and σπερμα, *sperma*, a seed; in reference to the shape of the seeds.) Rchb. Capsule compressed, obcordate. Seeds navicular.—Annual herbs, with axillary 1-flowered pedicels. Floral leaves alternate.

153 V. BI'LOBA (Lin. mant. p. 172.) stem erectish, downy; leaves nearly sessile, oblong or lanceolate, quite entire or serrated; calyxes 4-parted, exceeding the corolla; capsule 2-lobed: lobes longer than the style, and shorter than the calyx. ⊙. H. Native of the Himalaya, on Mount Choor, Royle; Cappadocia, in corn-fields; Caucasus, on Mount Schahdagh, Steven. Vahl, symb. 1. p. 1. Rchb. icon. 645.—Buxb. cent. 1. t. 36. Floral leaves longer than the peduncles. Corolla blue.

Two-lobed-capsuled Speedwell. Fl. April, May. Clt. 1819. Pl. ¼ to ½ foot.

154 V. AGRE'STIS (Lin. spec. p. 18.) stem procumbent, downy; leaves petiolate, ovate, crenately-serrated; pedicels 2-3 times longer than the capsule, reflexed in the fructiferous state; capsule obcordate: lobes turgid, approximate, obsoletely keeled. ⊙. H. Native of Europe, in cultivated fields; and of Asia, at Saharampore. Vahl, enum. 1. p. 80. Curt. fl. lond. 1. t. 1. Borrer, engl. bot. suppl. 2603. Rchb. icon. cent. 3. p. 66. t. 227. f. 440. St. Hil. pl. fr. p. 39. t. 3. V. pulchélla, Batard, ex D. C. fl. fr. suppl. 308. Corollas pale and deep blue, shorter than the calyx. Seeds about 6 in each cell.

Field Speedwell. Fl. March, July. Britain. Pl. procumbent.

155 V. POLI'TA (Fries. ex Borrer, in engl. bot. supp. under 2603. ed. 2d. t. 19.) procumbent, hairy; leaves cordate-ovate, petiolate, deeply serrated, shorter than the peduncles; calycine segments ovate, acute; capsule obcordate: lobes turgid, approximate, not keeled; seeds many in each cell. ⊙. H. Native of Britain, particularly in the North, in gardens. Rchb. icon. t. 247. V. agréstis, Smith, engl. bot. 783. Corolla bright blue, shorter than the calyx.

Polished Speedwell. Fl. March, July. Britain. Pl. procumbent.

156 V. FILIFÓRMIS (Vahl, enum. 1. p. 82.) stem procumbent, filiform, rather villous; leaves roundish-cordate, crenated: peduncles very long, reflexed in the fruit-bearing state; capsule obcordate, rather turgid; calyx 4-cleft, unequal. ⊙. H. Native of the south of Europe and Caucasus. Bieb. fl. cauc. 1. p. 39. Rchb. icon. t. 644. Ver. orientàlis foliis hederæ terrestris, flore magno, Tourn. cor. 7.—Buxb. cent. 1. p. 25. t. 40. f. 1. Leaves furnished with scattered pili. Calycine segments lanceolate. Corolla large, pale blue. Stems long, procumbent. Perhaps the same as *V. Buxbaúmii*.

Filiform-stemmed Speedwell. Fl. May, July. Britain. Pl. trailing.

157 V. BUXBAU'MII (Tenore, fl. neap. p. 7. no. 7. t. 1.) procumbent, hairy; leaves ovate-cordate, deeply crenated, petiolate; peduncles drooping in the fructiferous state, rather longer than the leaves; corollas larger than the calyx, which is 4-parted; capsule compressed, 2-lobed: lobes divaricate, keeled. ⊙. H. Native of Europe, in fields; in England, in Kent. Rchb. icon. t. 268. V. Tournefórtii, Gmel. fl. bad. 1. p. 39. V. híspida, Hort. V. cymbalariæfòlia, Schmidt. V. agréstis, var. Byzantìna, Smith, fl. græc. t. 8. V. Pérsica, Poir. encycl. 8. p. 542.—Buxb. cent. 1. p. 22. t. 40. f. 6. Much larger than *V. agréstis*. Stems much branched, bifariously pilose. Corollas blue.

Buxbaum's Speedwell. Fl. April, June. Clt. 1800. Pl. procumbent.

158 V. GLAU'CA (Sibth. et Smith, fl. græc. 1. p. 5. t. 7. prod. 1. p. 9.) procumbent, hairy; leaves cordate, deeply serrated, petiolate: peduncles capillary; calyx 4-cleft, with toothed segments. ⊙. H. Native near Athens, on Mount Hamettos. Much branched. Stem bifariously pilose. Leaves glaucous. Corolla blue, bordered with white, larger than the calyx.

Glaucous-leaved Speedwell. Pl. prostrate.

159 V. ARVE'NSIS (Lin. spec. p. 18.) erect, hairy; lower leaves petiolate, cordate-ovate, serrated; cauline ones crenated; floral ones lanceolate, sessile, entire, longer than the peduncles; flowers nearly sessile; calyx 4-cleft, unequal; capsule obcordate, compressed. ⊙. H. Native of Europe and North America, in cultivated fields. Vahl, enum. 1. p. 81. Fl. dan. t. 515. Curt. fl. lond. 2. t. 2. Smith, engl. bot. t. 734. Drev. et Heyne, 2. t. 11. V. acinacifòlia, Willd. enum. no. 41. V. Romàna, Schmidt, fl. boh. no. 45. V. polyánthos, Thuill. par. ed. 2. p. 9. Alýssum, Column. phyt. p. 28. with a good figure. Corolla smaller than the calyx, pale blue.

Corn-field Speedwell. Fl. April, July. Britain. Pl. ¼ to ½ foot.

160 V. PULCHE'LLA (Bernh. ex Rœm. et Schultes, syst. 1. p. 126.) procumbent, pilose; leaves petiolate, broad-cordate, deeply crenated; peduncles filiform, hardly shorter than the leaves; calyx 4-cleft, unequal. ⊙. H. Native country unknown. Habit of *V. Pérsica*, but smaller and less pilose; the leaves more oblong and firmer. Corolla shorter than the calyx, white, except the upper segment, which is rose-coloured.

Pretty Speedwell. Fl. April, May. Clt. 1819. Pl. procumbent.

161 V. CERATOCA'RPA (Meyer, verz. pflanz. p. 106.) puberulous; stems branched, diffuse; leaves ovate, acutish, serrated; peduncles longer than the leaves; calyx 4-parted, with lanceolate, acute, nearly equal segments; capsule compressed, broadly obcordate: lobes lanceolate. ⊙. H. Native of Caucasus, in meadows, between Sallian and Leukoran. Allied to *V. filifórmis*.

Horned-capsuled Speedwell. Pl. diffuse.

162 V. DI'DYMA (Tenore, prod. fl. neap. p. 6.) procumbent? downy; leaves deeply crenated; peduncles reflexed in the fructiferous state; capsule didymous, roundish. ⊙. H. Native of Naples.

Didymous-fruited Speedwell. Pl. procumbent.

163 V. AMŒ'NA (Stev. in Bieb. fl. cauc. 1. p. 12.) spreading,

hairy? leaves ovate, crenated; floral leaves oblong, quite entire, shorter than the peduncles; calyx 4-cleft, with linear segments. ⊙. H. Native of Iberia, in fields. Size of *V. arvénsis;* but the floral leaves are dissimilar to the cauline ones, minute and quite entire. Corollas large, blue, with a white bottom. This is said to be the prettiest species of the genus.

Pleasant Speedwell. Fl. April, May. Clt. 1824. Pl. procumbent.

164 V. ACINACIFÒLIA (Lin. spec. p. 19.) erectish, glabrous; lower leaves petiolate, ovate, serrated or crenated: floral ones nearly sessile, about equal in length to the peduncles; calyx 4-cleft, unequal. ⊙. H. Native of Germany, France, and Italy, in muddy fields; and of Chili, about Conception. Vahl, enum. 1. p. 85. Willd. spec. 1. p. 75. exclusive of *V. præ`cox*. V. Romàna, All. pedem. t. 85. Poit. et Turp. fl. par. 1. p. 22. t. 33. f. 3. V. Burdigalénsis, Laterr. fl. bord. ed. p. 87.—Bocc. mus. p. 19. t. 102.—Vaill. par. t. 33. f. 3. Stem drooping at top, usually branched. Leaves sessile, connate, usually glabrous: floral ones smaller and narrower. Corolla pale blue, marked by more obscure veins. Capsule obcordate, rather turgid, compressed.

Acinus-leaved Speedwell. Fl. April, May. Clt. 1788. Pl. ½ to 1 foot.

165 V. PRÆ`COX (Allioni, auct. p. 5. t. 1. f. 1.) the whole plant clothed with glandular and simple hairs; stem erectish; lower leaves petiolate, cordate-ovate, serrated: floral ones nearly sessile, shorter than the peduncles, which are incurved in the fructiferous state; calyx 4-cleft; capsule obovate, emarginate, turgid. ⊙. H. Native of France, Germany, and Italy, in fields. Vahl, enum. 1. p. 40. D. C. fl. fr. 2402. Willd. spec. 1. p. 76. under *V. acinacifòlia*. V. ocymifòlia, Thuil. fl. par. p. 10. no. 18. V. segetàlis, Pers. in Úst. ann. 14. p. 37. V. acinacifòlia, Schleich. cat. p. 53. V. víscida, Waldst. mss. Stem branched at the base. Leaves purplish beneath. Flowers small, blue. Capsule downy. There is a variety of this species almost glabrous; and another with more or less deeply cut leaves. Habit of *V. triphýlla*.

Early Speedwell. Fl. March, May. Clt. 1775. Pl. ¼ foot.

166 V. CYMBALA`RIA (Bertol. soc. med. d em. di gen. 1. p. 74. pl. gen. p. 3. giorn. de litt. 2. p. 2. 1805.) procumbent, glabrous; leaves petiolate, reniformly subcordate, with 5-9, but usually 7 obtuse crenæ or teeth, rather fleshy; peduncles longer than the leaves; calyx 4-cleft, equal, with ovate obtuse segments, spreading in the fructiferous state; capsule hairy, depressed, obcordate. ⊙. H. Native about Genoa, on garden walls; Island of Chio; Constantinople; Tunis, in fields. Sibth. et Smith, fl. græc. t. 9. Viv. fragm. 1. t. 16. f. 1. V. cymbalariæfòlia, Vahl, enum. 1. p. 81. Gmel. tubing. p. 6. V. hederæfòlia, β, Lin. spec. p. 19.—Buxb. cent. 1. p. 25. t. 39. f. 2. bad. Corolla larger than the calyx, with a white limb and greenish-yellow throat. Cells of capsule 2-seeded.

Cymbalaria-leaved Speedwell. Fl. April, May. Clt. 1821. Pl. procumbent.

167 V. HEDERÆFÒLIA (Lin. spec. p. 19.) procumbent, downy; leaves petiolate, roundish-cordate, 5-lobed: upper ones 3-lobed; peduncles shorter than the leaves; calyx 4-lobed, tetraquetrous, and conniving in the fructiferous state; calycine segments cordate, acute; capsule obcordate, turgid, few-seeded. ⊙. H. Native throughout Europe, among rubbish, in gardens and fields; plentiful in Britain. Vahl, enum. 1. p. 82. Smith, engl. bot. t. 784. Curt. fl. lond. 2. t. 1. Poit. et Turp. fl. par. 1. p. 23. t. 26. Fl. dan. 428. Leaves reniformly cordate, rather fleshy. Corolla pale blue, sometimes white.

Var. β, *Lappàgo* (Schmidt, fl. boh. no. 39.) leaves alternate, cordate, acutish, 3-4-lobed, petiolate; stem erectish, much branched; peduncles axillary, shorter than the petioles. ⊙. H. Native of Bohemia. Calycine segments hastate. Flowers small, red. This variety remains constant in cultivation.

Ivy-leaved Speedwell. Fl. March, June. Britain. Pl. procumbent.

168 V. TRIPHY'LLOS (Lin. spec. p. 19.) clothed with clammy down; stem erect, spreading; lower leaves undivided: middle ones digitately parted: superior ones trifid; peduncles longer than the calyx, length of leaves; calyx 4-cleft. ⊙. H. Native of Europe, in fields; plentiful in some parts of Britain. Vahl, enum. 1. p. 83. D. C. fl. fr. no. 2405. Curt. lond. 4. t. 2. Fl. dan. 627. Smith, engl. bot. 26. Sibth. et Smith, fl. græc. 1. p. 8. t. 10. V. digitàta, Lam. fl. fr. ed. 2d. vol. 2. p. 445. but not of Vahl.—Lob. icon. 464. f. 1. Lower leaves petiolate: upper ones sessile. Corolla small, blue, veiny; throat white. Capsule didymous, subciliated, turgid, obcordate. Seeds convex on one side and flat on the other.

Three-leaved Speedwell. Fl. April, May. Britain. Pl. ¼ to ½ foot.

169 V. DIGITA`TA (Vahl, symb. 1. p. 84.) stem pilose at top, branched; leaves all digitately parted; flowers sessile; calyx 4-cleft, length of capsule. ⊙. H. Native of Spain, and about Montpelier. Willd. spec. 1. p. 75. exclusive of V. succulénta, Schmidt, which is referrible to *V. vérna*. V. chamæpithyoìdes, Lam. ill. 1. p. 47. Branches height of stem. Leaves petiolate: lower ones trifid, with ovate segments; the lateral segments narrower and shorter: lower floral ones 5-parted, upper 3-parted, with linear segments. Capsule obcordate.

Digitate-leaved Speedwell. Fl. May, July. Clt. 1805. Pl. ¼ foot.

170 V. VE'RNA (Lin. spec. p. 19.) erect, downy; leaves pinnatifidly 3-5-parted: upper floral ones undivided; pedicels shorter than the calyx; calyx 4-cleft, unequal, with acute segments. ⊙. H. Native throughout Europe, in exposed places; plentiful in some parts of Britain. Vahl, enum. 1. p. 83. Fl. dan. t. 252. Smith, engl. bot. t. 25. Poit. et Turp. fl. par. 1. p. 21. t. 22. V. Dillènii, Crantz, austr. p. 352.—Dill. geiss. append. p. 38. V. pinnatifida, Lam. ill. t. 22. f. 4. V. succulénta, Schmidt, et All. fl. ped. t. 22. f. 4. Peduncles much shorter than the bracteas. Corolla small, blue, with a green ring. Capsule obcordate, compressed, ciliated. Seeds minute, scrobiculate.

Var. β; leaves almost quite entire. ⊙. H. V. polygonoìdes, Lam. ill. 1. p. 47. V. Bellárdi, All. pedem. 1. p. 77. t. 85. f. 1. Hairy. Flowers solitary, nearly sessile. Leaves alternate, oblong, lanceolate, or linear. Stem simple, bearing flowers from bottom to top. Corolla smaller than the calyx.

Spring Speedwell. Fl. April, May. Britain. Pl. ⅛ to ½ foot.

171 V. DEPRE'SSA (Kit. in Schultes, fl. austr. ed. 2d. p. 32.) branches procumbent; leaves ovate, nearly sessile; flowers sessile, aggregate. ⊙. H. Native of Hungary, in dry pastures.

Depressed Speedwell. Pl. procumbent.

172 V. RENIFÓRMIS (Rafin. journ. de bot. 1808. vol. 1. p. 228.) procumbent, hispid; leaves sessile, reniform, crenated, villous; flowers nearly sessile; calyx 4-cleft, with ovate acutish segments. ⊙. H. Native of New Jersey, in sandy places. Leaves alternate, nearly sessile. Corolla whitish blue. Capsule glabrous, compressed.

Reniform-leaved Speedwell. Pl. procumbent.

173 V. RE`PENS (Clar. in D. C. syn. fl. gall. no. 2407. fl. fr. 3. p. 727.) creeping, glabrous; leaves ovate, roundish, crenated, about equal in length to the peduncles. ⊙. H. Native of Corsica, on the mountains. Lois. fl. gall. t. 1. V. tenélla, Viv. fl. cors. and perhaps All. ped. t. 22. f. 1.? Plant very small. Leaves nearly sessile. Calyx 4-cleft, equal; segments ovate-lanceolate, obtuse. Corolla pale purple, twice as long as the

calyx. Capsule obcordate, ciliated, longer than the calyx. Seeds many, smooth, rather flat.

Creeping Speedwell. Pl. creeping.

174 V. PEREGRÌNA (Lin. spec. p. 28.) erect, glabrous; leaves subserrated; flowers sessile, shorter than the leaves; calyx 4-cleft, with narrow segments, which are a little longer than the capsule. ⊙. H. Native of Europe, in gardens and fields; North America, and Buenos Ayres. Vahl, enum. 1. p. 85. Fl. dan. t. 407. V. Marylándica, Murr. comm. gött. 1782. t. 3. V. Romàna, Lin. mant. p. 317. V. Caroliniàna, Walt. fl. car. p. 61. V. carnósula, Lam. ill. 1. p. 47. V. læ'vis, Lam. fl. fr. ed. 2d. vol. 5. p. 44. V. palléscens, Gater. fl. montaub. p. 27. Stem simple or branched. Radical leaves obovate, running into the petioles. Corollas small, blue or white. Capsule obcordate, compressed.

Var. β, Xalapénsis; stems downy; calycine segments broader. ⊙. H. Native of Mexico, near Xalapa, in forests of *Liquidambar*. V. Xalapénsis, H. B. et Kunth, nov. gen. amer. 2. p. 389.

Foreign Speedwell. Fl. March, June. Clt. 1680. Pl. ¼ to ¾ foot.

175 V. CHILLE'NSIS (H. B. et Kunth, nov. gen. 2. p. 390.) stem creeping, downy; leaves oblong-spatulate, serrated, glabrous; flowers nearly sessile, shorter than the leaves, reflexed in the fructiferous state; calyx 4-parted, with lanceolate-acute segments, which are longer than the capsule. ⊙. H. Native of Quito, near Chillo, at the altitude of 1340 hexapods. Leaves sessile, obtuse: floral ones alternate, narrow. Corolla white. Capsule compressed, obcordate. Seeds oblong.

Chillo Speedwell. Pl. creeping.

† *Species not sufficiently known.*

176 V. KOELE'RI (Rœm. et Schultes, syst. 1. p. 127.) stem erect, downy; cauline leaves quite entire, opposite, or 3 in a whorl: floral ones alternate, shorter than the peduncles. ⊙. H. Native country unknown. V. nòva, Koeler de veron. in recuil. d' mem. soc. Mayence, p. 184. Rœm. coll. 1. p. 306.

Koeler's Speedwell. Pl. erect.

177 V. ROTUNDIFÒLIA (Ruiz. et Pav. fl. per. 1. p. 6. Vahl, enum. 1. p. 81.) plant hairy; stems slender, creeping; leaves orbicularly reniform, crenated, petiolate, subpeltate; peduncles twice as long as the petioles. ♃. G. Native of Peru, in bogs. Stems purplish. Leaves 2 or 3, but usually solitary at the joints. Corolla of a rosy purple colour. Stamens 3, length of tube. There is a variety of this having a 5-cleft corolla, and 4 stamens. Certainly not a species of *Verónica*.

Round-leaved Speedwell. Pl. creeping.

†† *The following names occur in the gardens, but they are probably synonymous with those described above.*

1. V. diversifòlia, Mœnch. 2. V. melancólica, Hort. par. 3. V. paludòsa, Lejeune. 4. V. Pannónica, Mill. 5. V. pinnatífida, Willd. 6. V. spadàna, Lejeune. 7. V. Waldsteiniàna, Schott. 8. V. præálta, Hort.

Cult. The hardy, herbaceous, perennial species of *Verónica* are generally grown in flower borders, for which they are well fitted on account of their beauty; they are of the most easy culture, and are readily increased by division at the root. The annual kinds, having rather a weed-like appearance, are only grown in botanical gardens; the seeds of them only require to be sown in the open ground. The species natives of New Holland, Van Diemen's Land, and New Zealand, being rather tender, require to be treated as greenhouse plants; the shrubby kinds of these are propagated by cuttings; the others by divisions of the root.

LXVII. DIPLOPHY'LLUM (from διπλοος, *diploos*, double; and φυλλον, *phyllon*, a leaf; in reference to the two-leaved calyx.) Lehm. in berl. mag. an. 4. p. 2.—Verónica species, Stev.

LIN. SYST. *Diándria, Monogýnia.* Calyx of 2 sepals, compressedly closed; sepals cordate, serrated, 2-lobed. Corolla subrotate, 4-cleft; the 2 opposite lobes the smallest. Stamens 2, shorter than the corolla, without any rudiments of sterile ones; anthers didymous. Stigma simple. Capsule roundish, compressed, obcordate, 2-celled, 4-valved, 4-seeded.—An annual plant, with the habit of the species of *Verónica* belonging to section *Cochlidiospérma*. Stems many, subdichotomously branched, decumbent, nearly terete, furnished with 2 rows of spreading hairs. Leaves cordate-ovate, bluntly serrated, pale green, hairy. Pedicels solitary, axillary, declinate while bearing the fruit, about equal in length to the leaves, or exceeding them a little. Calyx downy, finely ciliated. Corolla pale blue, much shorter than the calyx. Capsule inclosed, ex Bieb.; glabrous, ex Lehm. Seeds large, wrinkled, black. Navicular.

1 D. VERONICÆFÓRME (Lehm. l. c.) ⊙. H. Native of shady woods about the Cuban. Verónica, Cristagálli. Stev. in mem. soc. gorenki, icon. ined. Lin. trans. 11. p. 408. t. 31. Bieb. suppl. p. 19. Link, enum. 1. p. 27.

Speedwell-formed Diplophyllum. Fl. April, May. Clt. 1813. Pl. trailing.

Cult. The seeds of this plant only require to be sown in early spring, in the open ground. A dry light soil suits it best.

LXVIII. LEPTA'NDRA (from λεπτος, *leptos*, slender; and ανηρ ανδρος, *aner andros*, a male; in reference to the slender stamens.) Nutt. gen. amer. 1. p. 7. Verónica species, Lin. and others. Veronicástrum species, Heist. helmst. 205. Mœnch.

LIN. SYST. *Diándria, Monogýnia.* Calyx 5-parted, bibracteate; segments acuminated. Corolla tubularly campanulate; limb 4-lobed, sub-ringent: lower segment the narrowest. Genitals exserted; filaments and base of the tube of the corolla downy. Capsule ovate, acuminated, 2-celled, many-seeded.—Robust plants, with broad, rather wrinkled, verticillate, serrated leaves, and terminal, solitary spikes of flowers, and sometimes there are short spikes from the axils of the upper leaves.

1 L. VIRGÍNICUS (Nutt. l. c.) leaves 4-5 in a whorl, ovate-lanceolate, petiolate, acuminated. ♃. H. Native of Virginia and Japan. ? Verónica Virgínica, Lin. spec. p. 13. Vahl, enum. 1. p. 56. Hoffm. in comm. gott. 15. p. 112. t. 1. phyt. bl. p. 89. t. 9. f. 1. Thunb. jap. p. 20. ? Veronicástrum álbum, Mœnch.—Knip. cent. 10. p. 97.—Plukn. phyt. t. 70. f. 2. Stem beset with rufous hairs. Lower leaves 5 in a whorl: upper ones 4, rarely 3, dirty green, downy. Corollas white. Capsule tetragonal, 4-valved. Seeds wrinkled.

Var. β, incarnàtus; flowers purple, or flesh-coloured. ♃. H. Verónica Virgínica, β, Pursh. fl. amer. sept. 1. p. 10.

Virginian Leptandra. Fl. July, Aug. Clt. 1714. Pl. 4 to 5 feet.

2 L. SIBI'RICUS (Nutt. l. c.) leaves 5-6-9 in a whorl, lanceolate, sessile, acuminated. ♃. H. Native of Dauria. Verónica Sibírica, Lin. spec. p. 12. Vahl, enum. 1. p. 55.—Amm. ruth. p. 20. t. 4. Veronicástrum rubéllum, Mœnch. Stem hairy. Leaves 2-3 inches long, much broader than those of *L. Virgínicus*. Corollas blue.

Siberian Leptandra. Fl. July, Aug. Clt. 1779. Pl. 4 feet.

3 L. MEYE'RI, glabrous; leaves scattered, nearly linear acute, sharply serrulated; raceme terminal, dense; corolla tubular. ♃. H. Native of Dahuria, in humid meadows. Verónica tubiflòra, Fisch et Meyer, rem. hort. petrop. 1836. p. 53. Calyx unequal. Corolla blue; segments oblong, bluntish. Capsule small oblong. Seeds minute, elliptic.

Meyer's Leptandra. Fl. ? Clt. 1836. Pl. 1 to 2 feet.

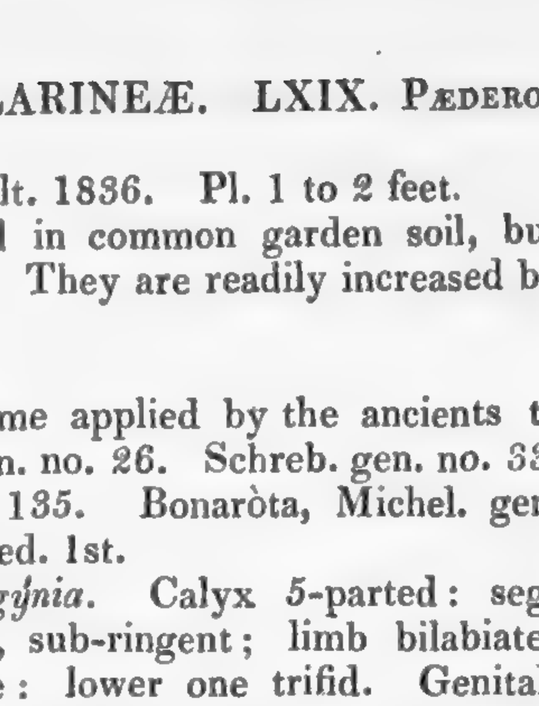
Cult. The species grow well in common garden soil, but prefer peat or vegetable mould. They are readily increased by division.

LXIX. PÆDERO'TA (a name applied by the ancients to a species of *Acánthus*.) Lin. gen. no. 26. Schreb. gen. no. 33. Juss. gen. p. 120. ed. Usteri. p. 135. Bonaròta, Michel. gen. 15. Verónica, Spec. Lin. spec. ed. 1st.

Lin. syst. *Diándria, Monogýnia.* Calyx 5-parted: segments linear. Corolla tubular, sub-ringent; limb bilabiate: upper lip entire, or emarginate: lower one trifid. Genitals exserted; filaments filiform. Capsule ovate, 4-valved, 2-celled, opening at top. Seeds roundish.—Dwarf alpine herbs with opposite leaves, and axillary, or terminal spicate flowers.

1 P. Age'ria (Lin. syst. p. 61. mant. 171.) stem leafy; leaves nearly sessile, unequally and sharply serrated: superior leaves long-acuminated; calyxes length of corolla; capsule ovate-oblong, acuminated. 4. H. Native of Carinthia, Carniola, and Italy, among rocks. Willd. spec. 1. p. 77. P. lùtea, Lin. suppl. p. 84. P. Bonaròta, Jacq. hort. vind. 2. t. 121. P. urticæfòlia, Brign. fasc. pl. forog. p. 8. Wulfènia Agèria, Smith, in Lin. trans. 6. p. 96. Bonaròta chamædrifòlia, Scop. carn. ed. 2. vol. 1. p. 22. Lower leaves the smallest, roundish: the upper ones lanceolate, acuminated: the middle ones longer than the others, ovate-lanceolate. Raceme spicate, terminal. Bracteas twice as long as the pedicels. Corolla sulphur coloured; throat tomentose; superior lip bifid, or emarginate (fig. 55).

FIG. 55.



Ageria Pæderota. Fl. May, June. Clt. 1824. Pl. 1 to 1½ foot.

2 P. Zaniche'lli (Brign. fasc. pl. forog. p. 9.) stem leafy; leaves nearly sessile, subcordate, serrated: lower ones roundish obtuse: superior ones ovate, acuminated; calyx glabrous, one half shorter than the corolla; capsule ovate, obtuse. 4. H. Native of Carnia, on the Alps near the limits of perpetual snow. Bonaròta montàna Italica chamæ'drys folio, minus crenato, spicâ luteâ, ex Monte Cavallo, Michel. gen. p. 19. no. 3. Leaves less deeply and irregularly serrated than *P. Agèria*, pilose. Raceme ½ to 1 inch long, dense. Bracteas hardly longer than the pedicels. Corolla yellow; throat glabrous; upper lip entire.

Zanichell's Pæderota. Pl. 1 to 3 inches.

3 P. Bonaro'ta (Lin. spec. p. 20. syst. p. 61.) stem leafy; leaves petiolate, roundish-ovate, serrated; calyx shorter than the corolla; capsule acuminated. 4. H. Native of Austria and Carniola, on the alps. Jacq. austr. 5. p. 49. t. 39. Brign. fasc. pl. forog. p. 6. Wulfènia Bonaròta, Smith, in Lin. trans. 6. p. 96. P. cærùlea, Lin. suppl. p. 84. Pæderòta, no. 1, Michel, gen. p. 19. t. 15. f. 1. Verónica Bonaròta, Lin. spec. ed. 1st. p. 11. Bonaròta chamædrifòlia, Scop. carn. ed. 2. vol. 1. p. 22. Racemes 1 to 1½ inch long. Calyx hairy. Corolla violaceous; throat glabrous; upper lip undivided.

Bonarota's Pæderota. Fl. May, June. Clt. 1818. Pl. ½ foot.

4 P. chamædrifo'lia (Brign. fasc. pl. forog. p. 9.) stem leafy; leaves nearly sessile, roundish, obtuse, serrated; calyx tomentose, two of the segments shorter than the rest. 4. H. Native of Carnia. P. Bonaròta, Vittm. summ. 1. p. 36. Bonaròta, no. 2. Michel, gen. p. 19. t. 15. f. 2. Leaves downy. Bracteas length of pedicels. Corolla violaceous; upper lip undivided, and sometimes emarginate.

Germander-leaved Pæderota. Pl. 2 to 3 inches.

Cult. The species of *Pæderòta* are pretty little alpine or rock plants. They should be grown in pots, and placed among other alpine plants. They are increased by division and seeds.

LXX. CALORHA'BDOS (from καλος, *kalos*, beautiful; and ῥαβδος, *rhabdos*, a twig, in reference to the beauty of the plant.) Benth. scroph. ind. p. 44.

Lin. syst. *Diándria, Monogýnia.* Calyx 5-parted. Corolla tubular, incurved; limb erect, obliquely 2-3-cleft: lower segment the smallest. Stamens 2, inserted at the sides of the upper corolline segment, without any vestiges of lower ones; anthers 2-celled; cells parallel, confluent at top. Stigma hardly thickened. Valves of capsule bipartite. Seeds numerous, girded by a curled membrane.

1 C. Brunonia'na (Benth. l. c.)—Native of Nipaul. Verónica ? Brunoniàna, Wall. cat. no. 405. An erect, glabrous, nearly simple herb, 1 to 2 feet high. Leaves oblong-lanceolate, deeply and acutely serrated, narrowed into the short petioles at the base. Spikes half a foot long. Flowers sessile, glomerate.

Brown's Calorhabdos. P. 1½ to 2 feet.

Cult. For culture and propagation see *Leptándra*.

LXXI. WULFE'NIA (so named in honour of the Rev. Francis Xavier Wulfen, author of "Plantæ Rariores Carinthiacæ" in Jacquin's Miscellanea.) Jacq. misc. 2. p. 62. t. 8. Schreb. gen. no 34. Smith, in Lin. trans. 6. p. 96. Benth. in scroph. ind. p. 46, but not of Wall.

Lin. syst. *Diándria, Monogýnia.* Calyx 4-5-parted. Corolla tubular, declinate; limb 4-5-cleft; segments straight, or hardly spreading: upper one emarginate, or bifid: lateral ones entire: lower one entire, or broadly crenated. Stamens two, placed at the sides of the upper corolline segment, destitute of any vestiges of lower ones. Anthers 2-celled; cells at length confluent at apex. Style simple; stigma truncate, or thickened and 2-lobed. Valves of capsule septiferous in the middle, bifid at apex.—Almost stemless herbs. Radical leaves petiolate. Scapes naked, many-flowered, erect. Flowers unilateral, pendulous, on short pedicels, solitary in the axils of the bracteas.

1 W. Amherstia'na (Benth. scroph. ind. p. 46.) leaves oblong, narrowed at the base, doubly and deeply crenated; tube of corolla straight; segments of the limb all acute. 4. H. Native of Kamaon, Wall.; Kanaour, Royle. Pæderòta Amherstiàna, Wall. cat. no. 410. Habit of *W. Carinthìaca*. Flowers blue.

Lady Amherst's Wulfenia. Pl. 1½ foot.

2 W. Carinthi'aca (Jacq. misc. 2. p. 62. t. 8. f. 1. icon. rar. 1. t. 2.) leaves oblong, narrowed at the base, doubly crenated; tube of corolla gibbous above the base; segments of the limb roundish: lower one crenated. 4. H. Native of Carinthia, on the alps. Lin. syst. p. 865. Reiner, et Hohenw. itin. bot. 1. p. 73. t. 1. Sweet, fl. gard. vol. 3. icone. Pæderòta Wulfènia, Lam. ill. t. 13. f. 2. Flowers blue.

Carinthian Wulfenia. Fl. July, Aug. Clt. 1817. Pl. 1½ foot.

3 W. reniformis (Dougl. mss. ex Benth. scroph. ind. p. 46.) leaves reniform, doubly crenated: tube of corolla straight; segments of the limb roundish: lower one crenated. 4. H. Native of North-west America, on mountains near the river Columbia. Flowers blue. ?

Reniform-leaved Wulfenia. Pl. 1 foot.

Cult. The species of *Wulfènia* are very showy while in blossom, and are well fitted for decorating flower borders. They grow well in any light rich soil, and are readily increased by division and by seeds. A duplicate plant, or two of each kind should be grown in pots, so that they may be placed under shelter with more ease in winter, as they are liable to rot at that season, if they are allowed to remain in the open air.

LXXII. GYMNA'NDRA (from *γυμνος, gymnos*, naked; and *ανηρ ανδρος, aner andros*, a male.) Pall. itin. 3. p. 710. append. no. 60. t. A. f. 1. Willd. in mag. gess. naturf. freund. berol. 390. t. 9-10. Benth. scroph. ind. p. 46.—Lagòtis, Gærtn. nov. comm. petrop. 14. p. 533. t. 18. f. 2. Verónica species, Gmel. Bártsia species, Lin. fil.

Lin. syst. *Diándria, Monogýnia.* Calyx spathaceous, cleft on one side, or bipartite; segments entire, or toothed. Corolla tubular; limb sub-bilabiate; upper lip entire, emarginate, or bifid: lower one 2-4-cleft; segments all flat. Stamens 2, placed at the sides of the upper lip, without any vestiges of lower ones; anthers 2-celled; cells sub-confluent at apex. Stigma truncate, or thickened and capitate. Capsule 2-celled; cells 1-seeded. Seeds oblong, a little curved, ex Cham. et Schlecht, under *G. Gmelìni*.—Erect, glabrous herbs, becoming black on drying. Stems many, simple, rising from the neck. Radical leaves petiolate: cauline ones smaller: the uppermost ones usually scale-formed. Flowers sessile in the axils of the bracteas, disposed in terminal crowded spikes.

1 G. Kunawure'nsis (Royle, mss. ex Benth, scroph. ind. p. 47.) radical leaves ovate, rather deeply toothed, rounded, or narrowed at the base; stamens very short at the base of the upper lip of corolla; style equal in length to the stamens; stigma 2-lobed. 4. H. Native of Kanaour (Kunawur), Royle. The lower lip of the corolla is probably always 4-cleft. Said to be allied to *G. Gmelìni*, Cham. et Schlecht, but the spike is more slender. Corollas blue.

Kanaour Gymnandra. Pl. ½ foot.

2 G. Cashmeria'na (Royle, ill. bot. himal. t. 73. f. 3.) radical leaves oblong, coarsely crenated, and quite entire, narrowed a long way at the base; spike short, ovate; corolla incurved at apex; stamens rather exceeding the superior lip; style shorter than the stamens. 4. H. Native of Cashmere, Royle. Corollas blue. Lower lip of corolla usually bifid.

Cashmere Gymnandra. Pl. ½ foot.

3 G. Gmeli'ni (Cham. et Schlecht, in Linnæa, 2. p. 561.) radical leaves roundish, or elongately-ovate, rather attenuated at the base, bluntish, coarsely and unequally crenated; stamens not above half the length of the superior lip; style shorter than the stamens. 4. H. Native of Kamtschatka, Bhering's Island, Unalaschka, and most of the Aleutian Islands. G. ovàta, Willd. l. c. 5. p. 395. t. 10. f. 8. Willd. herb. no. 262. G. renifórmis, Willd. l. c. p. 396. t. 10. f. 9. Lagòtis glaúca, Gærtn. in nov. comm. petrop. 14. p. 534. t. 18. f. 2. Gymnàndra boreàlis, var. ex Kamtschatka et Insula Beeringii, Pall. itin. 3. p. 712. Verónica, foliis inferioribus ovatis crenatis, superioribus rotundis mucronatis, caule spicâ terminato, Gmel. fl. sib. 3. p. 219. The whole plant glabrous and succulent. Spikes short, dense. Corolla blue; lower lip bifid, or trifid.

Gmelin's Gymnandra. Pl. ¼ to 2 feet.

4 G. Stelle'ri (Cham. et Schlecht, l. c. p. 563.) radical leaves oblong, attenuated at both ends, but most so at the base, acute, unequally and bluntly serrated; stamens almost the length of the upper lip; style longer than the stamens. 4. H. Native of Siberia, between the river Lena and the ocean, Steller; Bay of St. Lawrence, Cham.; and probably in the Island of St. Lawrence. G. mìnor, Willd. l. c. p. 393. t. 9. f. 3. herb. no. 258. G. dentàta, Willd. l. c. p. 394. t. 9. f. 4. herb. no. 260. G. gràcilis, Willd. l. c. p. 394. t. 9. f. 5. G. elongàta, Willd. l. c. Gymnándra boreàlis var. inter Lenam et Oceanum lecta, Pall. itin. 3. p. 712. Plant slender, quite glabrous. Spikes slender. Corolla blue; lower lip 2-3-parted.

Steller's Gymnandra. Pl. ½ to 1 foot.

5 G. Palla'sii (Cham. et Schlecht, l. c. p. 564.) radical leaves roundish, or elongately ovate, acutish, attenuated at the base, quite entire, or obsoletely crenated; stamens not above half the length of the superior lip; style longer than the stamens. 4. H. Native of Davuria, on the tops of the alps; and of arctic Siberia. C. integrifòlia, Willd. l. c. p. 392. t. 9. f. 1. herb. no. 255. G. Altàica, Willd. l. c. p. 395. t. 10. f. 7. herb. no. 257. Gymnándra boreàlis ex arcto et alpibus Davuriæ, Pall. itin. 3. p. 712. t. A. f. 1. Bártsia Gymnándra, Lin. fil. Flowers blue. Lower lip of corolla constantly 2-lobed. All the segments of the corolla are narrow.

Pallas's Gymnandra. Pl. ¼ to 1 foot.

Cult. For culture and propagation see *Wulfènia*, p. 580. Pretty alpine plants.

§ 2. *Stamens 4, didynamous.*

LXXIII. PICRORHI'ZA (from *πικρος, picros*, bitter; and *ῥιζα, rhiza*, a root; in reference to the bitterness of the root.) Royle, ill. bot. himal. t. 71. Benth. scroph. ind. p. 47.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, about equally 5-cleft. Corolla campanulate, shorter than the calyx, about equally 4-cleft; segments quite entire. Stamens 4, inserted at the throat of the corolla, nearly equal, diverging, much exserted; anthers 2-celled: cells confluent at top. Stigma hardly thickened. Valves of capsule septiferous in the middle, bipartite; dissepiment duplicate. Seeds nearly inclosed in an aril-formed vesiculose membrane.

1 P. Kurro'a (Royle, ill. bot. himal. t. 71.)—Native of Gosainsthan and Kamaon, Wall.; Kidarconta, Royle. Verónica Lindleyàna, Wall. cat. no. 404. Herb almost stemless. Radical leaves oblong, narrowed into the petioles at the base, serrately crenated at top, or beset with a few short scattered hairs. Scapes naked, erect. Flowers sessile, densely spicate.

Kurroa Picrorhiza. Pl. ½ foot.

Cult. For culture and propagation see *Wulfènia*, p. 580.

LXXIV. GEOCHO'RDA (from *γη, ge*, the earth; and *χορδη, chorde*, a cord; in reference to the whip-like, creeping stems.) Cham. et Schlecht, in Linnæa, 3. p. 11. Herpéstis species, Spreng.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, equal. Corolla funnel-shaped; limb nearly equal, 4-parted. Stamens 4, nearly equal, a little exserted; anthers oblong, 2-celled; cells opposite, fixed by the middle. Capsule oblong, inclosed in the calyx, which is permanent, 2-celled, with a loculicidal dehiscence; dissepiment from the involute margin of the valves; placenta central, stipitate.—Root rather woody. Stems articulated, terete, prostrate, rooting at the joints. Leaves opposite or 3-4 in a whorl, furnished with young branches in the axils, hence the leaves appear fascicled; from obovate to roundish, cuneated, and tapering into the petioles, lobed; lobes crenated, or irregularly and sometimes doubly crenated, quite entire in the cuneated part. Young stems, nodi, petioles, peduncles, and calyxes covered with long, curled, articulated hairs. Pedicels axillary, twin from the 4-leaved nodi, and shorter than the leaves; the rest very variable in length, usually very short, filiform, terete, 1-flowered. Calyx bractless.

1 G. cunea'ta (Cham. et Schlecht, l. c.) 4. ? ♄. F. Native of the South of Brazil, in the provinces of Rio Grande do

Sul and Montevideo, Sello. Herpéstis glechomoìdes, Spreng. syst. 4. p. 234.

Cuneated-leaved Geochorda. Pl. creeping.

Cult. For culture and propagation see *Wulfènia*, p. 581.

Tribe VI.

BUCHNE'REÆ (this tribe contains plants agreeing with Buchnèra in the characters given below.) D. Don, in edinb. phil. journ. vol. 19. July 1835. Benth. in Hook, comp. 1. p. 356. Calyx tubular, striated, 5-cleft, or 5-toothed. Corolla salver-shaped; limb 5-cleft, or unequally 4-cleft, sometimes bilabiate; segments all flat. Stamens 4, didynamous, ascending, rarely only 2, approximate; anthers usually 1-lobed from the cells being continuous, with a thick, elevated connective. Stigma undivided. Capsule 2-valved; valves entire, or bifid, rarely fleshy and indehiscent; dissepiment simple. Placenta narrow, columnar, adnate, longitudinally, or at length free. Seeds minute, smooth, or scrobiculate; testa membranous. Albumen fleshy. Embryo much shorter than the seeds. —Herbs or sub-shrubs mostly native of the Cape. Leaves opposite, or alternate. Flowers terminal, spicately racemose, white or red.

LXXV. STRI'GA (so named from the strigose habit of some species.) Lour. coch. p. 22. Benth. in Hook, comp. 1. p. 361. Buchnèra species, Lin. and other authors.—Campanulèia, Pet. nov. gen. mad. p. 23.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx short, tubular, with 5-15 elevated ribs, and membranous between the ribs, 5-toothed, or semiquinquefid at apex, rarely 4-toothed by abortion; teeth generally subulately acuminated. Corolla salver-shaped, with a slender tube, which is abruptly incurved in the middle, or above the middle; limb bilabiate, the upper lip usually shorter, entire, emarginate or bifid: lower lip trifid. Stamens didynamous, inclosed. Capsule straight; valves somewhat coriaceous, entire, dehiscing elastically at maturity, septiferous in the middle.—Scabrous, Asiatic, and African herbs, becoming blackish on drying, sometimes parasitical in the manner of *Orobánche*. Lower leaves opposite: superior ones alternate, sometimes scale-formed, usually linear, quite entire, rarely few-toothed: floral ones conform to the others, but becoming gradually smaller as they ascend. Flowers axillary, solitary, sessile, disposed in terminal spikes, generally minutely bibracteate. Corolla white, purplish, or red.

* *Leaves scale-formed.*

1 S. orobanchioìdes (Benth, l. c. p. 361. t. 19.) glabrous, branched; leaves minute, scale-formed: floral ones lanceolate, shorter than the calyx. ♃. S. Native of Senegambia, Endlicher; Abyssinia, Brown; south-east Africa, in the district of Uitenhage, Ecklon; to Delagoa Bay, Forbes; East Indian Peninsula, Wight, and plains as far as Saharumpur, Royle. Buchnèra orobanchioìdes, R. Br. Endl. in bot. zeit. 1832. 2. p. 388. t. 2. Benth. scroph. ind. p. 40. Buchnèra Hydrabadénsis, Roth, nov. pl. 292. Buchnèra gesnerioìdes, Willd. spec. 3. p. 338. Orobánche I'ndica, Spreng. syst. 2. p. 816, but not of Roxb. Plant parasitic. Root tuberous. Scales and bracteas lanceolate. Calyx 4-5-cleft. Corollas white, or pale yellow. Stem none, unless the unbranched portion of the scape may be considered as such; it is covered by scales. The whole plant is covered with short stiff hairs. Flowers sessile, surrounded by 3 bracteas.

Orobanche-like Striga. Pl. ½ foot.

** *Leaves elongated. Calyx with 5 elevated stripes. Corolla incurved towards the apex.*

2 S. humifu'sa (Benth. l. c. p. 362.) prostrate, scabrous; leaves obovate-oblong, obtuse; spikes short, few-flowered; calyx 5-striped; ? tube of corolla glabrous. ♃. G. Native of Arabia, on the mountains of Hadge, Forsk. Browállia humifùsa, Forsk. pl. ægypt. arab. p. 12. Buchnèra humifùsa, Vahl, symb. 3. p. 81. The form of the leaves and procumbent stem, Bentham says, will distinguish this from all other species, notwithstanding he has not been able to ascertain whether the calyx be 5-ribbed or not, from the specimens he has examined being so imperfect.

Trailing Striga. Pl. trailing.

3 S. parviflo'ra (Benth. l. c.) small, very scabrous; leaves linear, quite entire, strict; calyx 5-striped; corolla downy, with an entire upper lip, which is hardly half the length of the lower lip. ♃. G. Native of New Holland, on the east coast, in Keppel Bay. Buchnèra parviflòra, R. Br. prod. p. 294. Plant but little branched. Flowers smaller than those of other species.

Small-flowered Striga. Pl. small.

4 S. á'spera (Benth. l. c.) leaves linear, quite entire, strict, and are, as well as the branches, covered with callous tubercles, and ciliated with rigid spreading hairs; calyx 5-striped; corolla glabrous, with an elongated, slender tube, and an emarginate upper lip, which is about half the length of the lower lip. ♃. S. Native of Guinea. Euphràsia áspera, Willd. spec. 3. p. 197. Buchnèra áspera, Schum. pl. guin. p. 280. This differs from *S. pusílla* in the flowers being twice the size, and in the more regular and greater hispidity of the plant.

Rough Striga. Pl. ½ foot.

5 S. curviflo'ra (Benth. l. c.) very scabrous; leaves long-linear, quite entire, spreading a little; calyx 5-striped; tube of corolla pubescent; upper lip retuse, thrice as short as the lower lip, which is tripartite. ♃. S. Native of New Holland, on the north coast, within the tropic, and of Java, ex Blum. bijdr. 740. Buchnèra curviflòra, R. Br. prod. p. 294. Allied in habit to *S. euphrasioìdes* and *S. coccínea*, and differs from the first by the calyx, and from the last by both calyx and corolla.

Curved-flowered Striga. Pl. ½ to 1 foot.

6 S. multiflo'ra (Benth. l. c. p. 363.) scabrous, much branched; leaves long-linear, spreading; spikes long, loose; calyx 5-ribbed; corolla glabrous; upper lip bifid, a little shorter than the lower one, which is tripartite. ♃. S. Native of New Holland, of the Islands west of Goulbourn's Island, on the north coast, Cunningham. Distinct in the long decumbent habit, and in the form of the flowers, which are the size of those of *S. coccínea*.

Many-flowered Striga. Pl. decumbent.

7 S. densiflo'ra (Benth. l. c.) humble, rather glabrous, very scabrous; leaves lanceolate-linear, somewhat squarrose; flowers dense, approximate; calyx ovate, 5-striped; corollas glabrous; upper lip emarginate, 2 or 3 times shorter than the lower lip. ♃. S. Native of the Indian Peninsula, Heyne; and the plains of India as far as Saharampur, Royle. Buchnèra Asiática, Vahl, symb. 3. p. 81.? Lin. spec. 879. part. Buchnèra densiflòra, Benth. scroph. ind. p. 41. Plant small, rigid, but little branched, in some respects resembling *S. Thunbérgii*. Flowers smaller; the lobes of the limb shorter and broader. It also differs from that species in the remarkably spreading, often recurved leaves.

Dense-flowered Striga. Pl. ¼ to ½ foot.

8 S. Thunbe'rgii (Benth. l. c.) hispid, scabrous, strict, nearly simple; leaves lanceolate-linear, erect: floral ones lanceolate, adpressed, the middle nerve beneath, and margins ciliately hispid; spike dense; calyx 5-striped; tube of corolla downy, recurved and inflated at top; lips of limb nearly equal: lobes oblong. ♃. G. Native of the Cape of Good Hope, in the district of Uitenhage, and in Caffreland, and Tambukiland, Eck-

lon, and Drege, &c. Guinea, in the valley of Friderikoberg, Thonning. Buchnèra Asiática, Lin. spec. p. 879. partly. Buchnèra bilabiàta, Thunb. fl. cap. p. 465. Buchnèra linearifòlia, Schum. pl. guin. 279.? Easily distinguished from the other species by the imbricate floral leaves, and the remarkably dilated apex of the tube of the corolla. Flowers from 6 to 8 lines long. Plant taller and more erect than *S. densiflòra*. Corollas red.

Var. β, grandiflòra (Benth. l. c.) flowers larger. ♃. G. Native of Caffreland, Drege and Ecklon.

Thunberg's Striga. Pl. ½ to 1 foot.

* * * *Leaves elongated. Calyx* 10-15*-striped. Corolla incurved towards the top.*

9 S. E'LEGANS (Benth. l. c.) hairy, very scabrous, strict, nearly simple; leaves lanceolate-linear, erect, rather adpressed, hispid: floral ones similar, about equal in length to the calyxes; calyx 10-striped; tube of corolla downy; lobes of limb oblong; upper lip bifid, a little shorter than the lower one. ♃. G. Native of the Cape of Good Hope; in Caffreland, Drege. Stature and habit almost of *S. Thunbérgii, β*, but less rigid; the flowers rather larger, and like *S. lùtea*. The whole plant is very hairy, and scarcely turns black on drying.

Elegant Striga. Pl. ½ to 1 foot.

10 S. LU'TEA (Lour. coch. p. 22.? Benth. l. c.) hairy, very scabrous; leaves long-linear, spreading: lower ones lanceolate; spikes elongated; calyx 10-15-striped; corolla glabrous: lobes of the limb obovate: upper lip emarginate, about half the length of the lower lip. ♃. G. Native of the Indian Peninsula, Wight; Bengal, Wall.; Saharampur, Royle; Macao, ex herb. Banks; Canton, Lour. Buchnèra hirsùta, Wall. Benth. scroph. ind. p. 41. Buchnèra Asiática, Lin. spec. 879. partly. Habit loose and branchy, or when young more stiff and simple, seldom turning black on drying. Corolla yellow.

Yellow-flowered Striga. Pl. ½ to 1 foot.

11 S. PHŒNÍCEA (Benth. l. c.) humble, villous, very scabrous; leaves lanceolate, obtuse, spreading; spikes dense; calyx 10-striped; corolla glabrous: lobes of the limb obovate: upper lip emarginate, about half the length of the lower lip. ♃. S. Native of the Indian Peninsula. Buchnèra phœnícea, Wall. ex Benth. scroph. ind. p. 41. Very nearly allied to *S. lùtea*, but the flowers are said to be red.

Red-flowered Striga. Pl. ½ to 1 foot.

12 S. COCCI'NEA (Benth. l. c. p. 364.) smoothish, scabrous; leaves long-linear; calyx oblong, 10-striped; spikes loose; corolla glabrous: lobes of the limb obovate: upper lip emarginate, about half the length of the lower lip. ♃. S. Native of Tropical Africa, and Southern Asia; Sierra Leone; Caffreland; near Port Natal and Omcomas, Drege; Mosambique, Forbes; Mauritius, Telfair; Indian Peninsula, Heyne; Macao, herb Banks. Campulèia coccínea, Hook, exot. fl. 3. t. 203. Buchnèra coccínea, Benth. scoph. ind. p. 40. Corollas scarlet. Habit of *S. lùtea*, but much more glabrous, and usually dries black. This is supposed by Hooker to be the one described by Petit Thours as parasitical; but Bentham says it has less that appearance than *S. lùtea* or *S. Thunbérgii*, which latter has also red flowers.

Scarlet-flowered Striga. Pl. ½ to 1 foot.

13 S. GLABRA'TA (Benth. l. c.) nearly glabrous, scabrous; leaves long-linear; calyx oblong, 10-15-striped; spike slender; corolla glabrous: lobes of limb oblong: upper lip emarginate, about half the length of the lower one. ♃. S. Native of the East Indies, Nipaul, and mountains of Ava, Wall.; also in the Peninsula, Wall. Buchnèra Asiática, Benth. scroph. ind. 40. Lin. spec. 879, partly. This species evidently comes near the following, but is distinguished by the glabrous corolla. The flowers are said to be bluish.

Glabrous Striga. Pl. ½ to 1 foot.

14 S. EUPHRASIOI'DES (Benth. l. c.) smoothish, scabrous; leaves long-linear, quite entire, and few-toothed; calyx oblong, somewhat 15-striped; tube of corolla downy. ♃. G. Native of the East Indies, from the Peninsula to the mountains of the north; and of Java, ex Blum. bijdr. p. 740. Buchnèra euphrasioìdes, Vahl, symb. 3. p. 81. Buchnèra angustifòlia, D. Don, prod. fl. nep. p. 91. Buchnèra Asiática, Lin. spec. 879, partly. Distinguished from all other species of the present section by the pubescent corolla, and long striated calyx.

Euphrasia-like Striga. Pl. ½ to 1 foot.

15 S. MASU'RIA (Benth. l. c.) tall, very scabrous; leaves quite entire, linear, adpressed, strict; calyx somewhat 15-striped, elongated; tube of corolla elongated, finely downy; limb ample. ♃. S. Native of the East Indies, on the mountains of Morang, Hamilt. Prome, Wall. Buchnèra Masùria, Hamilt. ex Benth. scroph. ind. p. 41. Flowers twice the size of those of *S. euphrasioìdes*.

Masuria Striga. Pl. 1 to 2 feet.

16 S. FORBE'SII (Benth. l. c.) tall, very scabrous, downy; leaves linear-lanceolate, toothed; calyx deeply cleft, 10-striped, with linear, foliaceous segments; tube of corolla elongated, clothed with fine down, incurved towards the apex. ♃. S. Native of Madagascar and Mosambique, Forbes. Nearly allied to the preceding, but less rigid, and leaves broader; calyx 7-8 lines long; but the corolla is about the same size; and in the var. β. nearly as large as in *Rhamphicárpa tubiflòra*.

Var. β, grandiflòra (Benth. l. c.) flowers larger.

Forbes's Striga. Pl. 1 to 2 feet.

* * * * *Corolla abruptly incurved at the middle.*

17 S. HERMÓNTHICA (Benth. l. c. p. 365.) rather pilose, scabrous: leaves linear: floral ones lanceolate, ciliated; calyx 5-striped; tube of corolla smoothish, incurved at the middle: limb ample. ♃. G. Native of Western Africa; Upper Egypt, near Silsileh, Jordan; Mosambique, Forbes. Buchnèra hermónthica, Delile, fl. ægypt. t. 25. f. 1. A handsome species, a foot high, with a long spike of large red flowers.

Hermonthic Striga. Pl. 1 foot.

Cult. For culture and propagation see *Buchnèra*, p. 585.

LXXVI. BUCHNE'RA (in honour of Jean Godefroy Buchner, who in 1743 gave observations of many plants of Voigtland, in Saxony.) Lin. gen. no. 772. Schreb. gen. no. 1035. Juss. gen. p. 100. ed. Usteri, p. 112. Gærtn. fruct. t. 55. Benth. in Hook. comp. 1. p. 364. Perípea, Aubl. guian. 2. p. 628. t. 253.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx short, tubular, obscurely 10-nerved, with 5 short teeth at apex. Corolla salver-shaped; with a slender exserted tube, which is straight or a little incurved; limb spreading, nearly equal, 5-cleft; segments oblong or obovate. Stamens didynamous, inclosed. Capsule straight, with rather coriaceous, entire valves, which dehisce elastically at maturity, septiferous in the middle.—African, Asiatic, or American herbs, usually scabrous, becoming black on drying. Lower leaves opposite: upper ones alternate: lower ones the broadest: upper ones narrower, remote, and, for the most part, quite entire: floral ones bractea-formed, usually shorter than the calyx. Flowers solitary, sessile, bibracteate, disposed in a terminal spike.

* *Spikes loose or dense, but not imbricated.* With the exception of the *B. júncea*, distinguished by its peculiar habit; *B. hìspida* by its long hairs; and *B. macrántha* by its flowers; the other

species contained in this section are all so much alike, and run into each other by such minute or vague characters, that Mr. Bentham would have been disposed to consider them as only varieties of each other, had he been better acquainted with the American species, or had he been possessed of more numerous specimens.

1 B. ju'ncea (Cham. et Schlecht, in Linnæa, 2. p. 590.) stem simple, rushy, clothed with 4 rows of adpressed leaves; panicle short, contracted, terminal. ♃. S. Native of tropical Brazil. Leaves inflexed at apex, with scabrous margins.

Rushy Buchnera. Pl. 2 to 3 feet.

2 B. palu'stris (Spreng. syst. 2. p. 805.) scabrous, nearly glabrous; stem slender, a little branched; leaves narrow-linear, quite entire, or the lower ones are small and obovate; spike loose, few-flowered, with lanceolate-linear bracteas; tube of corolla about twice as long as the calyx; fructiferous calyx erect. ♃. S. Native of Guiana. Perípea palústris, Aubl. guian. 2. p. 628. t. 258. Flowers purplish.

Marsh Buchnera. Pl. 1 foot.

3 B. elonga'ta (Swartz, fl. ind. occ. 2. p. 1061.) scabrous from strigæ; stem nearly simple, leafy at base; leaves oblong, quite entire: superior ones linear; spike loose, few-flowered; tube of corolla about twice the length of the calyx; fructiferous calyx erect. ♃. S. Native of America, from Carolina on the north, to Rio Grande do Sul on the south; and the West India Islands.—Plum. icon. 19. t. 17. Erìnus Americànus, Mill. dict.? Corolla violaceous, or purplish blue.

Elongated Buchnera. Pl. 1 to 2 feet.

4 B. tene'lla (R. Br. prod. 437.) scabrous, rather glabrous; stem slender, a little branched; leaves narrow-linear, quite entire; spikes rather loose; bracteas ovate-lanceolate, ciliated; corolla small, with a slender tube, which is about twice as long as the calyx; fructiferous calyx hardly incurved. ♃. S. Native of New Holland, on the north coast. Calyx glabrous or downy.

Slender Buchnera. Pl.

5 B. linea'ris (R. Br. prod. 437.) scabrous; leaves oblong: superior ones linear, obtuse, quite entire; spike loose; lower bracteas linear: superior ones ovate-lanceolate; calyx downy, hardly incurved; tube of corolla a little exserted. ♃. S. Native of New Holland, within the tropic, Carpentaria.

Linear-leaved Buchnera. Pl.

6 B. pube'scens (Benth. in Hook. comp. 1. p. 365.) scabrous; lower leaves oblong: superior ones linear, all quite entire, obtuse; spikes many-flowered; bracteas ovate-lanceolate, subciliated; calyxes downy, a little incurved: fructiferous ones with an oblique mouth; tube of corolla a little exserted. ♃. G. Native of New Holland, in marshy lands on the Endeavour River, north coast, Cunningham.

Downy Buchnera. Pl.

7 B. ramosi'ssima (R. Br. prod. 438.) scabrous, much branched; rameal leaves quite entire, linear-lanceolate; spikes elongated, many-flowered; bracteas ovate-lanceolate, subciliated; tube of corolla more than one half longer than the calyx, which is incurved in the floriferous state, pilosely hispid at top, straightish in the fructiferous state. ♃. S. Native of New Holland, on the east and north coast, within the tropic.

Much-branched Buchnera. Pl.

8 B. du'ra (Benth. l. c. p. 366.) glabrous, or a little hispid at the base; stem a little branched; lower leaves obovate: superior ones oblong, quite entire: upper ones linear; spike dense at apex, many-flowered; bracteas ovate-lanceolate, subciliated; tube of corolla exserted; capsule equal in height to the calyx, which is straight in the fructiferous state. ♃. G. Native of the Cape of Good Hope, as in Uitenhage and Caffreland, Ecklon and Drège.

Hard Buchnera. Pl.

9 B. glabra'ta (Benth. l. c.) glabrous, or hardly hispid at the base; stems erect, nearly simple; lower leaves broad: superior ones linear or oblong; spikes dense, short; bracteas ovate-lanceolate; tube of corolla exserted; capsule one half longer than the straight calyx. ♃. G. Native of the Cape of Good Hope, near Rondebosch, Ecklon; Katberg, Drège.

Glabrous Buchnera. Pl. ½ to 1 foot.

10 B. gra'cilis (R. Br. prod. 437.) stem simple, glabrous; lower leaves obovate: superior ones oblong, all obtuse and entire; spike loose; bracteas ciliated, one half shorter than the calyx; top of capsule exserted. ♃. G. Native of New South Wales, near Port Jackson.

Slender Buchnera. Pl.

11 B. aspera'ta (R. Br. prod. p. 438.) very scabrous; lower leaves lanceolate-oblong, few-toothed: superior ones linear-lanceolate, quite entire; bracteas lanceolate-ovate, one half shorter than the calyx; fructiferous calyx oblique at top; capsule inclosed. ♃. S. Native of New Holland, on the north coast, within the tropic.

Var. β, angustifòlia (Benth. l. c.) leaves narrower. ♃.? S. Native of Goulburn Island, Cunningham.

Var. γ, tomentòsa; plant rather tomentose; lower leaves oblong, obtuse, coarsely toothed: superior ones linear, obtuse, quite entire; stem much branched.—Native of Java, in grassy inundated places. Buchnèra tomentòsa, Blum. bijdr. p. 740.

Rough Buchnera. Pl. 1 to 2 feet.

12 B. urticæfòlia (R. Br. prod. 437.) scabrous, smoothish or pubescent; lower leaves approximate, oblong, obtuse, toothed, as well as the middle ones, which are lanceolate and distant; spike loose; bracteas lanceolate, ciliated, one half shorter than the calyx; tube of corolla about twice as long as the calyx; top of capsule exserted. ♃. S. Native of New Holland, on the east coast, about Port Curtis, within the tropic.

Nettle-leaved Buchnera. Fl. July, Aug. Clt. 1824. Pl. 1 to 2 feet.

13 B. hi'spida (Hamilt. ex D. Don, prod. fl. nep. p. 91.) hispid from long hairs, nearly simple, leafy at the base; leaves oblong, toothed a little: superior ones linear; spike lax, many-flowered; tube of corolla hardly exserted. ⊙. S. Native of Gambia, ex herb. Hook.; mountains of the East Indies, Wall., Royle, &c.

Hispid Buchnera. Fl. July, Oct. Clt. 1818. Pl. 1 foot.

14 B. America'na (Lin. spec. 879.) pilosely hispid, very scabrous, or at length glabrous; stem nearly simple, leafy at the base; leaves oblong or lanceolate, a little toothed: superior ones linear; spike rather loose; tube of corolla about twice the length of the calyx; fructiferous calyx straight. ⊙. G. Native of North America; Southern States, to St. Louis, Drummond; Mexico and Panama. Plant very variable.

American Buchnera. Fl. June, Aug. Clt. 1733. Pl. 1 foot.

15 B. macra'ntha (Benth. l. c. p. 366.) pubescently scabrous; leaves lanceolate, subdentate, remote; spike rather loose; tube of corolla hairy, 5 times longer than the calyx. ⊙. S. Native of Sierra Leone. Habit of *B. Americàna*. Calyx covered with clammy hairs. Corolla about an inch long; lobes of the limb large and broad.

Long-flowered Buchnera. Pl. 1 to 1½ foot.

16 B. pusi'lla (H. B. et Kunth, nov. gen. amer. 2. p. 340.) hispidly scabrous; stem nearly simple, and nearly terete; leaves nearly opposite: lower ones obovate-oblong: superior ones linear, quite entire, 1-nerved; spike solitary, calyx shorter than the tube of the corolla, but exceeding the capsule. ⊙. H. Native of New Granada. Flowers subdistich.

Least Buchnera. Pl. 1 to 4 inches.

17 B. argu'ta (Juss. in nov. ann. du. mus. 3. p. 374.) hispidly scabrous; stem branched, terete; radical leaves lanceolate-oblong, obtuse, subrepand: rameal ones linear, entire, sessile, obtuse, alternate and nearly opposite; spikes solitary, terminal; bracteas ovate, acute, one half shorter than the cylindrical arched calyx. ⊙. H. Native of the island of Timor. Corolla glabrous, bluish-purple. Said to be nearly allied to *B. tomentòsa*, Blume.

Sharp Buchnera. Pl. 2 to 3 feet.?

18 B. di'sticha (H. B. et Kunth, l. c.) hispidly scabrous; stem branched, subtetragonal; leaves nearly opposite, linear, quite entire, 1-nerved; spike solitary, distich; calyx equalling the tube of the corolla. ⊙. S. Native near Santa Fe de Bogota. Corollas blue.

Distich-flowered Buchnera. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

19 B. longifòlia (H. B. et Kunth, l. c. p. 340.) smoothish; stem branched, terete, rather scabrous; lower leaves opposite, narrow-linear, elongated, quite entire, 3-nerved, rough from callosities; spike solitary; calyx shorter than the tube of the corolla. ⊙. S. Native along with the preceding. Corolla blue. Leaves 4-5 inches long.

Long-leaved Buchnera. Pl. 2 to 3 feet.

20 B. lithospermifòlia (H. B. et Kunth, l. c. p. 341.) hispidly scabrous; stem simple, nearly terete, somewhat trigonal at top; lower leaves nearly opposite, linear, almost quite entire, 3-nerved; spike solitary; calyx 3 times shorter than the corolla, and about equal in length to the capsule. ⊙. S. Native on the dry banks of the river Magdalena, near Melgar and Picala; also on the plains of Santa Fe de Bogota. Corolla blue or violaceous.

Lithospermum-leaved Buchnera. Pl. $1\frac{1}{2}$ foot.

21 B. ternifòlia (H. B. et Kunth, l. c. p. 341.) hispidly scabrous; stem simple, trigonal; lower leaves 3 in a whorl, lanceolate, linear, remotely serrated towards the apex, 3-nerved; spike solitary; tube of corolla exceeding the calyx a little. ⊙. S. Native along with the preceding. Corolla violaceous.

Tern-leaved Buchnera. Pl. $1\frac{1}{2}$ foot.

22 B. virga'ta (H. B. et Kunth, l. c. p. 342.) hispidly scabrous; stem branched at the base; branches twiggy, somewhat tetragonal; leaves opposite, lanceolate-linear, quite entire, 3-nerved; spikes panicled; calyx one half shorter than the tube of the corolla, but about twice as long as the capsule. ♃.? ⊙.? S. Native of New Andalusia, on the mountains of Cocollar and Tumeriquiri, at the altitude of 540 hexapods. Corolla blue.

Twiggy Buchnera. Pl. 1 to $1\frac{1}{2}$ foot.

23 B. ròsea (H. B. et Kunth, l. c.) hispidly scabrous; stems somewhat tufted, simple, nearly terete; lower leaves opposite, lanceolate, bluntish, a little toothed at top, 3-nerved; spikes numerous, crowded. ♃. S. Native of temperate places near Caraccas, at the altitude of 430 hexapods. Corolla rose-coloured.

Rose-coloured-flowered Buchnera. Pl. $1\frac{1}{2}$ to 2 feet.

24 B. macroca'rpa (H. B. et Kunth, l. c.) hispidly scabrous; stem simple, nearly terete; lower leaves opposite, lanceolate, acute, narrowed at the base, remotely toothed towards the apex; spike solitary; calyx shorter than the tube of the corolla and capsule. ♃. S. Native of New Andalusia. Leaves 3-nerved. Corolla blue.

Long-fruited Buchnera. Pl. 2 feet.

25 B. amethy'stina (Cham. et Schlecht, in Linnæa, 2. p. 588.) hispidly scabrous; stem simple, leafy at bottom; spike loose, few-flowered; outer bractea ovate, acute; teeth of calyx short, nearly equal. ♃. S. Native of tropical Brazil, Sello. Bracteas equal, acute: lateral ones lanceolate. Stem nearly naked at top, but leafy at bottom. Corollas blue.

Amethyst-flowered Buchnera. Pl. $\frac{1}{2}$ to $1\frac{1}{2}$ foot.

26 B. lobelioi'des (Cham. et Schlecht, l. c. p. 589.) hispidly scabrous; stem simple, leafy at bottom; spike loose, many-flowered; outer bractea lanceolate, very acute; teeth of calyx unequal: the two front ones the largest. ♃. H. Native of tropical Brazil, Sello. Upper part of stem naked. Leaves in some specimens toothed, and in others quite entire.

Lobelia-like Buchnera. Pl. $\frac{3}{4}$ to $1\frac{1}{2}$ foot.

27 B. lavandula'cea (Cham. et Schlecht, l. c.) stem simple, leafy at bottom; leaves quite entire, somewhat plicately nerved; spike dense-flowered. ♃. H. Native of tropical Brazil, Sello.

Lavender-leaved Buchnera. Pl. 1 to 3 feet.

* * *Spike dense, imbricate, tetragonal.*

28 B. stri'cta (Benth. in Hook. comp. p. 367.) smoothish; leaves linear, erect, strict; spike tetragonal, imbricated, nearly glabrous; bracteas ovate-lanceolate, acute, naked, about equal in length to the calyx. ♃. G. Native of China, Lord Mulgrave, in herb. Banks. This species has not the large lower leaves of the 3 following; the stem is simple, ex Benth.

Strict Buchnera. Pl. $\frac{3}{4}$ foot.

29 B. crucia'ta (Hamilt. ex D. Don, prod. fl. nep. p. 91.) downy; radical leaves obovate: lower cauline ones oblong: superior cauline ones linear; spike tetragonal, imbricated, downy; bracteas ovate, ciliated, shorter than the calyx. ♃. G. Native of the mountains of Nipaul and Prome, Wall. Stem and leaves of *B. hispida*. Calyx nearly cylindrical. Spike about an inch long. Radical leaves toothed: cauline ones entire.

Cruciate Buchnera. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

30 B. tetra'sticha (Wall. ex Benth. scroph. ind. p. 41.) pubescent or smoothish, tall; leaves oblong or lanceolate, obtuse, quite entire; spike tetragonal, imbricated; bracteas broad-ovate, about equal in length to the calyx. ♃. S. Native of Burma, at Moalmyne, on the banks of the Salian, Wall. Calyx much depressed. Leaves numerous. Spikes 2 inches long.

Four-rowed-spiked Buchnera. Pl. 2 feet.

31 B. tetragòna (R. Br. prod. p. 437.) glabrous, tall; leaves oblong or lanceolate, few-toothed; spike tetragonal, imbricate, glabrous; bracteas broad-ovate, exceeding the calyx. ♃. G. Native of New Holland, on the north coast, within the tropic, R. Br.; Goulburn Island, Cunningh. This differs from *B. tetrásticha* besides its smoothness, in the spike being much less densely imbricate, and the leaves more distant on the stem, ex Benth.

Tetragonal-spiked Buchnera. Pl. 1 to 2 feet.

Cult. All the species grow freely in any light rich soil, and are readily increased by cuttings and seeds.

LXXVII. RHAMPHICA'RPA (from ῥαμφος, *rhamphos*, a beak; and καρπος, *carpos*, a fruit; in reference to the mucronate or beaked capsule.) Benth. in Hook. comp. 1. p. 368. Buchnèra species, Wall.—Gerárdia species, Lin. suppl. 279.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-cleft. Corolla with a long, exserted, slender tube; limb spreading, 5-parted; segments obovate, nearly equal. Stamens didynamous, inclosed. Capsule obliquely mucronate or beaked; valves coriaceous, entire.—Erect, branched, glabrous herbs, becoming black on drying. Lower leaves opposite: superior ones alternate, narrow, entire, or pinnate. Flowers on short pedicels, racemose, usually bractless.

1 R. longiflòra (Benth. l. c.) leaves pinnate, narrow, linear; tube of corolla straight, much longer than the limb; beak of capsule a little recurved. ⊙. S. Native of Senegal, in the Isle of St. Louis; Indian Peninsula, Jacquemont. Buchnèra longiflòra, Wight, mss. A small, erect, branching annual.

Segments of leaves few and distant. Peduncles usually shorter than the calyx, and naked, sometimes longer, with a pair of bracteas. Corolla white, drying bluish; tube 1½ inch long; lobes of limb short, broad, truncate or emarginate.

Long-flowered Rhamphicarpa. Pl. ½ foot?

2 R. tubulòsa (Benth. l. c.) leaves lanceolate-linear, entire; limb of corolla a little shorter than the tube, which is a little incurved; capsule truncate, with a short beak. ⊙.? G. Native of the Cape of Good Hope, in the eastern portion of the Uitenhage district, Ecklon, Drège, &c. Plant glabrous, erect, a little branched. Peduncles rather longer than the calyx. Corolla white, drying bluish; tube an inch long, slightly curved about the middle; lobes of limb obovate, entire, ex Benth.

Tubular-flowered Rhamphicarpa. Pl. 1 foot.

3 R. curviflòra (Benth. l. c.) leaves lanceolate-linear, entire; limb of corolla rather shorter than the tube, which is incurved; capsule acinaciform. ⊙.? S. Native of Madagascar and Mosambique, Forbes. Habit of *R. tubulòsa*. Leaves narrower. Divisions of the calyx longer; tube of corolla more curved, with a larger limb. Capsule very oblique.

Curved-flowered Rhamphicarpa. Pl. 1 foot.?

Cult. For culture and propagation see *Polycarèna*, p. 588.

LXXVIII. CY'CNIUM (probably from κυκνος, *cycnos*, a swan; but the application is not evident.) E. Meyer, mss. ex Benth. in Hook. comp. 1. p. 368.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx bibracteate at the base, long-tubular, 5-cleft at apex. Corolla with a cylindrical, straight tube, and a deeply 5-cleft spreading limb; segments ovate, entire. Stamens didynamous, inclosed. Capsule fleshy, indehiscent.?—Rigid scabrous herbs, natives of South Africa, becoming blackish on drying. Leaves opposite, or the superior ones are alternate, coarsely toothed. Flowers axillary, or racemose.

1 C. Addone'nse (E. Meyer, mss. ex Benth. l. c.) stem procumbent; leaves ovate, or oblong; flowers sessile, axillary; tube of corolla more than twice as long as the calyx. ⊙.? G. Native of the Cape of Good Hope, in the Addo country, in the Uitenhage district, Drège and Ecklon. The whole plant covered with stiff short hairs. Leaves sessile, cuneated at the base. Calyx more than an inch long, opening at the base as the capsule swells; divisions foliaceous. Corolla white, tube 2½ inches long; limb flat, 1½ inch in diameter. Capsule oval, half an inch long, ex Bentham.

Addo Cycnium. Pl. 1 foot. *?*

2 C. racemòsum (Benth. l. c.) stem erect; leaves lanceolate; flowers pedicellate, racemose; tube of corolla hardly equal in length to the calyx. ⊙.? G. Native of the Cape of Good Hope, near Siloh, on the Klipplaat river, on the eastern side of the Witsenberg, in Tambukiland. Habit resembling *Melásma scàbra*, or *Rhamphicárpa tubulòsa*. Stem nearly simple, scabrous. Leaves 1½ to 2 inches long, with a few teeth, contracted at the base, nearly all alternate. Pedicels short. Bracteas linear. Tube of calyx 9-10 inches long, striated; lobes lanceolate-subulate. Limb of corolla 1½ inch in diameter, ex Benth.

Racemose-flowered Cycnium. Pl. 1 foot.

Cult. For culture and propagation see *Polycarèna*, p. 588.

LXXIX. NYCTERI'NIA (from νυκτερινος, *nycterinos*, of, or belonging to the night; the flowers expand, and are very fragrant in the evening.) D. Don, in Sweet, fl. gard. n. s. vol. 3. t. 239. Benth. in Hook, comp. 1. p. 369.—Erìnus species of Lin. and other authors.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx ovate-tubular, shortly 5-toothed, bilabiate, or bipartite. Corolla permanent; tube elongated, at length cleft at the base; throat equal, often hispid; limb spreading, almost equally 5-parted; segments bifid, or entire. Stamens didynamous: superior ones inclosed in the tube, with oblong, erect anthers: lower ones inserted at the throat, with smaller, transverse, usually sterile anthers,which are sometimes altogether abortive. Capsule coriaceous, or membranous; valves bifid at apex.—Herbs or under shrubs natives of South Africa, more or less clammy, and often becoming blackish on drying. Lower leaves opposite: superior ones alternate, usually few-toothed: floral ones often smaller, entire, adpressed to the calyx, or sometimes adnate to it. Flowers sessile, interruptedly or densely spicate.

§ 1. *Segments of corolla bifid; tube clothed with fine down. Leaves oblong, linear, or lanceolate.*

1 N. coria'cea (Benth. l. c.) suffruticose; floral leaves broad-lanceolate, obtuse, toothed, thick, coriaceous, villous, about twice as long as the calyx, which is coriaceous and villous; spike elongated. ♄. G. Native on mountains about Cape Town. In habit it comes near to *N. divaricàta*, but is much larger and more rigid, and has the flowers of *N. spathàcea*. Capsule larger than in any other species, and almost woody.

Coriaceous-calyxed Nycterinia. Shrub ½ to 1 foot.

2 N. spatha'cea (Benth. l. c.) suffruticose, erect; leaves obovate, or oblong-spatulate: lower ones 3-nerved: floral ones stem-clasping, broad-lanceolate, or oblong, obtuse, almost quite entire, 1-nerved, all coriaceous, pubescent on the margins and nerves, the rest glabrous; spike elongated; calyx elongated, a little shorter than the floral leaves. ♄. G. Native of the Cape of Good Hope, in Tambukiland, near Siloh, east of the Winterberg, and on the Katriviersberg, Ecklon. At the top of the Witberg, Drège. Floral leaves spathe-formed, near an inch long, apparently coloured. Spike much lengthened after florescence. Tube of corolla 1½ inch long.

Spathaceous-leaved Nycterinia. Shrub 1 foot.

3 N. marí'tima (Benth. l. c.) suffruticose, erect, nearly glabrous; leaves lanceolate, or oblong, obtuse, almost quite entire: floral ones broad-lanceolate, exceeding the calyxes a little, all rather coriaceous, glabrous; spike elongated, dense, many-flowered. ♄. G. Native of the Cape of Good Hope, in the Uitenhage district; and on the sea-coast near the Zeekoe river, Thunberg; near Kachu, Drège. Erìnus marítimus, Lin. suppl. 287. syst. 571. Thunb. fl. cap. 474. Flowers colour of those of *N. lychnídea*. This species comes near *N. spathàcea*, but is taller. Perhaps a variety of *N. lychnídea*.

Sea-side Nycterinia. Shrub ½ to 1 foot.

4 N. lychni'dea (D. Don, in Sweet, fl. gard. n. s. vol. 3. t. 239.) suffruticose: branches clothed with adpressed villi; leaves oblong-linear, few-toothed, and quite entire, 1-nerved, smoothish: floral ones stem-clasping, broad-lanceolate, or oblong, obtuse, few-toothed, and quite entire, having the margins and nerves ciliated; spike elongated; calyxes shorter than the floral leaves. ♄. G. Native of the Cape of Good Hope, probably along the sea-coast; in the Amaponda country, between the river Uintenda and Umzimcoolu, Drège. Erìnus lychnídeus, Lin. suppl. 287. Ker. bot. reg. 748. Sims, bot. mag. 2504. Leaves more or less fleshy, the larger ones always toothed. Corolla yellowish, white inside, but purplish outside.

Lychnidea Nycterinia. Fl. May, July. Clt. 1776. Shrub ½ to 1 foot.

5 N. Cape'nsis (Benth. l. c. p. 370.) herbaceous, hard; stem erect, adpressedly villous; lower leaves lanceolate: superior ones or all linear, few-toothed, or quite entire, 1-nerved; margins and nerves usually ciliated: floral leaves oblong-lanceolate, quite entire, hardly exceeding the calyxes; spikes oblong. ⊙.? G. Native of the Cape of Good Hope, on hills from the Cape to Fort Beaufort, in the neutral territory, Ecklon and Drège,

&c.; also northward, in Namaqualand and New Hantam, Drège. Erìnus Capénsis, Lin. mant. 252. Erìnus Æthiòpicus, Thunb. fl. cap. 473. This is apparently a very common species, distinguished from *N. lychnídea* by its herbaceous, probably annual root, upright stems, and smaller leaves. Spikes usually short, and few-flowered, occasionally the central one acquires a considerable length. Corolla slender, hardly an inch and a quarter long, ex Benth.

Var. α, *hirsùta* (Benth. l. c.) branches more villous; leaves hairy on both surfaces. ⊙. ? G.

Var. β, *glabrúscula* (Benth. l. c.) leaves smoothish. ⊙. ? H.

Var. γ, *foliòsa* (Benth. l. c.) leaves smaller, more numerous; spike few-flowered.

Var. δ, *tenuifòlia* (Benth. l. c.) leaves narrow-linear, and more glabrous.

Cape Nycterinia. Pl. ½ to 1 foot.

6 N. longiflòra (Benth. l. c.) herbaceous; stem adpressedly pilose; leaves linear, pinnatifidly toothed: floral ones lanceolate, toothed, clothed with rather clammy down; spike short. ♃. ? G. Native of the Cape of Good Hope, in Kamiesbergen, in the north Clanwilliam district, Drège. This differs from *N. Capénsis* by its deeply toothed leaves, and from *N. dentàta* by their narrowness, from both by the corolla being 18-20 lines long.

Long-flowered Nycterinia. Pl. ½ to 1 foot.

7 N. dentàta (Benth. l. c.) herbaceous, erect; stem adpressedly pilose; leaves oblong-lanceolate, or elliptic, narrowed at the base, coarsely toothed, or half pinnatifid, clothed with clammy pubescence, as well as the floral ones, which are broad-lanceolate; spike short, dense. ♃. ? G. Native on the mountains near Cape Town and Paarl, Ecklon and Drège, &c. Habit of *N. Capènsis*, but is distinguished from it by its broad, deeply toothed leaves, often narrowed into the petioles at the base.

Var. β, *hùmilis* (Benth. l. c.) plant more humble. ♃. ? G. Native on the Zwarteberg, Ecklon; and Nieuweveld mountains, Drège.

Toothed-leaved Nycterinia. Pl. ½ to 1 foot. ?

8 N. ovàta (Benth. l. c.) suffruticose, ? divaricate, or procumbent, clothed with clammy villi; leaves ovate, coarsely toothed, villous on both surfaces, as well as the floral ones, which are oblong; spike short. ♄. G. Native of Caffreland, at Witbergen. Leaves very blunt, narrowed at the base. Spike apparently interrupted. Corolla 1½ inch long.

Ovate-leaved Nycterinia. Shrub procumbent.

9 N. pùmila (Benth. l. c.) humble, much branched; leaves oblong-linear, deeply and remotely toothed: floral ones similar, twice or thrice longer than the corolla, somewhat dilated at the base; flowers axillary, hardly spicate; tube of corolla hardly downy; capsules ovate, coriaceous.—Native of the Cape of Good Hope, in the Nieuweveld or Kowp, Drège. A remarkable species, with somewhat the appearance of *Castillèja fissifòlia*, scarcely 3 inches high, ex Benth.

Dwarf Nycterinia. Shrub ¼ foot.

§ 2. *Segments of corolla bifid; tube glabrous. Leaves spatulate.*

10 N. selaginoìdes (Benth. l. c.) humble, branched at the base; leaves spatulate: floral ones dilated at the base; throat of corolla crowned by rigid hairs; lower stamens abortive. ⊙. G. Native of the Cape of Good Hope, on the sandy plains on the west coast from the Cape flats northward, Ecklon. Erìnus selaginoìdes, Thunb. fl. cap. p. 475. Erìnus Africànus, Herb. un. itin. p. 301, but not of Lin. A low annual, generally 3-5 inches high, usually covered with spreading, clammy hairs, and dries less black than the species of the first section. Lower leaves obovate: upper ones oblong, or linear-spatulate, entire, or with a very few teeth: floral ones adhering at the base to the calyx, spreading at top. Flowers rather distinct, especially at the base of the spike. Calyx and capsules membranous. Corolla 9-11 lines long, ex Benth.

Var. α, *villòsa* (Benth. l. c.) villous.

Var. β, *glàbra* (Benth. l. c.) glabrous. ⊙. G. On the Olifants and Zwartdoorn rivers, Drège.

Var. δ, *parviflòra* (Benth. l. c.) corolla scarcely 5 lines long, concealed under the floral leaves. ⊙. G. Native of the Cape of Good Hope, but the locality is not mentioned.

Selago-like Nycterinia. Pl. ¼ to ½ foot.

11 N. Africàna (D. Don, in Sweet, fl. gard. n. s. vol. 3. p. 239.) humble, branched at the base; leaves opposite: floral ones oblong-spatulate; throat of corolla scarcely pilose; stamens 4, all antheriferous. ⊙. ? G. Native of the Cape of Good Hope, in the Carro and Carroid districts; Hexriver; Winterbergen and Sneeuwebergen, Ecklon, Drège; Hermanns Kraal, in Albany, Ecklon. Erìnus Africànus, Lin. spec. 878. Thunb. fl. cap. 474.—Burm. afr. p. 139. t. 50. f. 1. Habit of *N. selaginoìdes*. Leaves rather more collected at the base of the stem. Spike more dense, with the floral leaves more prominent, and readily distinguished by the 2 lower anthers slightly projecting from the mouth of the tube.

African Nycterinia. Pl. ½ to 1 foot.

§ 3. *Segments of the limb of the corolla entire; tube glabrous.*

12 N. divarìcata (Benth. l. c.) humble, stiff, branched at the base, pubescently hairy; lower leaves on long petioles, obovate: upper floral leaves lanceolate, toothed; spikes elongated. ♄. ? G. Native of the Cape of Good Hope, on sandy hills and plains near Cape Town. Manùlea divaricàta, Thunb. fl. cap. 468. A common plant in collections, drying black. Corolla slender, about 10 lines long. Capsule rather coriaceous.

Divaricate Nycterinia. Pl. dwarf.

13 N. pedunculàris (Benth. l. c.) humble, leafy at the base, branched; lower leaves petiolate, ovate: cauline leaves few, lanceolate, a little toothed; spikes on long peduncles, head formed, few-flowered.—Native of the Cape of Good Hope; Theopolis, in Albany, Ecklon. Leaves almost all collected at the base of the stem, which is scape-formed. Branches 4-6 inches long. Flowers like those of *N. divaricàta*. Capsule somewhat coriaceous.

Var. α, *hirsùta* (Benth. l. c.) plant hairy.

Var. β, *glabriúscula* (Benth. l. c.) plant nearly glabrous. Native at Haazenkraalsrivier, Drège.

Peduncled Nycterinia. Pl. dwarf.

14 N. pusílla (Benth. l. c.) erect, nearly simple; leaves almost all radical, petiolate, broadly ovate: floral ones oblong-linear, or spatulate; flowers few, distant, or rather approximate.—Native of the Cape of Good Hope, between Hol river and Micrencasteel, in the North Clanwilliam district. More slender than *N. pedunculàris*, and the branches are not scape-formed. Buchnèra divaricàta, Lin. soc. herb. ?

Small Nycterinia. Pl. ¼ to ½ foot. ?

15 N. villòsa (Benth. l. c.) stem erect, branched, leafy; leaves oblong-linear, obtuse, almost quite entire; spikes interrupted at the base, dense at apex.—Native of the Cape of Good Hope; Haazenkraalsrivier, Drège. Erìnus villòsus, Thunb. fl. cap. 474. ? Taller than the three last, and scarcely blackens on drying. Capsule almost membranous. Stamens all antheriferous and inclosed, as in the three last species, ex Benth.

Villous Nycterinia. Pl. ¼ to ½ foot. ?

Cult. All the species of *Nycterínia* are worth cultivating for the sake of the beauty and sweet scent of their flowers. They grow well in a mixture of peat and sand, or vegetable mould;

and cuttings will strike root readily in the same kind of earth under a hand glass; or they may be increased by seeds.

LXXX. POLYCARE'NA (from *πολυς, polys*, many; and *καρηνον, karenon*, a head, in reference to the heads of flowers.) Benth. in Hook. comp. 1. p. 371. Buchnèra and Manùlea species, Lin. and Thunb.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx membranous, bilabiate, bipartite in the fructiferous state. Corolla permanent; tube at length cleft; throat broader; limb spreading, nearly equally 5-cleft. Stamens didynamous, inserted towards the top of the tube; anthers all similar, exserted. Capsule membranous.—Small annual herbs, natives of South Africa, usually much branched, more or less clammy, hardly becoming blackish on drying. Spikes terminal, usually capitate in the floriferous state, but generally elongated in the fructiferous state. Flowers almost sessile. Floral leaves adnate to the very short pedicels.

* *Tube of corolla 2 or 3 times longer than the calyx.*

1 P. Cape'nsis (Benth. l. c.) clothed with clammy down; leaves linear, or oblong, entire, and few-toothed; spikes rather loose, numerous, corymbosely panicled; tube of corolla 3 times as long as the calyx. ⊙. G. Native of Cape District, Ecklon, Drège, &c. Buchnèra Capénsis, Lin. mant. 88. Manùlea Capénsis, Thunb. fl. cap. 467. Flowers yellow. Tube of corolla ½ an inch long; limb larger than in any of the other species. Generally all 4 anthers are exserted.

Cape Polycarena. Pl. ½ foot.

2 P. gilioìdes (Benth. l. c. p. 372.) clothed with clammy pubescence; leaves linear, a little toothed: floral ones about equal in length to the calyxes; spikes downy, few-flowered; tube of corolla twice as long as the calyx. ⊙. G. Native of the Cape of Good Hope, in sands near Paarl, Drège. Habit of *Gìlia laciniàta*, more slender than *P. Capénsis*, with the flowers hardly half the size, Benth.

Gilia-like Polycarena. Pl. ¼ to ½ foot.

* * *Tube of corolla rather shorter than the calyx.*

3 P. au'rea (Benth. l. c.) clothed with clammy pubescence; leaves linear, quite entire, or a little toothed: floral ones linear-lanceolate, about equal in length to the calyxes; spikes short, dense, pubescent; limb of corolla longer than its tube. ⊙. G. Native of the Cape of Good Hope. Buchnèra aúrea, Herb. Banks, mss. Manùlea Æthiòpica, Thunb. fl. cap. 467,? exclusive of the syn. of Lin. Flowers golden yellow, above twice the size of those of *P. pubèscens*, by which it differs from that species, as well as in its narrow, erect leaves.

Golden-flowered Polycarena. Pl. ½ foot.

4 P. pube'scens (Benth. l. c.) erect, small, clothed with clammy pubescence; lower leaves subovate: superior ones oblong, or linear, quite entire, and toothed: floral ones ovate, or lanceolate, about equal in length to the flowers; bracteas and capsules downy; limb of corolla about equal in length to its tube. ⊙. G. Native of the Cape of Good Hope, at Rodesand, Haazenkraalsrivier, and Zilverfontein, in Namaqualand. Varies in the leaves being entire and toothed. Spikes short, and dense.

Downy Polycarena. Pl. ½ foot.?

5 P. capilla'ris (Benth. l. c.) smoothish; lower leaves obovate, or oblong: rameal ones linear: floral ones linear, obtuse, equalling the calyxes in length, and capsules, glabrous; fructiferous spikes loose. ⊙. G. Native of the Cape Flats and Zwarteland. Manùlea capillàris, Lin. syst. 569. suppl. 285. Thunb. fl. cap. p. 468. Branches slightly pubescent. Calyx about a line long. Flowers small, yellow.

Capillary Polycarena. Pl. ½ foot.

6 P. rariflòra (Benth. l. c.) clothed with fine pubescence; leaves narrow-linear, almost quite entire, or the lower ones are oblong: floral ones exceeding the flowers; spikes few, few-flowered, nearly glabrous; limb of corolla shorter than its tube. ⊙. G. Native of the Cape of Good Hope. Habit of the preceding, but the leaves are narrower, and the flowers much smaller.

Few-flowered Polycarena. Pl. ¼ to ½ foot.

7 P. plantagi'nea (Benth. l. c.) erect, small, clothed with clammy pubescence; lower leaves obovate: superior ones oblong, quite entire, and few toothed: floral ones lanceolate, obtuse, exceeding the calyxes; corolla small, having the limb shorter than its tube. ⊙. G. Native of the Cape of Good Hope, on rocks at Modderfontein and Zilverfontein, in Namaqualand, Drège. Spikes forming small leafy heads, with a few, detached, axillary flowers, lower down in the stem. Flowers smaller than in any other plant belonging to tribe *Buchnèreæ*.

Plaintain-like Polycarena. Pl. ¼ foot.

8 P. interte'xta (Benth. l. c.) procumbent, clothed with clammy pubescence; leaves petiolate, small, ovate-toothed, downy: floral ones ovate-oblong, obtuse, scarcely exceeding the calyx; spikes globosely capitate, somewhat fastigiate. ⊙. G. Native of the Cape of Good Hope. Manùlea intertéxta, Banks, herb. Flowers very small. Leaves more deeply toothed than any other species.

Interwoven Polycarena. Pl. procumbent.

Cult. The species are all beautiful tender annuals. The seeds of them should be reared on a hot-bed in early spring, and about the middle or end of May some of the young plants may be set out in the open border, in a warm, sheltered situation; and others may be grown in pots, and placed in the green-house.

LXXXI. PHYLLOPO'DIUM (from *φυλλον, phyllon*, a leaf; and *πους ποδος, pous podos*, a foot; in reference to the floral leaves being adnate to the pedicels or flower stalks.) Benth. in Hook. comp. 1. p. 372.—Manùlea species, Lin. and Thunb.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx nearly equally 5-parted; segments sub-connate at the base, with membranous margins. Corolla funnel-shaped; tube shorter than the calyx; limb 5-parted; segments entire, nearly equal. Stamens didynamous, exserted; anthers all similar. Capsule membranous.—Harsh annual herbs, natives of South Africa, generally procumbent at the base, rarely erect, usually becoming blackish on drying. Floral leaves adnate to the pedicels, which are very short. Flowers small, sessile, orange-coloured, or usually bluish or purplish.? Spikes terminal, usually capitate, more or less elongated in the fructiferous state.

1 P. cuneifòlium (Benth. l. c. p. 373.) stem pubescently hairy; lower leaves petiolate, ovate, or obovate, deeply toothed: superior ones oblong, cuneated: floral ones hardly exceeding the calyxes; floriferous spikes capitate: fructiferous ones oblong-cylindrical, dense, many-flowered. ⊙. G. Native of the Uitenhage district, about Algoa Bay. Stem woody, though annual. Leaves thickish, glabrous. Divisions of calyx joined to the middle by a membrane. Habit of *Selàgo*, Benth.

Wedge-leaved Phyllopodium. Pl. ½ foot.

2 P. capita'tum (Benth. l. c.) stem hairy; leaves ovate-lanceolate, or oblong, hairy: superior ones small, linear: floral ones ovate-lanceolate, hairy: outer ones exceeding the calyxes; spikes capitate, nearly globose, or at length oblong, dense, many-flowered. ⊙. G. Native of the Cape of Good Hope, in the western districts, from Cape Town to Olifant's river in Clanwilliam. Manùlea capitàta, Lin. syst. 569. suppl. 285. Thunb. fl. cap. 469. More hairy and less branchy than the preceding. Leaves narrower, and less toothed. Spikes very dense, and

hardly bigger than a large pea. External floral leaves forming a kind of involucrum to the young heads of flowers. Divisions of the calyx obtuse, deeply cleft. Corolla minute, reddish?

Capitate-flowered Phyllopodium. Fl. July, Aug. Clt. 1820. Pl. $\frac{1}{2}$ to 1 foot.

3 P. HETEROPHY'LLUM (Benth. l. c.) plant small, hairy, branched at the base; branches erect; lower leaves petiolate, ovate, a little toothed: superior ones few, linear: floral ones linear-lanceolate: outer ones exceeding the ciliated calyxes; spikes capitate, becoming at length oblong and rather loose in the fructiferous state; stamens shorter than the limb of the corolla. ⊙. G. Native near the Cape, from Zwartland to Caledon. Manùlea heterophýlla, Lin. syst. 569. suppl. 285. Thunb. fl. cap. 469. Perhaps a variety of the preceding; but much more slender, with looser heads of flowers. Corolla apparently yellow, Benth.

Various-leaved Phyllopodium. Pl. $\frac{1}{2}$ foot.

4 P. PU'MILUM (Benth. l. c.) erect, smoothish; leaves petiolate, ovate: superior ones oblong: floral ones ovate, very blunt, downy, equal in length to the calyxes; spikes capitate, few-flowered; stamens equalling the limb of the corolla. ⊙. G. Native of the Cape of Good Hope, at Groen river, in Clanwilliam. More slender than the last, with smaller heads, and rather larger flowers.

Dwarf Phyllopodium. Pl. $\frac{1}{2}$ foot.

5 P. DIFFU'SUM (Benth. l. c.) smoothish, or scarcely hairy, much branched; leaves ovate or oblong, toothed, narrowed a long way into the petioles: floral ones linear, hardly exceeding the calyxes; spikes elongated, loose. ⊙. G. Native of the Cape of Good Hope, in the Uitenhage district. Branches procumbent. Flowers not so small as in the other species.

Diffuse Phyllopodium. Pl. procumbent, a foot long.

6 P. BRACTEA'TUM (Benth. l. c.) much branched, diffuse; branches downy; leaves petiolate, ovate, toothed, glabrous: floral ones similar; spikes long; flowers all remote; calyxes hardly longer than the petioles of the floral leaves. ⊙. G. Native of the Cape of Good Hope, in the Uitenhage district, near Addo and Enon, Drège; Olifant's river, Ecklon. This species is remarkable for its long loose branches, and especially for the broadly expanded limb of the floral leaves, Benth.

Bracteate-flowered Phyllopodium. Pl. diffuse.

Cult. For culture and propagation see *Polycarèna*, p. 588.

LXXXII. SPHENA'NDRA (from *σφην, sphen*, a wedge; and *ανηρ ανδρος aner andros*, a male; in allusion to the wedge-shaped anthers.) Benth. in Hook. comp. 1. p. 373.—Manùlea species, Thunb. et Lin.—Buchnèra species of Ait.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla deciduous; tube very short; limb rotate; segments 5, roundish, nearly equal. Stamens 4, exserted, somewhat ascending; anthers cuneated, all similar.—An erect shrub, clothed with clammy pubescence. Leaves for the most part opposite, oblong-lanceolate, few-toothed: floral ones free, much shorter than the pedicels, ovate, quite entire, very acute. Stamens by pairs, nearly equal.

1 S. VISCÒSA (Benth. l. c.) ♄. G. Native of the Cape of Good Hope, in the Carro desert and Carroid districts. Buchnèra viscòsa, L'her. stirp. 2. t. 34. Ait. hort. kew. ed. 1st. vol. 2. p. 357. Curt. bot. mag. 7. t. 217. Manùlea viscòsa, Willd. enum. 652. Manùlea cærùlea, Thunb. fl. cap. 467. Flowers purple, bluish, or red. Style exserted.

Clammy Sphenandra. Fl. June, Nov. Clt. 1774. Shrub 1 to 2 feet.

Cult. For culture and propagation see *Nycterínia*, p. 587.

LXXXIII. CHÆNO'STOMA (from *χαινω, chaino*, to gape; and *στομα, stoma*, a mouth; in reference to the wide throat of the corolla.) Benth. in Hook. comp. 1. p. 374.—Manùlea species of Thunb. and Vent.—Buchnèra species, Andr. and Pers.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla deciduous, funnel-shaped or salver-shaped, rarely with a short subcampanulate tube; throat dilated; limb almost equally 5-cleft; segments obovate or roundish. Stamens didynamous; anthers all similar, equal in height to the throat, or exserted.—Herbs or under-shrubs, natives of South Africa, not becoming blackish on drying. Leaves nearly all opposite, toothed, rarely quite entire: floral ones similar, or bractea-formed, free from the pedicels. Flowers axillary or racemose, on longish pedicels. Capsule glabrous.

* *Tube of corolla hardly exserted, or shorter than the calyx.*

1 C. ROTUNDIFÒLIUM (Benth. l. c.) suffruticose, smoothish; leaves small, petiolate, roundish-obovate, deeply toothed, thickish, green on both surfaces; pedicels axillary, a little longer than the glabrous calyx; corolla funnel-shaped; tube shorter than the calyx. ♄. G. Native of the Cape of Good Hope. Branches apparently procumbent. Flowers few, small, towards the summits of the branches.

Round-leaved Chænostoma. Shrub procumbent.

2 C. PAUCIFLÒRUM (Benth. l. c.) suffruticose, pubescent; leaves petiolate, obovate-roundish, toothed, downy on both surfaces; pedicels axillary, rather longer than the calyx, which is hispid; corolla funnel-shaped: tube shorter than the calyx. ♄. G. Native of South Africa, at Nieuweveldsbergen, in Beaufort, Drège; Krakakamma, in Uitenhage, Ecklon.—Nearly allied to *C. rotundifòlia*, but the flowers are nearly twice the size. Drège's specimens are more hairy than Ecklon's, Benth.

Few-flowered Chænostoma. Shrub procumbent?

3 C. CAMPANULA'TUM (Benth. l. c.) suffruticose, villous; leaves ovate, toothed; racemes loose, many-flowered; calyx hispid, with linear-lanceolate segments; corolla subcampanulate, with a very short tube, about twice as long as the calyx. ♄. G. Native of South Africa, at Zuurebergen and Zwartehoogden, in Uitenhage and Albany, Ecklon and Drège; on the Key river, in Tambukiland, Ecklon. Leaves about half an inch long, generally irregularly toothed, and contracted at the base. Stamens very unequal in length; the longer pair rather shorter than the corolla, which appears to be blue.

Campanulate-flowered Chænostoma. Shrub.

4 C. CALYCI'NUM (Benth. l. c.) suffruticose, smoothish; leaves oblong-lanceolate, toothed, glabrous or canescent beneath; calyx smoothish, with subulate segments, hardly one half shorter than the subcampanulate corolla. ♄. G. Native of South Africa, in the Amakosa country, between the rivers Gehau and Bashe, Drège.—Habit almost of *Sphenándra viscòsa*, but more slender, and flowers more numerous. Corolla like that of *C. campanulàtum*, but smaller.

Var. β, laxiflòrum (Benth. l. c.) flowers more loose; calyx much smaller. ♄. G. Native on the rivers Bashe and Windvogelberg. Perhaps a distinct species.

Large-calyxed Chænostoma. Shrub.

5 C. PROCU'MBENS (Benth. l. c.) suffruticose, humble, much branched; leaves oval-oblong, a little toothed, obtuse, green on both surfaces, thickish; racemes few-flowered; pedicels longer than the calyxes; corolla funnel-shaped: tube equal in length to the calyx, or hardly exceeding it. ♄. G. Native of the Cape of Good Hope, on the Fish river, Drège. Branches

apparently prostrate, slightly pubescent towards the extremity; the calyx has also a few hairs, but the rest of the plant is quite glabrous.

Procumbent Chænostoma. Shrub prostrate.

6 C. laxiflòrum (Benth. l. c.) suffruticose, procumbent, subcanescent; branches ascending, fastigiate; leaves oblong-ovate, a little toothed, narrowed a long way at the base, flat; racemes loose; flowers on long pedicels; calyxes glabrous or canescent; corolla funnel-shaped: tube equalling the calyx, or hardly exceeding it. ♄. G. Native of the Cape of Good Hope, near the Keiskamma, Drège. Probably a mere variety of the preceding; but the flowers are larger.

Loose-flowered Chænostoma. Shrub procumbent.

7 C. halimifòlium (Benth. l. c. p. 375.) suffruticose, humble; branches numerous, erect, white; leaves oval-oblong or lanceolate, a little toothed, hoary on both surfaces, flat; racemes loose; flowers on long pedicels; corolla funnel-shaped: tube equalling the calyx in length, or hardly exceeding it. ♄. G. Native of the Cape of Good Hope, in the Karroo desert, near Graafreynet, Ecklon; Steelkloof, Hamerkuil, and plains near Aasvogelberg, Drège. Habit of *Manùlea incàna*. Branches densely leafy at the base. Racemes almost leafless; the floral leaves being very small and entire.

Halimum-leaved Chænostoma. Shrub.

8 C. polya'nthum (Benth. l. c.) herbaceous or suffruticose, much branched at the base; branches downy at top, panicled; leaves ovate, toothed, cuneated at the base: upper ones oblong, glabrous or canescent beneath; racemes loose; calyx hispid; corolla funnel-shaped: tube hardly exceeding the calyx. ♄. G. Native of South Africa, on the Zwartkops river, in Uitenhage, Ecklon; Algoa Bay, Hook. herb. Habit and corolla of *C. laxiflòrum*. Leaves and calyx of *C. campanulàtum*.

Many-flowered Chænostoma. Shrub.

9 C. pu'milum (Benth. l. c.) plant suffruticose, of many stems, glabrous; leaves oblong: superior ones linear, quite entire, or few-toothed; flowers racemose; corolla funnel-shaped: tube hardly longer than the calyx. ♄. G. Native of South Africa, in Uitenhage district, Ecklon; and probably from Algoa Bay. Branches many, erect. Leaves slightly revolute on the margins. Pedicels longer than the calyxes, which are nearly glabrous. Corolla very open, as in all the species of this section.

Dwarf Chænostoma. Shrub $\frac{1}{4}$ to $\frac{1}{2}$ foot.

10 C. denuda'tum (Benth. l. c.) suffruticose; branches glabrous, ascending; leaves distant, linear, quite entire, with revolute edges, glabrous; racemes few-flowered; calyx hispid, hardly shorter than the tube of the corolla, which is funnel-shaped. ♄. G. Native of South Africa, at Langekloof, in George district, Ecklon and Drège. Habit almost of *Aspérula cynánchica*. Calyx of *C. campanulàtum*. Corolla of *C. pùmilum*. Capsule oblong, longer than the calyx.

Naked Chænostoma. Shrub ascending.

* * *Tube of corolla twice or thrice the length of the calyx.*

11 C. revolu'tum (Benth. l. c.) suffruticose, greyish or pubescent; leaves linear, quite entire, with revolute edges; flowers racemose; pedicels hardly longer than the calyx; segments of calyx linear or subulate, about equal in length to the capsule, which is ovate, but 2 or 3 times shorter than the tube of the corolla. ♄. G. Native of South Africa, under the Zwartebergen, from the river Zondereinde to Gaurite river, Ecklon and Drège; and on the Fish river, Dr. Gill. Manùlea revolùta, Thunb. fl. cap. 467. Much branched.

Var. α, glabriúsculum (Benth. l. c.) plant smoothish.

Var. β, pubéscens (Benth. l. c.) plant pubescent. ♄. G. Native on the Cedarbergen, and near Boschkloof, Drège.

Revolute-leaved Chænostoma. Shrub 1 foot.

12 C. glabra'tum (Benth. l. c.) suffruticose, glabrous; leaves linear, quite entire, with revolute margins; flowers racemose; pedicels more than twice as long as the calyx; segments of calyx lanceolate-subulate, rather downy, shorter than the oblong capsule; tube of corolla twice or thrice as long as the calyx. ♄. G. Native of South Africa, at Kerg river, in Tambukiland; and Kannaland, in Zwellendam, Ecklon; and elsewhere, Drège. This differs from *C. linifòlium* in its narrower leaves, longer capsules, and is almost always perfectly glabrous.

Glabrous Chænostoma. Shrub.

13 C. linifòlium (Benth. l. c.) suffruticose; branches hairy at top; leaves oblong-lanceolate, or linear, quite entire, and few-toothed, with subrevolute edges, hairy or smoothish; flowers racemose; pedicels more than twice as long as the calyx; calycine segments glabrous, or scarcely hairy, linear, exceeding the capsule a little, but 3 times shorter than the tube of the corolla. ♄. G. Native of the Cape of Good Hope, on mountains in the Cape district, near Worcester, and near Brackfontein, in Clanwilliam, Ecklon and Drège. Manùlea linifòlia, Thunb. fl. cap. 466. ? An intermediate species between *C. glabràtum* and *C. Æthiópicum*; and probably only a variety of the latter.

Flax-leaved Chænostoma. Fl. July, Aug. Clt. 1820. Shrub $\frac{1}{2}$ to 1 foot.

14 C. Æthiópicum (Benth. l. c.) suffruticose; branches numerous, floriferous, fastigiate; leaves oblong or ovate, few-toothed, smoothish; racemes short, loose, subcorymbose; calyx hispid, 2-3 times shorter than the tube of the corolla. ♄. G. Native of South Africa, in the Cape district. Buchnèra Æthiópica, Lin. mant. 251. but not of Thunb. Intermediate between *C. linifòlium* and *C. fastigiàtum*.

Æthiopian Chænostoma. Shrub.

15 C. fastigia'tum (Benth. l. c. p. 376.) suffruticose; branches numerous, erectish; leaves linear, or oblong-cuneated, deeply few-toothed at apex; flowers capitately racemose at the tops of the branches; pedicels usually shorter than the calyx; calyx hispid, 2 or 3 times shorter than the tube of the corolla. ♄. G. Native of the Cape of Good Hope, in Caledon. Manùlea cephalòtis, Thunb. fl. cap. 470. ? A low shrub, with leaves very much like those of *Sálvia dentàta*, remarkable for the compact racemes, consisting of from 3 to 7 flowers, with very hispid calyxes.

Var. α, hirsùtum; branches and leaves hairy.

Var. β, glabràtum (Benth. l. c.) plant glabrous.

Fastigiate-branched Chænostoma. Shrub.

16 C. subspica'tum (Benth. l. c.) suffruticose, quite glabrous; branches numerous, erectish; leaves half stem-clasping, oblong, deeply few-toothed; flowers spicately racemose; calyxes glabrous, or very shortly ciliated, 2-3 times shorter than the tube of the corolla. ♄. G. Native of the Cape of Good Hope; but the precise locality is unknown. Spikes of flowers leafy, about an inch long. All the pedicels very much shorter than the calyx.

Subspicate-flowered Chænostoma. Shrub.

17 C. marifòlium (Benth. l. c.) suffruticose, procumbent; branches clothed with hoary pubescence; leaves ovate, crenated, with subrevolute edges, clothed with hoary tomentum beneath, or on both surfaces; flowers on very short pedicels, opposite or subracemose; tube of corolla twice as long as the calyx. ♄. G. Native of South Africa, in the Uitenhage district. Manùlea virgàta, Thunb. fl. cap. 470. ? Branches long, twiggy. Leaves almost sessile, and very white, which does not agree with Thunberg's description, Benth.

Cat-Thyme-leaved Chænostoma. Shrub procumbent.

18 C. integrifòlium (Benth. l. c.) suffruticose, loosely much branched, nearly glabrous; leaves ovate, with subrevolute, quite entire, or few-toothed margins, glabrous; flowers axillary, pedicellate: superior ones loosely racemose; tube of corolla slender, 3 times longer than the calyx. ♄. G. Native of South Africa, in the Cape district. Manùlea integrifòlia, Lin. syst. p. 569. suppl. 285.? Thunb. fl. cap. 467.? Habit almost of *C. híspidum;* but the leaves are smaller, less toothed, and the whole plant is nearly or quite glabrous.

Var. β, parvifòlium (Benth. l. c.) leaves smaller. ♄. G. Native of the Cape of Good Hope, on the Tygerberg, Drège.

Entire-leaved Chænostoma. Shrub ½ foot?

19 C. cunea'tum (Benth. l. c.) suffruticose, procumbent; branches hairy; leaves nearly sessile, obovate-roundish, cuneated, deeply toothed, green on both surfaces, hairy; flowers axillary at the tops of the branches, or subracemose; tube of corolla 2 or 3 times as long as the calyx. ♄. G. Native of South Africa, in Hottentots' Holland and Palmietriver mountains, in Stellenbosch, Ecklon. Habit almost of *C. marifòlium*, but very different in leaves and inflorescence; in the latter character it represents *C. híspida*, Benth. Leaves as broad as long, with 3-5 deep teeth, ex Benth.

Cuneate-leaved Chænostoma. Shrub procumbent.

20 C. hi'spidum (Benth. l. c.) suffruticose; branches procumbent or divaricate, hairy; leaves ovate or oblong, coarsely toothed, narrowed or cuneated at the base, pubescent; flowers axillary, pedicellate: superior ones loosely racemose; calyx hairy, 3 times shorter than the tube of the corolla. ♄. G. Native of the Cape of Good Hope; plentiful in the neighbourhood of Cape Town. Manùlea híspida, Thunb. fl. cap. 473. Manùlea oppositiflòra, Vent. jard. malm. 15. t. 15. A very variable plant, especially in the degree of hairiness and size of leaves. Corolla white.

Hispid Chænostoma. Fl. June, Aug. Clt. 1816. Shrub procumbent.

21 C. floribu'ndum (Benth. l. c.) branches erect? pubescent; leaves ovate, coarsely toothed, cuneated at the base, finely pubescent; racemules subcorymbose, disposed in a many-flowered, terminal panicle; calyxes on short pedicels, hairy, 3 times shorter than the tube of the corolla. ♄.? G. Native of South Africa, at Port Natal, Drège. Leaves almost like those of *C. híspidum*, but larger; the flowers are also almost the same. The plant is remarkable for its size and inflorescence.

Bundle-flowered Chænostoma. Shrub.

22 C. corda'tum (Benth. l. c. p. 377.) herbaceous; branches prostrate, somewhat radicant, hairy; leaves petiolate, ovate-roundish, toothed, truncate at the base or cordate, pubescent; flowers axillary, pedicellate; calyxes hispid, hardly half the length of the tube of the corolla. ♃. G. Native of South Africa, at Krakakamma and Olifantshock, in Uitenhage, Ecklon. Ruigtevalei, Drège. Manùlea cordàta, Thunb. fl. cap. 473. This plant is remarkable for its long trailing stems, and form of leaves. Corolla shorter than that of *C. híspida*.

Var. β, hirsùtus (Benth. l. c.) plant more hairy. ♃. G. Native of the Cape of Good Hope, on the Witbergen, Drège.

Cordate-leaved Chænostoma. Fl. June, Aug. Clt. 1816. Pl. trailing.

23 C. racemòsum (Benth. l. c.) herbaceous? branches erect, pubescent; leaves petiolate, broad-ovate, toothed, finely pubescent: floral ones small; flowers on long pedicels, racemose; tube of corolla twice as long as the calyx. ♃.? G. Native of the Cape of Good Hope, on Zuurebergen, Drège. Leaves ½ an inch long, rounded or wedge-shaped at the base: floral ones sessile. Calyx nearly glabrous, unequally cleft; segments subulate at ends.

Racemose-flowered Chænostoma. Pl. ½ to 1 foot.?

24 C. fœ'tidum (Benth. l. c.) annual? erect, branched, nearly glabrous; leaves on long petioles, ovate, deeply toothed; peduncles axillary, 1-3-flowered: superior ones subracemose; tube of corolla slender, 2-3 times longer than the calyx. ☉. G. Native of the Cape of Good Hope, in the eastern portion of Worcester and Clanwilliam districts, &c. Buchnèra fœ'tida, Andr. bot. rep. t. 80. Manùlea fœ'tida, Pers. ench. 2. p. 148. Manùlea alternifòlia, Hort. par. Pers. ench. 2. p. 148. Leaves ½ to 1 inch long. Lower pedicels almost always bearing a small corymb of about 3 nearly sessile flowers: the upper ones usually simple, forming an irregular leafy raceme. Corollas white.

Stinking Chænostoma. Fl. June, Sept. Clt. 1794. Pl. 1 to 1½ foot.

25 C. pedunculòsum (Benth. l. c.) herbaceous, much branched, procumbent, clothed with clammy pubescence; leaves petiolate, ovate, deeply toothed or pinnatifid: superior ones small; peduncles axillary, very long, filiform; tube of corolla slender, one half longer or almost twice as long as the calyx; limb ample. ♃. G. Native of South Africa, at Zilverfontein, in Namaqualand. This species is remarkable for its intricate leafy stems; its numerous peduncles, often 2 inches long; and for the form of the flowers, which appear like those of *Lypèria*. The corolla dries yellowish; with a dark-coloured throat.

Peduncled Chænostoma. Pl. procumbent.

Cult. For culture and propagation see *Nycterínia*, p. 587.

LXXXIV. LYPE'RIA (λυπηρος, *lyperos*, sad or sorrowful; from the dull heavy colour of the flowers; and also from their expanding and becoming sweet-scented at night; but are closed and scentless throughout the day-time.) Benth. in Hook. comp. 1. p. 377.—Erìnus species, Lin., Ait., and Thunb. Manùlea species, Lin., Pers., and Link. Buchnèra species, Andr. Lychnídea species, Burm.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted; segments linear, subfoliaceous. Corolla deciduous, with an elongated tube, which is clammy outside, and gibbous or incurved on the upper side at the apex; limb spreading, 5-cleft; segments approximating into 2 lips. Stamens didynamous, inclosed.—Herbs, subshrubs, or shrubs, natives of South Africa. Lower leaves opposite: superior ones alternate, entire, toothed, or deeply pinnatifid, or multifid, usually with the young leaves in fascicles, in the axils of the old ones. Flowers sessile, or generally pedicellate, axillary, racemose, or spicate. The corollas, and sometimes the whole plant, becomes black on drying. Capsules usually exserted, ovoid, or oblong, more or less clammy.

* *Flowers nearly sessile, spicate.*

1 L. fruticòsum (Benth. l. c.) clothed with clammy pubescence; leaves ovate, oblong, or subcordate, quite entire, and few-toothed: floral ones similar, exceeding the calyxes; capsule oblong, about equal in height to the calyx. ♄. G. Native of the Cape of Good Hope, on the Zwartdoorn river, in Clanwilliam and Modderfontein, and the Gariep plains, in Namaqualand, &c. More of a shrub than any of the other species. Leaves sessile, from 4 lines to an inch in length, always drying black, as well as the flower spikes.

Shrubby Lyperia. Shrub.

2 L. amplexicau'lis (Benth. l. c.) herbaceous? erect, clothed with clammy pubescence, or villous; leaves broad-ovate, toothed, cordately stem-clasping at the base: floral ones similar, exceeding the calyxes; spikes elongated, many-flowered; tube of corolla hardly exceeding the calyx: limb small. ♃.? G. Native of South Africa, in Namaqualand, Ecklon; Given river, in Clanwillian, Drège. Flowering branches about a foot long,

of which the greater part is occupied by the leafy spike. Capsule nearly glabrous, hardly as long as the calyx.

Stem-clasping-leaved Lyperia. Pl. 1 foot.

3 L. trí'stis (Benth. l. c. p. 378.) herbaceous, erect, very clammy; lower leaves petiolate, ovate or oblong, toothed and cut: superior ones oblong-lanceolate: floral ones lanceolate, quite entire: upper ones shorter than the capsules; floriferous spikes dense: fructiferous ones elongated; capsule twice as long as the calyx. ♃. G. Native of the Cape of Good Hope. Erìnus trístis, Lin. syst. 571. suppl. 287. Thunb. fl. cap. 476. Stems thick, rigid, branched. Tube of corolla about an inch long; segments of the limb emarginate. Capsule 4-5 lines long. The flowers of a dull dirty purple colour.

Sad-flowered Lyperia. Fl. May, June. Clt. 1825. Pl. 1 to 1½ foot.

4 L. fra'grans (Benth. l. c.) suffruticose, erectish, clammy; leaves oblong-lanceolate, toothed at top, narrowed at the base, quite entire: superior ones narrower, and nearly entire: floral ones rather shorter than the calyx; floriferous spike dense: fructiferous one elongated; capsule hardly twice as long as the calyx. ♄. G. Native of the Cape of Good Hope; plentiful. Erìnus fràgrans, Ait. hort. kew. ed. 1. vol. 2. p. 357. Erìnus lychnídeus, Thunb. fl. cap. 474.? exclusive of many synonymes. Ker. bot. reg. 748. Selàgo lycnídea, Lin. spec. 877. amœn. 6. p. 89. Lychnídea villòsa, &c., Burm. pl. afr. 13. t. 49. f. 4. Leaves very numerous at the base of the stem; and the whole plant is slightly pubescent, and dries very black. Capsule 4-5 lines long.

Var. α; limb of corolla dirty lurid purple.

Var. β; limb of corolla dirty yellow.

Fragrant Lyperia. Fl. May, June. Clt. 1776. Shrub ½ to 1 foot.

5 L. macroca'rpa (Benth. l. c.) suffruticose? stem smoothish; leaves oblong, linear, obtuse, quite entire, narrowed at the base, finely pubescent: floral ones equal in length to the calyxes; spikes elongated; capsule about 3 times longer than the calyx. ♄. G. Native of South Africa, probably of the Cape district. Habit of *L. fràgrans;* but the leaves are entire, and the capsules about an inch long.

Long-fruited Lyperia. Shrub.

6 L. si'mplex (Benth. l. c.) herbaceous, erect, nearly simple; lower leaves petiolate, ovate, a little toothed: superior and floral ones oblong or lanceolate, quite entire; spikes elongated; capsule clothed with clammy pubescence, hardly exceeding the calyx. ♃. G. Native of South Africa, in the Cape district; Karroo desert, and False Bay, &c. Erìnus símplex, Thunb. fl. cap. 474.? Differing from the three preceding species by the short thick capsule; and in the flowers, and especially the capsules, being more distant from each other. Mr. Bentham is doubtful whether this be the same as Thunberg's plant.

Simple-stemmed Lyperia. Pl. ½ foot?

* * *Herbs. Leaves not fascicled. Flowers pedicellate, racemose.*

7 L. tenuiflòra (Benth. l. c.) small, erect, clothed with fine clammy pubescence; leaves oblong or lanceolate, quite entire, and few-toothed; pedicels a little longer than the calyxes. ♃.? G. Native of the Cape of Good Hope; but the particular station is unknown. Flowers 8-10 lines long.

Thin-flowered Lyperia. Pl. ¼ to ½ foot.

8 L. racemòsa (Benth. l. c.) erect, very clammy; leaves petiolate, ovate, sharply toothed, narrowed a long way at the base; flowers pedunculate, racemose; limb of corolla ample, longer than the half of the tube. ♃. G. Native of South Africa, in the north of Clanwilliam district; and at the mouth of the Gariep, in Namaqualand, Ecklon and Drège. Tube of corolla about 9 lines long; lobes of the limb broad, shortly bifid.

Racemose-flowered Lyperia. Pl. 1 foot.

9 L. glutinòsa (Benth. l. c.) herbaceous, erect, very clammy; leaves petiolate, ovate, sharply toothed, roundly truncate at the base; flowers pedicellate, racemose; limb of corolla shorter than the half of the tube. ♃. G. Native of the Cape of Good Hope, near the Gariep. Not so tall, and more clammy than the preceding. Leaves shorter. Corolla more slender; with a much smaller limb. Calyx very clammy, rather longer than the capsule.

Clammy Lyperia. Pl. ½ to 1 foot.

10 L. viola'cea (Benth. l. c. p. 379.) decumbent or erectish, smoothish; leaves petiolate, oblong, toothed; flowers few, subracemose; limb of corolla much shorter than the half of the tube; capsule ovate, villous, twice as long as the calyx. ♃. G. Native of the Cape of Good Hope. Manùlea violàcea, Link, enum. 2. p. 142. Manùlea crystallìna, Weinm. syll. pl. soc. rat. 1. p. 221.? Erìnus pàtens, Thunb. fl. cap. 475.? Branches smooth. Leaves ½ inch long. Corolla 7-8 lines long, of a purplish-violet colour; segments of the limb entire. According to Link, the plant is beset with short curled hairs.

Violaceous-flowered Lyperia. Fl. June, Nov. Clt. 1820. Pl. 2 feet.

* * * *Subshrubs or shrubs. Leaves usually fascicled in the axils. Pedicels axillary and subracemose.*

11 L. inci'sa (Benth. l. c.) suffruticose, humble, much branched; leaves petiolate, obovate or ovate, deeply toothed, villous on both surfaces, as well as the branches; flowers few, subracemose; tube of corolla about 6 times longer than the calyx: limb short. ♄. G. Native of the Cape of Good Hope. Erìnus incìsus, Thunb. fl. cap. 476. Corolla above an inch long.

Cut-leaved Lyperia. Shrub dwarf.

12 L. cane'scens (Benth. l. c.) suffruticose, decumbent, much branched; leaves petiolate, subfasciculate, oblong, deeply toothed, hoary beneath or on both surfaces; flowers subracemose; racemes panicled; pedicels short, stiff; limb of corolla short; capsule one half longer than the calyx. ♄. G. Native of South Africa, in inundated land, on the Gariep, Drège. Nearly allied to *L. argéntea*, but the branches are less divaricate, and more rigid; pedicels shorter. Flowers more numerous and smaller.

Canescent Lyperia. Shrub decumbent.

13 L. argé'ntea (Benth. l. c.) suffruticose, divaricately branched; leaves petiolate, subfasciculate, ovate or oblong, deeply toothed, rather hoary from scabrous pubescence beneath, or on both surfaces; pedicels axillary, filiform, or the upper ones are subracemose; limb of corolla one half shorter than the tube. ♄. G. Native of South Africa, in the Uitenhage district; and in the Amakosa country, Ecklon and Drège. Manùlea argéntea, Lin. syst. p. 570. suppl. 286. Thunb. fl. cap. 472. Lower leaves ½ inch long: upper ones smaller.—A plant very variable in pubescence, and generally drying rather blackish, seldom deserving the name of *argéntea*, Benth.

Var. α; leaves white beneath.

Var. β; leaves greenish on both surfaces.

Var. γ; more scabrous, and leaves blunter.

Silvery Lyperia. Fl. June, Nov. Clt. 1801. Shrub 1 foot.

14 L. peduncula'ta (Benth. l. c.) suffruticose, divaricately branched, finely pubescent; leaves petiolate, subfasciculate, obovate-cuneated, deeply toothed; pedicels elongated, axillary, filiform; calyx 3-4 times shorter than the tube of the corolla; limb of corolla a little shorter than the tube. ♄. G. Native of the Cape of Good Hope; but the locality is not mentioned. Buchnèra pedunculàta, Andr. bot. rep. t. 84. Manùlea pedunculàta,

Pers. ench. 2. p. 184. Habit of *L. argéntea*. Resembles also *L. cuneàta*; but the leaves are several times larger, and stalked; and the pedicels above an inch long. Corollas white.

Long-peduncled Lyperia. Fl. June, Nov. Clt. 1790. Shrub $1\frac{1}{2}$ foot.

15 L. phlogiflòra (Benth. l. c.) suffruticose, decumbent, much branched; leaves fascicled, petiolate, oblong, deeply toothed or pinnatifid, finely pubescent or glabrous; racemes loose, clothed with clammy pubescence; limb of corolla ample, with emarginate segments, about equal in length to the tube. ♄. G. Native of South Africa, on the Keiskamma, Drège. Differs from *L. argéntea* chiefly by the leaves, which are smaller and more deeply toothed; and by the large expanded limb of the corolla.

Phlox-flowered Lyperia. Shrub decumbent.

16 L. crassicau'lis (Benth. l. c.) suffruticose, decumbent at the base, much branched; branches strict, stiff, scabrous; leaves petiolate, ovate, pinnate: segments oblong, wedge-shaped, entire, or 2-3-cleft, scabrous; racemes strict; pedicels a little shorter than the calyx; limb of corolla short, with emarginate segments. ♄. G. Native of South Africa, on Wildshutsberg and Witbergen. Dries black, and is covered with glandular dots, which become white on drying.

Thick-stemmed Lyperia. Shrub $\frac{1}{2}$ to 1 foot.

17 L. móllis (Benth. l. c. p. 380.) suffruticose, clothed with soft villi; branches elongated, procumbent; leaves subfasciculate, petiolate, ovate, deeply pinnatifid or pinnate: segments ovate, entire or cut; pedicels axillary, filiform; tube of corolla hardly twice as long as the calyx. ♄. G. Native of South Africa, at Graham's Town, in Albany; and Zaureberg, in Uitenhage, Ecklon; Colesberg, Drège. Branches slender. Pedicels 8-10 lines long. Corolla 4-5 lines long.

Soft Lyperia. Shrub procumbent.

18 L. filicau'lis (Benth. l. c.) suffruticose, pubescent; branches elongated, slender, procumbent; leaves subfasciculate, petiolate, obovate-roundish, deeply pinnatifid: segments obovate, very blunt; pedicels axillary, filiform. ♄. G. Native of South Africa, on the Witbergen. Allied, but distinct from the preceding.

Thread-stemmed Lyperia. Shrub procumbent.

19 L. pinnati'fida (Benth. l. c.) suffruticose, decumbent, much branched; leaves pinnate: segments oblong-cuneated, entire, toothed or pinnatifid; flowers subracemose; tube of corolla 3-4 times longer than the calyx. ♄. G. Native of South Africa, in the Karroo desert and Karroid places; from Beaufort to the Fish River, Ecklon. Manùlea pinnatífida, Lin. syst. p. 570. suppl. 285. Thunb. fl. cap. 473. Plant very variable. Leaves from 3 to 6 lines long, usually convolute or conduplicate. Pedicels few, rather stiff. Tube of corolla 4-5 lines long; limb 2-3 lines long; segments obtuse, or very slightly emarginate. Some of the following varieties may prove to be species.

Var. α, *canescéns* (Benth. l. c.) capsule hardly one half longer than the calyx.

Var. β, *subcanéscens* (Benth. l. c.) capsule about twice the length of the calyx.

Var. γ, *viscòso-pubéscens* (Benth. l. c.) capsule about twice as long as the calyx; corollas smaller.

Var. δ, *subbipinnatisécta* (Benth. l. c.) corolla larger.

Var. ε, *microphýlla* (Benth. l. c.) clothed with clammy pubescence.

Pinnatifid-leaved Lyperia. Shrub decumbent.

20 L. multi'fida (Benth. l. c.) suffruticose, procumbent, much branched; leaves subfasciculate, bipinnate; segments for the most part petiolate, oblong-cuneated, entire, cut or pinnatifid; racemes few-flowered; calycine segments linear-spatulate, hardly a half shorter than the tube of the corolla. ♄. G. Native of South Africa, at Sternbergspruit and Stormbergen, Drège. Leaves much more divided; and the flowers much smaller than in *L. pinnatífida*, ex Benth.

Multifid-leaved Lyperia. Shrub procumbent.

21 L. foliolòsa (Benth. l. c.) shrubby, divaricately much branched; leaves small, fascicled, linear-cuneate, toothed or pinnatifid, canescent on both surfaces; flowers subracemose; tube of corolla about thrice as long as the calyx. ♄. G. Native of South Africa, in karroid places. Zartehopf and Langekloof, Ecklon; between the little Fish river and Brak river, Drège. Leaves 1 to 3 lines long, much narrower, less cut, and whiter than in *L. pinnatífida*, var. ε, which it much resembles.

Leafy Lyperia. Shrub.

22 L. cunea'ta (Benth. l. c.) shrubby, much branched; leaves minute, fascicled, bi-tridentate at apex, rarely quite entire, smoothish, or finely pubescent; flowers subracemose; tube of corolla 3-4 times longer than the calyx. ♄. G. Native of South Africa, on the Gauritz river, Drège. Leaves intermediate between those of *L. foliolòsa* and *L. atropurpùrea*. Differs from *L. pedunculàta* by the minute sessile leaves, and in the peduncles, which are seldom half an inch long.

Cuneate-leaved Lyperia. Shrub.

23 L. atropurpu'rea (Benth. l. c.) shrubby, much branched; leaves minute, fascicled, linear, quite entire, or rarely unidentate; flowers subracemose; tube of corolla 6-7 times longer than the calyx. ♄. G. Native of the Cape of Good Hope, in the Karroo and Karroid districts, Ecklon and Drège. Manùlea atropurpùrea, Banks, herb. Leaves glabrous or downy, 1-2 lines long. Corolla near an inch long. Capsule larger than in the neighbouring species. Leaves longer in the cultivated plant.

Dark-purple-flowered Lyperia. Shrub.

24 L. aspalathoi'des (Benth. l. c. p. 381.) shrubby, much branched; leaves minute, fascicled, oblong or linear, quite entire; flowers racemose; tube of corolla 2-3 times longer than the calyx. ♄. G. Native of South Africa, at Grassrugg and Krakakamma, in the Uitenhage district, Ecklon. Leaves smaller than in the preceding, and narrower than those of the following, and not imbricated. Corolla $\frac{1}{2}$ an inch long. Branches downy. Leaves glabrous.

Aspalathus-like Lyperia. Shrub.

25 L. microphy'lla (Benth. l. c.) shrubby, much branched; leaves minute, ovate, quite entire, fascicled in the axils: those of the younger branches imbricating in 4 rows; flowers few, towards the tops of the branches. ♄. G. Native of South Africa, in Karroid districts; Zwartkops river, Ecklon; near Garip, and between Addo and Zondag river, Drège. Manùlea microphýlla, Lin. syst. 569. suppl. 285. Thunb. fl. cap. 466. Leaves scarcely $\frac{1}{2}$ a line long. Flowers about half an inch long. Segments of the limb broad, obovate.

Small-leaved Lyperia. Shrub.

Cult. For culture and propagation see *Nycterínia*, p. 587.

LXXXV. MANU'LEA (from *manus*, the hand; in allusion to the divisions of the corolla.) Benth. in Hook. comp. 1. p. 381.—Nèmia, Berg.—Manúlea species, Lin., Thunb., and other authors. Selàgo species of authors.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted; segments linear or subulate. Corolla deciduous; tube elongated, glabrous or tomentose outside, erectish at top; limb 5-parted, equal, or the 4 superior segments are more approximate. Stamens didynamous, inclosed.—Herbs, rarely subshrubs, natives of South Africa. Leaves generally approximate at the base of the stems: floral ones small, bractea-formed. Flowers racemose; racemes sometimes simple and naked, or minutely bracteate; sometimes compound, composed of many-flowered

peduncles. Corolla usually orange-coloured or yellow, not becoming black on drying. Capsule glabrous.

* Racemòsæ. *Pedicels* 1-*flowered. Segments of corolla bifid, obcordate, obovate, or rarely oblong, obtuse. Leaves almost radical. Peduncles scape-formed, simple, naked, or minutely bracteate, racemose at apex.*

1 M.? nervòsa (E. Meyer, mss. Benth. l. c. p. 381.) leaves petiolate, obovate-oblong or ovate, quite entire, glabrous; calycine segments broad-lanceolate; segments of corolla broad, emarginate: the 2 upper ones combined beyond the middle, quite entire. ♄.? G. Native of South Africa, at Zilverfontein, in Namaqualand, Drège. The calycine segments are broader and thicker; tube of corolla shorter; limb larger, and less deeply cleft than in any other species. Perhaps a separate genus, ex Benth.

Nerved Manulea. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

2 M. silenoi'des (E. Meyer, mss. ex Benth. l. c.) annual; leaves petiolate, ovate, quite entire, or obscurely toothed; calycine segments linear, while young connected by a membrane, and exceeding the capsule in the fructiferous state; segments of corolla emarginately bifid. ☉. G. Native of South Africa, at Karakuis. More slender than *M. nervòsa*. Tube of corolla longer; limb smaller, with narrow segments.

Var. β, mìnor (E. Meyer, l. c.) ☉. G. Native of South Africa, between Micrenkasteel and Zwartdoorn river, in Clanwilliam; and Modderfontein, in Namaqualand.

Catchfly-like Manulea. Pl. 3 to 4 inches.

3 M. androsa'cea (E. Meyer, mss. ex Benth. l. c.) leaves obovate-oblong, glabrous, quite entire, or subcrenated; peduncles glabrous; racemes subcapitate; calycine segments oblong-linear, glabrous, equalling the capsule in length; tube of corolla 3 or 4 times longer than the calyx; segments of the limb obovate, retuse. ☉.? G. Native of South Africa, in sands near Noagas, Drège. Rather taller than *M. silenoìdes*. Leaves rather longer and narrower. Flowers nearly sessile, mostly forming a compact head, which is sometimes elongated in the manner termed proliferous, Benth.

Androsace-like Manulea. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

4 M. corymbòsa (Thunb. fl. cap. 472. Benth. l. c.) leaves ovate-oblong, obovate, quite entire and toothed, glabrous, or finely downy; peduncles scape-formed, sometimes furnished with 1-2 leaves; fructiferous racemes elongated; calycine segments linear, longer than the capsule, membranously ciliated at the base; segments of corolla broad, obovate.—Native of South Africa, in the Cape district. Flowers often reflexed. Tube of corolla 3 lines long; orifice hairy.

Corymbose-flowered Manulea. Pl. $\frac{1}{2}$ to 1 foot.

5 M. alti'ssima (Lin. syst. 569. suppl. 286. Thunb. fl. cap. 472.) leaves oblong-elliptic, lanceolate, or toothed, finely pubescent; peduncles very long, sometimes furnished with 1-2 leaves; fructiferous racemes oblong, dense; calycine segments longer than the capsule, clothed with scabrous pubescence.—Native of South Africa, in the Cape district. Peduncles or flowering stems often a foot and a half high, sometimes with one or two branches.

Very-tall Manulea. Pl. 2 feet?

6 M. longifòlia (Benth. l. c. p. 382.) leaves oblong-lanceolate, quite entire, or obscurely toothed, smoothish; floriferous branches elongated, branched, nearly naked, or few-leaved at the base; fruit-bearing racemes elongated; calyxes on short pedicels, with lanceolate, hispid segments, which rather exceed the capsules.—Native of South Africa, at Ebenezer, Drège. Perhaps a variety of *M. altíssima;* but besides the branched stems, narrow racemes, &c. the corolla appears to be much smaller.

Long-leaved Manulea. Pl. 2 feet?

7 M. bellidifòlia (Benth. l. c.) leaves obovate or oblong, a little crenated, glabrous, or finely pubescent; fructiferous racemes elongated; capsules remote; calycine segments lanceolate, nearly glabrous; segments of corolla oblong-ovate.—Native of South Africa, in the Uitenhage district, Katrivierberg, Addo, and Quaggsvlakte, Ecklon; Klipplaats river, Drège. It comes near *M. corymbòsa*, but is readily distinguished by the calyx. Leaves of *Béllis sylvéstris*.

Daisy-leaved Manulea. Pl. 2 feet.?

* * Thyrsiflòræ. *Racemes compound; pedicels fasciculately many-flowered. Segments of corolla entire, oblong, obtuse. Stems usually leafy*, Benth.

8 M. inca'na (Thunb. fl. cap. 468. Benth. l. c.) suffruticose, humble, much branched; leaves approximate at the base of the branches, petiolate, oblong, obtuse, toothed at apex, narrowed at the base, hoary on both surfaces; floriferous branches erect, nearly naked, racemose; peduncles very short, 1-3-flowered; calyxes hoary, scarcely shorter than the tube of the corolla. ♄. G. Native of South Africa, near the Cape. Habit of *Chænóstoma halimifòlium*. Calyx 3-4 lines long, cleft to the middle only. Divisions of corolla narrow-oblong, Benth.

Hoary Manulea. Shrub dwarf.

9 M. crassifòlia (Benth. l. c.) perennial; leaves nearly radical, oblong-elliptic or spatulate, obtuse, or bluntly subdentate, quite glabrous on both surfaces; stems nearly naked; racemes elongated, interrupted; flowers fascicled; segments of calyx connected by a membrane, lanceolate-linear at apex, about equal in length to the calyx; tube of corolla 2-3 times longer than the calyx. ♃. G. Native of South Africa, at Moogplats and Witbergen, Drège. Very smooth, and almost glaucous.

Thick-leaved Manulea. Pl. $\frac{1}{4}$ to 1 foot.

10 M. ju'ncea (Benth. l. c.) perennial, quite glabrous, glaucous; branches strict, erect, rushy, few-leaved; leaves oblong-linear, remotely toothed or pinnatifid: superior ones linear, quite entire; racemes compound, short, few-flowered; segments of the calyx subulate, exceeding the capsule a little; tube of corolla 4-5 times longer than the capsule. ♃. G. Native of South Africa, at Giftbergen, Drège. Racemes 2-7 inches long. Calyx slightly downy. Tube of corolla about $\frac{1}{2}$ inch long.

Rushy Manulea. Pl. 2 feet.

11 M. ri'gida (Benth. l. c.) erect, clothed with scabrous pubescence; branches divaricate; leaves lanceolate, deeply toothed or pinnatifid; racemes elongated; flowers subfasciculate, on very short pedicels; calycine segments subulate at apex, twice the height of the capsule; tube of corolla scarcely twice the length of the calyx. ♃.? G. Native of South Africa, in Clanwilliam district; Olifant's river and Brackfontein, Ecklon; Wupperthal, Drège. Stature of *M. júncea*, but branchy in the upper part. Leaves sessile, or embracing the stem, often erect, with the midrib very prominent. Pedicels 1-5-flowered. Corolla of *M. júncea*, ex Benth.

Stiff Manulea. Pl. 2 feet.

12 M. densiflòra (Benth. l. c.) perennial, branched; cauline leaves oblong-linear, almost quite entire, and toothed; racemes dense, subspicate; calycine segments subulate, exceeding the capsule a little; tube of corolla thickish. ♃. G. Native of North Africa, in Clanwilliam district; Olifant's river, and Brackfontein, Ecklon. Inflorescence of *M. júncea*, but different in habit and foliage.

Dense-flowered Manulea. Pl. 2 feet.?

13 M. parviflòra (Benth. l. c. p. 383.) perennial; stem erect, a little branched, few-leaved, pubescent; leaves radical, oblong-spatulate or obovate: cauline ones linear, quite entire or few-toothed; racemes elongated, slender, many-flowered, with

a downy rachis; calyx minute, with linear segments, shorter than the capsule, which is truncate. ♃. G. Native of South Africa, near the Omtata, in the Amaponda country, Drège. Nearly allied to *M. rùbra* and *M. leiόstachys*, but much more slender, and tube of the corolla scarcely 2 lines long.

Small-flowered Manulea. Pl. 1 to 2 feet. ?

14 M. LEIÓSTACHYS (Benth. l. c.) perennial; stem erect, pubescent at the base; leaves pubescent: lower ones on long petioles, oblong, toothed: superior ones oblong-spatulate or linear, few-toothed; racemes many-flowered, elongated, and are, as well as the top of the stem, quite glabrous; segments of calyx linear, obtuse, scarcely shorter than the capsule. ♃. G. Native of South Africa, at Cedarbergen, in Clanwilliam and Gnadenthal, Drège. Taller and more erect than *M. rùbra*, with more numerous and slender flowers, and readily distinguished by the glabrous and almost glaucous surface of the upper part of the plant, ex Benth.

Smooth-spiked Manulea. Pl. 1 to 2 feet.

15 M. RU`BRA (Lin. syst. p. 570. suppl. 286. Thunb. fl. cap. p. 472.) perennial; stem erect, decumbent at the base, villous; leaves oblong-lanceolate, dentate, narrowed at the base, downy on both surfaces, or villous; raceme interrupted, a little branched; calycine segments linear-oblong, obtuse, about a half shorter than the capsule; corolla 3-4 times longer than the calyx. ♃. G. Native of South Africa, in the Cape flats and downs, and Hottentotsholland; very common in Cape collections. Nèmia rùbra, Berg. fl. cap. 160. Manùlea angustifòlia, Link et Otto. pl. sel. hort. berol. 7. t. 20. This species is very variable in the number of flowers and degree of hairiness. Flowers half an inch long, or rather shorter, at first golden yellow, but at length of a reddish orange-colour.

Red-flowered Manulea. Fl. April, Sept. Clt. 1790. Pl. 1 to 2 feet.

16 M. OBOVA`TA (Benth. l. c.) perennial; stem decumbent at the base, pubescent; radical leaves ovate: cauline ones obovate or oblong, coarsely crenated or somewhat cut, pubescent on both surfaces; racemes elongated, many-flowered, a little branched; calycine segments linear, obtuse, rather shorter than the capsule; tube of corolla 2-3 times longer than the calyx. ♃. G. Native of South Africa, in Algoa Bay, Forbes and Ecklon. This plant varies in the breadth of the leaves. Flowers much more numerous than in *M. rùbra;* the corollas and capsules not half the size.

Obovate-leaved Manulea. Pl. decumbent.

17 M. TOMENTÒSA (Lin. symb. p. 569. mant. 420. Thunb. fl. cap. 470.) stem decumbent, humble, branched, tomentosely villous; leaves obovate or oblong, toothed, thick, densely tomentose on both surfaces; racemes short, dense; segments of calyx lanceolate-linear, villously tomentose, about equal in length to the capsule. ♃. G. Native of the Cape of Good Hope. Curt. bot. mag. t. 322. bad. Link et Otto. pl. sel. hort. berol. 45. t. 19. good. Selàgo tomentòsa, Lin. spec. 877.—Plukn. phyt. t. 319. f. 2. Branches short and stiff. Racemes 2-3 inches long. Flowers at first greenish-yellow, but at length becoming orange-coloured (fig. 56).

FIG. 56.

Tomentose Manulea. Fl. May, Nov. Clt. 1744. Pl. 1 foot.

18 M. THYRSIFLÒRA (Lin. syst. p. 569. suppl. 285. Thunb. fl. cap. 471.) stem erect, flexuous, branched, finely pubescent; leaves obovate, coarsely toothed, smoothish; raceme panicle-formed, many-flowered; peduncles loosely cymose; calycine segments linear; tube of corolla slender, 3-4 times longer than the calyx; segments of the limb oblong-linear, obtuse. ♃. ? G. Native of South Africa, in the Cape district. Raceme or panicle above half a foot long. Lower cymes opposite: upper ones alternate, all loosely dichotomous. Corolla slender; tube about 3 lines long.

Thyrse-flowered Manulea. Pl. 1 foot.

19 M. PANICULA`TA (Benth. l. c.) erect, tall, branched, clothed with hoary pubescence; leaves ovate or obovate, coarsely crenated; panicle large; racemes numerous, leafy at base, many-flowered; peduncles cymose; calycine segments oblong-linear, obtuse; tube of corolla 3 times longer than the calyx; segments of the limb ovate. ♃. ? G. Native of South Africa, at Stormbergen, and near the Krai river. Stem thick and hard. Panicle a foot long; branches erect; cymes much denser than in *M. thyrsiflòra*, ex Benth.

Panicled-flowered Manulea. Pl. tall.

20 M. TURRI`TIS (Banks, herb. mss. ex Benth. l. c.) stem and branches erect, hairy; leaves petiolate, ovate or oblong, deeply toothed, narrowed at the base, hairy on both surfaces; racemes elongated, slender; flowers fascicled; segments of calyx linear, obtuse; tube of corolla slender, 5-6 times longer than the calyx; segments linear-oblong, obtuse. ♃. ? G. Native of South Africa, on rocks of Nieuwekloof, Drège; and in the Cape district. This species is remarkable for the white hairs of the stem. Racemes and flowers almost like those of *M. leiόstachys*, but the foliage and habit are very different. It has the appearance of being occasionally shrubby at the base, ex Benth.

Tower Manulea. Pl. 1 to 2 feet.

* * * ACUTIFLÒRI (from *acutus*, acute; and *flos*, a flower; in reference to the segments of the corolla being acute.) Benth. l. c. *Racemes compound, or almost simple. Segments of the corolla all, or the upper ones are subulately acuminated*, ex Benth.

21 M. STELLA`TA (Benth. l. c. p. 384.) stem ascending, pubescent, sparingly branched; leaves petiolate, broad-ovate, deeply serrated, pubescent; raceme elongated, compound, loose, many-flowered; calycine segments linear-subulate; tube of corolla 3 times longer than the calyx. ♄. ? G. Native of South Africa, on the mountains of the Cape and South Worcester districts, Ecklon. An elegant species, with slender, orange-coloured flowers, 3 to 7 on each peduncle.

Stellate Manulea. Pl. 1 to 2 feet. ?

22 M. EXALTA`TA (Banks, herb. mss. ex Benth. l. c.) stem erect, divaricately branched, pubescent; leaves petiolate, broad-ovate, deeply toothed, pubescent; racemes very slender, few-flowered, interrupted, leafy at the base; segments of calyx linear-subulate, but one half shorter than the tube of the corolla. ♃. ? G. Native of South Africa, in the Cape and Clanwilliam districts, Olifant's river, Brackfontein, and Berg-valei, Ecklon. Branches slender. Peduncles very short, 1-3-flowered, remote. Flowers half as large as those of *M. stellàta*.

Exalted Manulea. Pl. 2 to 3 feet?

23 M. CHEIRA´NTHUS (Lin. mant. 88. syst. 569. Benth. l. c.) leaves nearly radical, ovate, obovate, or oblong; peduncles scape-formed, erect, simple; racemes compound; tube of corolla hardly exserted: upper segments of the limb very long and subulate. ☉. or ♂. G. Native of South Africa, in various places in the western districts from the Cape to Gariep river in Namaqualand. M. rhynchántha, Link, enum. 2. p.

142. Nèmia cheiránthus, Berg. cap. 160. Lobèlia cheiránthus, Lin. spec. 1319. Cheiránthus Africànus, flore luteo, Comm. hort. 2. p. 83. t. 42. Corolla deep yellow. It is the great disproportion in length of the 5 divisions of the corolla of this species that was the origin of the generic name.

Hand-flower Manulea. Fl. June, Aug. Clt. 1795. Pl. 1 foot.

24 M. pusi'lla (E. Meyer, mss. ex Benth. l. c.) leaves nearly radical, obovate, or oblong, a little toothed; peduncles numerous, scape-formed, erectish; racemes nearly simple; tube of corolla hardly exserted; segments of the limb scarcely unequal, rather shorter than the tube. ♂. G. Native of South Africa, at Zilverfontein in Namaqualand. Very nearly allied to *M. cheiránthus*, but much smaller, and with very much smaller flowers.

Small Manulea. Pl. ¼ to ½ foot.?

25 M. Gariepi'na (Benth. l. c.) leaves nearly radical, ovate, obovate, or oblong; peduncles scape-formed, erect, a little branched; racemes compound, many-flowered; tube of corolla more than twice the length of the calyx; segments of the limb unequal. ♂.? G. Native of South Africa, on the plains of the Gariep, in Namaqualand. This species also comes near *M. cheiránthus*, but differs in the flowers. In both this and the preceding species the lower segments of the corolla are frequently, and sometimes perhaps all of them, obtuse, so as to connect the present section with the two first, ex Benth.

Gariep Manulea. Pl. 1 foot.?

† *Species described by Thunberg, which Mr. Bentham, who has written a monograph on the present tribe, has not been able to refer to any of the above.*

26 M. antirrhinoìdes (Lin. syst. 569. suppl. 286. Thunb. fl. cap. 469.) leaves ovate-lanceolate, serrated, villous; heads globose; stem erect. ♂.? G. Native of the Cape of Good Hope.

Snap-dragon-like Manulea. Pl. 1 foot.?

27 M. virga'ta (Thunb. fl. cap. 470.) leaves obovate, serrated, villous; branches panicled; flowers alternate, remote. ♂. G. Native of the Cape of Good Hope. Said to be nearly allied to *M. turrìtis*.

Twiggy Manulea. Pl. 1 foot.?

28 M. cephalòtes (Thunb. l. c.) leaves oblong, erosely serrated, glabrous; flowers subumbellate. ♂.? G. Native of the Cape of Good Hope.

Headed Manulea. Pl. 1 foot.?

29 M. hi'rta (Thunb. l. c. 471.) leaves obovate, doubly serrated, hairy; flowers axillary. ♂.? G. Native of the Cape of Good Hope.

Hairy Manulea. Pl. 1 foot.?

30 M. Thunbe'rgii; leaves oblong, serrated, tomentose; stem erect, hairy. ♂. G. Native of the Cape of Good Hope. Erìnus tomentòsus, Thunb. fl. cap. p. 478.

Thunberg's Manulea. Pl. 1 foot.?

Cult. For culture and propagation see *Nycterínia*, p. 587.

LXXXVI. ERI'NUS (ερινος, *erinos*, of Dioscorides, and *Erineon* of Pliny; derivation unknown.) Lin. gen. no. 771. Schreb. gen. no. 1034. Juss. gen. 100. ed. Usteri. p. 112. Gærtn. fruct. 1. p. 261. t. 55.—Ageràtum, Tourn. inst. 422.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, 5-parted, permanent. Corolla funnel-shaped; limb equal, 5-parted; segments obcordate. Stamens 4, didynamous; anthers small. Stigma of 2 roundish lobes. Capsule small, grooved on one side, 2-valved, 2-celled; valves bifid; dissepiment double, formed by the vent in edges of the valves. Seeds ovate, rugged from crowded tubercles.—Small, alpine, tufted plants. Radical leaves rosulate: cauline ones alternate. Stems simple; the side ones barren or surculose. Flowers alternate, each rising from the axil of a bractea, disposed in terminal simple racemes. Corollas purple or red.

1 E. alpi'nus (Lin. spec. 878.) leaves tufted, spatulate, deeply serrated, hairy; racemes sub-corymbose. ♃. H. Native of the alps of Europe; as of Germany, Switzerland, Pyrenees, South of France. Curt. bot. mag. 3. t. 310. Corollas purple.

Var. β, albiflòra; plant smaller; flowers white. ♃. H.—Barrel. icon. 1192.

Alpine Erinus. Fl. March, June. Clt. 1739. Pl. ¼ foot.

2 E. Hispa'nicus (Pers. ench. 2. p. 147.) plant smaller than the preceding, branched, and glabrous; leaves tufted, bluntly serrated; racemes elongated. ♃. H. Native of Spain, near Pancorvo, Clemente. Corollas purple.

Spanish Erinus. Fl. March, June. Clt. 1739. Pl. ¼ foot.

Cult. These are pretty little alpine plants, and are, therefore, very desirable for the decoration of rockwork or old walls, for which purposes no plants can be better fitted, as they grow in close tufts, and produce their numerous purple blossoms during most of the summer months. They are either propagated by division or by seeds; but they succeed best when allowed to scatter their seeds.

Tribe VII.

BUDDLIE'Æ (this tribe only contains the genus *Buddlèa.*) D. Don. in edinb. phil. journ. vol. 19. July, Oct. 1835. Calyx campanulate, 5-toothed. Corolla tubular; limb 4-5-cleft, equal, spreading. Stamens 4-5, nearly equal, inclosed; anthers composed of 2 parallel, distinct cells. Stigma clavate, 2-lobed. Capsule crustaceous; dissepiment constituted from the inflexed edges of the valves, inserted in the thick spongy placenta. Seeds angular, scobiform; testa loose, membranous. Albumen fleshy. Embryo almost the length of the seeds; cotyledons oblong, compressed; radical very short.—Shrubs with usually quadrangular branches. Leaves opposite, reticulately-veined. Flowers terminal, capitate, spicate, or panicled, usually orange-coloured. This tribe is analogous in habit to many *Verbenàceæ*.

LXXXVII. BUDDLE'A (named by Houston after Adam Buddle, who is often mentioned in Ray's synopsis. His dried collection of British plants is preserved in the British Museum.) Houst. phil. trans. et reliq. houst. t. 3. Lin. gen. no 140. Schred. gen. no. 184. Juss. gen. 118. ed. Usteri, p. 132. Gærtn. fruct. 1. p. 226. t. 49. H. B. et Kunth, nov. gen. amer. 2. p. 345.

Lin. syst. *Tetrándria, Monogýnia.* Character the same as that of the tribe.

§ 1. *Flowers axillary, verticillate.*

1 B. sessiliflòra (H. B. et Kunth, nov. gen. amer. 2. p. 345. t. 182.) branches terete, glabrous; branchlets and leaves clothed with hoary tomentum; leaves lanceolate, narrowed at both ends, acuminated, quite entire, nearly sessile; flowers axillary, glomerate. ♄. G. Native near the town of Mexico, at the altitude of 1160 hexapods. Leaves 2-3 inches long, rusty beneath. Glomerules 3-5-flowered, on short peduncles. Capsule obovate, pilose at top. Corolla twice as long as the calyx, yellow.

Sessile-flowered Buddlea. Tree.

2 B. scordioìdes (H. B. et Kunth, l. c. t. 183.) branches terete, and are, as well as the leaves, clothed with white tomentum; leaves sessile, oblong, obtuse, crenated, wrinkled, rusty beneath; flowers axillary, verticillate. ♄. G. Native along with the preceding. Habit of *Teùcrium scórdium*. Leaves greenish above, nearly an inch long, with the scent of sage. Whorls of flowers globose, size of a large pea. Corolla campanulate, yellow.

Scordium-like Buddlea. Shrub 3 to 4 feet. ?

3 B. VERTICILLA'TA (H. B. et Kunth, l. c. p. 346. t. 184.) branches terete, glabrous; branchlets and leaves clothed with hoary tomentum; leaves oblong, acute, narrowed at the base, on short petioles, rusty beneath, quite entire; flowers axillary, verticillate. ♄. G. Native of Mexico, between Acaguisotla and Chilpancingo, at the altitude of 680 hexapods. Branches clothed with stellate hairs. Leaves 2-3 inches long. Whorls of flowers globose, dense, size of a sloe. Corolla campanulate, pale yellow.

Whorled-flowered Buddlea. Shrub.

4 B. BRASILIE'NSIS (Jacq. fl. ex Spreng, syst. 1. p. 430. Graham, bot. mag. 2713.) branches tetragonal, clothed with white tomentum, as well as the under sides of the leaves; leaves oblong, running down the petioles, connate, crenately toothed; flowers axillary, crowded, verticillate; spicate toward the top. ♄. G. Native of Tropical Brazil. B. Neémda, Hort. Link, enum. 1. p. 125. Corollas orange-coloured (fig. 57).

FIG. 57.

Brasilian Buddlea. Fl. Oct. Nov. Clt. 1822. Shrub 10 feet.

5 B. DIVERSIFÒLIA (Vahl, symb. 3. p. 15.) branches divaricate, tetragonal; ? leaves broad-ovate, entire, or repand, glabrous on both surfaces, or the younger ones are clothed with rusty tomentum; glomerules axillary, 3-5-flowered, shorter than the leaves. ♄. S. Native of Java. Wall. cat. no. 6416. Benth. scroph. ind. p. 43. B. I'ndica, Lam. dict. 1. p. 508.

Diverse-leaved Buddlea. Fl. ? Clt. 1823. Shrub.

§ 2. *Flowers capitate; heads usually disposed in terminal panicles.*

6 B. GLOBÒSA (Lam. dict. 1. p. 507. ill. t. 69. f. 2.) branches sub-tetragonal, clothed with hoary tomentum, as well as the under sides of the leaves; leaves lanceolate, acuminated, petiolate, crenated; heads terminal, globose, pedunculate. ♄. H. Native of Chili, in humid places. Ruiz. et Pav. fl. per. 1. p. 52. t. 83. Curt. bog. mag. 174. Hope, acad. harl. 20. p. 417. t. 11. B. capitàta, Jacq. coll. 2. p. 332. icon. rar. t. 307.—Palquin, Feuill. per. 2. p. 71. t. 38. Leaves 6 inches long, on short petioles, which are connate at the base, wrinkled, glabrous, and green above. Heads large; corollas of an orange, or honey colour.

Globose-flowered Buddlea. Fl. May, June. Clt. 1774. Shrub 15 to 20 feet.

7 B. PERFOLIA'TA (H. B. et Kunth, l. c.) stem herbaceous; branches quadrangular, and are, as well as the leaves, tomentose; leaves hoary above, and rusty beneath, oblong-lanceolate, acute, crenated, connate at the base; heads terminal, globose. ♃. ? G. Native between lake Chalco and the city of Mexico, at the altitude of 1170 hexapods. Leaves nearly 3 inches long. Heads of flowers size of a sloe.

Perfoliate-leaved Buddlea. Pl. 2 to 3 feet.

8 B. CONNA'TA (Ruiz. et Pav. fl. per. 1. p. 52. t. 81. f. B.) branches tetragonal, clothed with white tomentum, as well as the under sides of the leaves; leaves lanceolate, connate at the base, crenated, acute, scabrous, and green above; heads terminal, pedunculate, globose. ♄. G. Native of Peru, about Chancay. Hook. in bot. mag. t. 2853. Stems numerous, straight. Bracteas linear-subulate. Corollas copper-coloured, with a villous mouth.

Connate-leaved Buddlea. Fl. May. Clt. 1826. Shrub 5 to 6 feet.

9 B. SPHÆRA'NTHA (Schlecht. et Cham. in Linnæa, 5. p. 104.) branches compressedly tetragonal, clothed with soft velvety tomentum, as well as the leaves; leaves connate at the base, sessile, lanceolate, acuminated, crenated, wrinkled, especially beneath; heads of flowers bibracteate, pedunculate, axillary. ♄. G. Native of Mexico, in Llanos de Perote. Leaves like those of sage, 2 or $2\frac{1}{2}$ inches long. Heads clothed with golden tomentum, as well as outsides of corolla. Corollas glabrous inside.

Round-flowered Buddlea. Shrub.

10 B. POLYCE'PHALA (H. B. et Kunth, l. c.) stem herbaceous, ? twining, tetragonal, and is, as well as the under sides of the leaves, clothed with rusty tomentum; leaves ovate, lyrate, acuminated, crenated, connate at the base; heads terminal, panicled, globose. ♃. ? G. Native of Peru, in woody places near Ayavaca, at the altitude of 1400 hexapods. Leaves lyrate and connate at the base, beset with rusty hairs above, 7-8 inches long. Heads size of a cherry. Corolla hardly longer than the calyx, clothed with rusty tomentum. Capsule obovate. Panicle simple. Said to be nearly allied to *B. connàta*, Ruiz. et Pav.

Many-headed Buddlea. Pl. twining.

11 B. PICHINCHE'NSIS (H. B. et Kunth, l. c. p. 347.) branches terete, glabrous; branchlets tetragonal, and under sides of leaves clothed with rusty tomentum; leaves lanceolate, acuminated, crenated, on short petioles; heads terminal, panicled, globose. ♄. G. Native on the eastern declivity of Mount Pichincha, between the cataract of Cantuna and the plains of Verdecuchu, at the altitude of 1780 hexapods. Leaves glabrous above, 2 inches or more long. Heads size of small cherries, disposed in a simple panicle. Corolla campanulate, a little longer than the calyx, with reflexed segments. Very like *B. globòsa*.

Pichincha Buddlea. Shrub.

12 B. DIFFU'SA (Ruiz. et. Pav. fl. per. 1. p. 52. t. 80. f. A.) subscandent; branches terete, clothed with yellowish tomentum, as well as the under sides of the leaves; leaves sub-petiolate, ovate, and subcordate, acute, pubescent above; peduncles axillary and terminal; flowers capitate. ♄. G. Native of Peru, on the margins of fields, where it is always in flower. Stems diffuse, much branched, yellowish. Leaves deflexed, quite entire, or furnished with one or two teeth, running into the petioles. Common peduncles solitary, twin, or tern, sessile. Stipulas reniform, reflexed. Corolla yellow, with a villous throat.

Diffuse Buddlea. Shrub diffuse.

13 B. RUGÒSA (H. B. et Kunth, l. c.) branches terete, and are, as well as the leaves, clothed with rusty tomentum, glabrous above, wrinkled, lanceolate, acute, crenated, on short petioles; heads terminal. ♄. G. Native of New Grenada, in rugged, frigid places in Parama de Saraguru, near Ona, at the altitude of 1500 hexapods. Branchlets tetragonal. Leaves 8 inches long, and $\frac{1}{2}$ an inch broad. Heads size of a sloe, disposed in a branched panicle. Corolla campanulate, a little longer than the calyx; segments roundish, reflexed.

Wrinkled-leaved Buddlea. Shrub.

14 B. INCA'NA (Ruiz. et Pav. fl. per. 1. p. 52. t. 80. f. B.) branches bluntly tetragonal, and are, as well as under sides of leaves, clothed with white tomentum; leaves oblong and lanceolate, crenated, petiolate; peduncles terminal, panicled; flowers capitate. ♄. G. Native of Peru, on the banks of rivers. Peduncles trichotomously divided. Corollas yellow. Stipulas semicircular.

Hoary Buddlea. Tree 30 to 40 feet.

15 B. E'LEGANS (Cham. et Schlecht, in Linnæa, 2. p. 594.) branches terete, tomentose; leaves lanceolate, acute, bluntly

toothed, wrinkled and glabrous above, but tomentose beneath; panicle terminal, leafy; heads hemispherical, terminal. ♄. G. Native of the South of Brazil, Sello. Branches obsoletely and bluntly tetragonal. Leaves running into the short petioles at the base: largest ones 5½ inches long. Panicle simple. Heads loose, about the size of cherries. Tube of corolla equal in height to the calycine segments; limb obtuse, expanded. Capsule cylindrical. The tomentum of the whole plant is rusty in the dried state.

Elegant Buddlea. Shrub.

§ 3. *Panicle terminal. Flowers spicate, racemose, glomerate, or solitary.*

16 B. INTERRU'PTA (H. B. et Kunth, l. c. p. 348.) branches terete, and are, as well as the under sides of the leaves, clothed with rusty tomentum, the upper surfaces being hoary; leaves oblong-lanceolate, acuminated, quite entire; spikes panicled, verticillate, spreading. ♄. G. Native of the Andes of Quito. Leaves 3 inches, or longer. Petioles 2 lines long. Panicle simple, half a foot long, clothed with rusty tomentum. Whorles of flowers globose, distant, size of large peas. Capsule nearly globose, glabrous, equal in length to the calyx.

Interrupted-spiked Buddlea. Shrub.

17 B. BETONICÆFÒLIA (Lam. ill. 1. p. 291. no. 1488.) branches obscurely tetragonal; leaves petiolate, ovate-oblong, crenulated, much wrinkled; spikes panicled, interrupted, verticillate. ♄. G. Native of Peru. Stems tubercled. Leaves tomentose beneath. Branches of panicle opposite; glomerules verticillate. Flowers sessile, pubescent.

Betony-leaved Buddlea. Shrub.

18 B. BULLA'TA (H. B. et Kunth, l. c.) branches tetragonal, smoothish; leaves lanceolate-oblong, acute, rounded at the base, crenated, wrinkled, glabrous, and shining above, but clothed with hoary tomentum beneath; panicle terminal, branched; flowers glomerate. ♄. G. Native along with the preceding. Leaves 4-5 inches long; petioles ½ an inch. Panicle trichotomous, sessile, 4 inches long, spreading; flowers glomerate at the tops of the branches, on short pedicels. Corolla a little longer than the calyx; segments roundish, spreading. Nearly allied to *B. incàna*, Ruiz. et Pav.

Blistered-leaved Buddlea. Shrub.

19 B. CORDA'TA (H. B. et Kunth, l. c. t. 185.) branches quadrangular, smoothish; branchlets and under surfaces of leaves clothed with rusty tomentum; leaves ovate, acute, cordate, crenulated, glabrous above; panicle terminal, spreading; flowers glomerate. ♄. G. Native of Mexico, in the valley of Guanaxato, near Marfil, at the altitude of 1050 hexapods. Leaves quite entire at the base, 3-4 inches long; petioles 1 inch long. Panicle sessile, trichotomous. Flowers glomerate at the tops of the branches.

Cordate-leaved Buddlea. Shrub, or small tree.

20 B. LONGIFÒLIA (H. B. et Kunth, l. c. p. 349. t. 186.) branches quadrangular, smoothish; branchlets and under sides of leaves clothed with rusty tomentum; leaves oblong-lanceolate, acuminated at both ends, serrately crenulated, glabrous above; panicle terminal; flowers glomerate. ♄. G. Native of the Andes of Peru, between Villa Montan and Santa Cruz, at the altitude of 1400 hexapods. Leaves 7-8 inches long, on short petioles, quite entire towards the base and apex. Panicle sessile, trichotomous. Flowers sweet-scented. Corolla a little longer than the calyx. Ovarium and stigma pilose.

Long-leaved Buddlea. Shrub 18 to 20 feet.

21 B. MÓLLIS (H. B. et Kunth, l. c.) branchlets tetragonal, clothed with hoary tomentum; leaves oblong-lanceolate, acute at both ends, undulately crenulated, glabrous above, but clothed with fuscescent tomentum beneath; panicle terminal, much branched, spreading; flowers glomerate. ♄. G. Native of the province of Quito, in exposed places near Hambato, at the altitude of 1390 hexapods. Leaves 6-7 inches long, on very short petioles. Panicle sessile, trichotomously branched; glomerules 6-10-flowered, on short peduncles. Corolla yellow, a little longer than the calyx.

Soft Buddlea. Tree 12 to 18 feet.

22 B. ACUMINA'TA (H. B. et Kunth, l. c. t. 187.) branches tetragonal, clothed with hoary tomentum; leaves ovate-oblong, acuminated, acute at the base, serrated, glabrous above, but clothed with rusty tomentum beneath; panicle terminal, spreading; flowers glomerate. ♄. G. Native of Mexico, near Santa Rosa de la Sierra, at the altitude of 1340 hexapods. Leaves 3-4 inches long, on short petioles. Panicle sessile, trichotomous. Flowers on short pedicels. Very nearly allied to the preceding, and differs from it principally in the leaves being shorter, acuminated, and serrated.

Acuminated-leaved Buddlea. Shrub.

23 B. DECU'RRENS (Schlecht, et Cham. in Linnæa, 5. p. 105.) branches tetragonal, clothed with golden tomentum; leaves elliptic, acuminated, running a long way into the petioles at the base, somewhat crenately serrated, glabrous above, but clothed with golden yellow tomentum beneath; panicles terminal, spreading; flowers glomerate. ♄. G. Native of Mexico, at San Andres. Allied to *B. acuminàta*, and is distinguished from it in the leaves running into the petioles at the base, in the tomentum being more loose, and as if it were furfuraceous or floccose, yellow in the young state.

Decurrent-leaved Buddlea. Shrub.

24 B. INTERME'DIA (H. B. et Kunth, l. c. p. 350.) branches tetragonal, pubescent; leaves oblong, acuminated at both ends, serrated, rather pilose above, but clothed with rusty tomentum beneath; panicle terminal, branched; branches short, spreading; flowers glomerate. ♄. G. Native along with the preceding. Leaves narrowed into the petioles, green, and beset with stellate hairs above, 2 or 2½ inches long. Panicle sessile, 2-3 inches long. Flowers sessile. Corolla twice as long as the calyx. An intermediate plant between *B. acuminàta* and *B. occidentàlis*.

Intermediate Buddlea. Shrub.

25 B. OCCIDENTA'LIS (Lin. spec. 162.) branches bluntly tetragonal; branchlets and under sides of leaves clothed with fuscescent tomentum; leaves oblong-lanceolate, acuminated at both ends, entire; spikes panicled; flowers glomerate. ♄. G. Native of Peru, near Guamcabamba, in temperate places, Humb. et Bonpl.; about Carthagena, Houston; West Indies, in gullies and other sheltered places. Gærtn. fruct. 1. p. 266. t. 49. Ruiz. et Pav. fl. per. 1. p. 53. t. 82. a. H. B. et Kunth, nov. gen. 2. p. 350. Lam. ill. t. 69. f. 1. Ophióxylon, Plukn. alm. 270. t. 210. f. 1. Branches twiggy. Leaves 5-6 inches long. Corolla white, ex Lin. et Bonpl., but yellow according to Ruiz. et Pav.; but the plant of Lin. and Ruiz. et Pav. are most probably the same, notwithstanding the difference in the colour of the flowers. Spikes disposed in a terminal panicle.

Western Buddlea. Shrub.

26 B. CALLICARPOÌDES (H. B. et Kunth, l. c.) branches a little compressed; branches and leaves clothed with hoary tomentum; leaves ovate-oblong, acuminated, sharply serrated; spikes panicled, sub-fastigiate; flowers glomerate. ♄. G. Native of Mexico, between Xalapa and the river Chachalacas, at the altitude of 700 hexapods. Leaves 3-4 inches long, beset with stellate pili above. Spikes disposed in terminal panicles; glomerules opposite, on short peduncles. Corolla a little longer than the calyx. This species is very nearly allied to *B. occidentàlis* and *B. Americàna*, but is distinguished from both by the size of the leaves, thinner, hoary tomentum; in the panicle

being 3 times shorter, and in the spikes being approximate and subfastigiate.

Callicarpa-like Buddlea. Shrub.

27 B. Americà'na (Lin. spec. 162. amœn. 5. p. 394.) branchlets rather compressed, clothed with hoary tomentum; leaves ovate, acuminated, narrowed at the base, serrately crenated, rather pilose above, but clothed with yellowish tomentum beneath; spikes panicled; flowers glomerate. ♄. G. Native of Peru, on the mountains, Humb. et Bonpl.; West Indies, Houston and P. Browne. Ruiz. et Pav. fl. per. 1. p. 53. t. 82. H. B. et Kunth, nov. gen. 2. p. 351.—Sloane, jam. 139. hist. 2. p. 29. t. 173. f. 1.—Browne, jam. p. 144. Branches subtetragonal. Leaves green above, 4-8 inches long, and nearly 2-4 broad; petioles an inch long. Spikes disposed in a terminal panicle, nearly a foot long; glomerules nearly globose, size of a sloe, on short peduncles. Corollas yellow. Browne says, that in Jamaica it is used in emollient baths and fomentations, and is thought to have all the properties of *Mullien.*

American Buddlea. Fl. Aug. Clt. 1826. Shrub 8 to 12 feet.

28 B. verbascifò'lia (H. B. et Kunth, l. c. p. 351.) branches tetragonal, compressed at the nodi, and are, as well as the under sides of the leaves, clothed with yellow tomentum; leaves glabrous above, ovate-elliptic, acute at both ends, doubly serrated; spikes panicled; flowers glomerate, dense. ♄. G. Native at the foot of Mount Quindiu, near Ibaque, at the altitude of 750 hexapods. Leaves 7-8 inches long, and 4-5 broad, on short petioles. Spikes about 3 inches long, thickness of the little finger, disposed in a terminal panicle, which is a span long, and diffuse. Corolla yellow, twice as long as the calyx; segments ovate, acute. Capsule ovate, obtuse. Very nearly allied to the preceding, but differs in the form of the leaves.

Mullien-leaved Buddlea. Shrub.

29 B. floribu'nda (H. B. et Kunth, l. c. p. 352.) branches tetragonal, smoothish; branchlets and under sides of leaves clothed with hoary tomentum; leaves smoothish above, ovate, acuminated, narrowed at the base, serrated; panicles terminal, branched, divaricate; flowers densely glomerate. ♄. G. Native of Mexico, near Tasco and Tehuilotepec, at the altitude of 920 hexapods. Leaves green above, 3 inches long; petioles 1-2 lines long. Nearly allied to *B. callicarpoides* and *B. Americàna.*

Bundle-flowered Buddlea. Shrub.

30 B. denta'ta (H. B. et Kunth, l. c.) branches terete; branchlets and under sides of leaves clothed with rusty tomentum; leaves glabrous above, ovate-oblong, acuminated, very narrow at the base, sharply toothed; spikes panicled; flowers glomerate. ♄. G. Native of humid places, on the banks of the Guayre, near the town of Caraccas, at the altitude of 416 hexapods, where it is called *Oja de Quesco* by the natives. Leaves 6-7 inches long; petioles half an inch long. Spikes 2-3 inches long, disposed in a terminal, sessile panicle; glomerules opposite, sessile. Corolla longer than the calyx. Capsule ovate. This species differs from all others in the toothed leaves.

Toothed-leaved Buddlea. Shrub 3 to 4 feet.

31 B. parviflò'ra (H. B. et Kunth, l. c. p. 353.) branches obsoletely tetragonal, striated, glabrous; branchlets pubescent; leaves ovate-oblong, acute, narrow at the base, crenately serrated, smoothish above, but clothed with fuscescent tomentum beneath; panicle terminal, trichotomously much branched, divaricate; flowers usually solitary, on short pedicels. ♄. G. Native of Mexico, on mountains near the town of Guernavaca. Leaves 2 inches long, on very short petioles, pubescent above in the young state. Panicle sessile, 6-8 inches long, with opposite branches and branchlets. Flowers small. Corolla white, longer than the calyx.

Small-flowered Buddlea. Shrub or Tree.

32 B. heterophy'lla (Lindl. bot. reg. 1259.) branches terete, woolly; leaves woolly beneath: lower ones cordate-oblong, acuminated, denticulated: superior ones ovate-lanceolate, almost quite entire; racemes terminal, panicled, thyrsoid, composed of few-flowered peduncles. ♄. G. Native of South America. Flowers yellow. Flowering shoots pendulous.

Variable-leaved Buddlea. Fl. May. Clt.? Shrub 10 to 12 feet.

33 B. microphy'lla (H. B. et Kunth, l. c.) branches terete, glabrous; branchlets and under sides of leaves clothed with rusty tomentum; leaves rather scabrous above, ovate-oblong, acute at both ends, serrated towards the apex; panicles terminal, coarctate; flowers glomerate. ♄. G. Native of Mexico, in arid places on the burning mount Jorullo, at the altitude of 430 hexapods. B. parvifò'lia, Willd. herb. no. 2918. Leaves hardly an inch long, on very short petioles. Glomerules size of peas. Corollas white.

Small-leaved Buddlea. Shrub.

34 B. abbrevia'ta (H. B. et Kunth, l. c.) branches terete, glabrous; branchlets tomentose: floriferous ones short; leaves oblong-lanceolate, acute at both ends, serrated, rather scabrous above, and clothed with rusty tomentum beneath; panicles terminal, spreading; flowers crowded. ♄. G. Native of Mexico, in grassy places between Pachuca and Real del Moran, at the altitude of 1340 hexapods; and between San Miguel del Soldado, and La Joya. Cham. et Schlecht, in Linnæa, 8. p. 246. B. brevifò'lia, Willd. herb. no. 2918. Branchlets downy, or clothed with rusty tomentum. Leaves green above, 1 to 1½ inch long; petioles 2-3 lines long. Panicle sessile, sub-trichotomously branched, oblong, 1½ inch long. Flowers on short pedicels, sweet-scented. Corolla white, twice as long as the calyx. Very nearly allied to the preceding.

Short-panicled Buddlea. Shrub 5 to 6 feet.

35 B. Sunda'ica (Blum. bijdr. p. 743.) leaves petiolate, lanceolate, acuminated at both ends, serrulated: upper ones quite entire, clothed with white tomentum beneath; spikes panicled, interrupted, terminal, elongated; flowers on short pedicels; glomerules generally 3-flowered. ♄. G. Native of Java, in woods, on the mountains in the province of Tjanjor. Said to be allied to *B. occidentàlis.*

Sunda Buddlea. Shrub.

36 B. acuminatíssima (Blum. bijdr. p. 743.) leaves on short petioles, lanceolate, acuminated, acute at the base, finely denticulated, clothed with white tomentum beneath: upper ones quite entire; spikes terminal, interruptedly glomerate; glomerules approximate, usually 3-flowered; flowers on short pedicels. ♄. S. Native of Java, on the mountains. Allied to *B. Sundàica,* and only differs from it in the leaves being more acuminated, and in the pedicels being shorter.

Very-acuminated-leaved Buddlea. Shrub.

37 B. Missiò'nis (Wall. cat. no. 6405. Benth. scroph.) branches pubescent; leaves oblong, narrowed at both ends, quite entire, coriaceous, glabrous and smooth above, and pubescent beneath; panicle ovate-pyramidal, many-flowered; racemules opposite; glomerules nearly sessile; corollas slender, glabrous. ♄. G. Native of the Peninsula of India, at Wynad.

Mission Buddlea. Shrub.

38 B. panicula'ta (Wall. in Roxb. fl. ind. ed. Car. 1. p. 412.) arboreous; branches terete, divaricate, densely tomentose; leaves lanceolate-oblong, quite entire, rounded or cuneated at the base, thick, wrinkled, clothed with rusty tomentum beneath, or on both surfaces while young; racemes short, dense, a little branched; flowers sessile; glomerules dense, sub-pedicellate. ♄. G. Native of Nipaul. Leaves 4-5 inches long. Petioles

connected by an elevated line running across the branch. Racemes short and stout, the lowermost ones from the terminal axils, about 2-3 inches long, the others shorter and more simple, until they become a terminal, elongated raceme; the whole forming an elegant, crowded, attenuated, sessile panicle or thyrse. Flowers fragrant, white, each glomerule furnished with a pair of elongated, subulate bracteas, besides some smaller ones under the exterior calyxes. Tube of corolla 3 times longer than the calyx.

Panicled-flowered Buddlea. Fl. Feb. April. Shrub or Tree.

39 B. ACUMINA'TA (Poir. suppl. 1. p. 745.) branches subquadrangular, downy; leaves ovate, acuminated, loosely toothed, downy beneath; racemes terminal, very short, tomentose, panicled. ♄. G. Native of India, ex herb. Juss. Leaves sub-petiolate: lower ones dilated at the base, glabrous above, almost quite entire. Racemes panicled, clothed with rusty tomentum. Corolla downy, with an elongated tube, and short segments. Capsule small, ovate.

Acuminated-leaved Buddlea. Shrub.

§ 4. *Racemes or spikes simple, or a little branched at the base, interrupted.*

40 B. THYRSOI'DEA (Lam. ill. 1. p. 291. no. 1489. encyc. bot. 9. p. 744.) branches terete, yellowish, downy at top; leaves lanceolate-linear, acuminated, serrated, sessile, attenuated at the base, woolly beneath and shining above; raceme thyrsoid, spicate, terminal, tomentose. ♄. G. Native of the South of Brazil; Rio Grande do Sul; Monte Video plentiful. Cham. et Schlecht, in Linnæa, 2. p. 594. B. salicifòlia, Vahl, symb. 3. p. 14.—A very elegant shrub. Leaves 4-5 inches long. Capsules ovate, pedicellate. Floral leaves quite entire. Corolla twice as long as the calyx. Flowers glomerate, nutant.

Thyrsoid-flowered Buddlea. Fl.? Clt. 1823. Shrub 5 to 6 feet.

41 B. SPICA'TA (Ruiz. et. Pav. fl. per. 1. p. 53. t. 81. f. A.) leaves ovate, acute at both ends, serrated; spikes very long, simple. ♄. G. Native of Peru, in arid places of Munna. Branches bluntly tetragonal, clothed with white tomentum. Leaves petiolate. Flowers verticillate. Bracteas subulate. Corolla yellow, tomentose outside; throat hispid.

Spicate-flowered Buddlea. Shrub.

42 B. GRANDIFLÒRA (Cham. et Schlecht, in Linnæa, 2. p. 596.) branches bluntly tetragonal, tomentose; leaves narrow-lanceolate, bluntly toothed, wrinkled and tomentose on both surfaces; raceme terminal, leafy; peduncles 3-flowered. ♄. G. Native of the South of Brazil, in the provinces of Monte Video and Rio Grande do Sul, in many places, Sello. Habit of *B. élegans*. Leaves $5\frac{1}{2}$ inches long, and 9 lines broad. Peduncles rising from the axils of the leaves of the raceme; flowers sessile on the tops of the peduncles. Corolla tomentose, with lanceolate, obtuse, erect segments; tube length of calyx.

Great-flowered Buddlea. Shrub.

43 B. STACHYOI'DES (Cham. et Schlecht, in Linnæa, 2. p. 597.) branches tetragonal: angles a little winged, tomentose; leaves sessile, cuneated at the base, quite entire, coarsely toothed, tomentose beneath, downy above; raceme terminal; floral leaves reflexed. ♄. G. Native of the South of Brazil, Sello. Leaves 6 inches long, and $2\frac{1}{2}$ inches broad, clothed with stellate down above, sessile, and rather connate at the base. Inflorescence exactly of *Stàchys Germánica*, 2-3 inches long, reflexed. Lower flowers subverticillate. Corolla twice as long as the calyx; with oval-obtuse segments. Capsule elliptic.

Stachys-like-racemed Buddlea. Shrub erect.

44 B. BRACHIA'TA (Cham. et Schlecht, in Linnæa, 2. p. 599.) scandent; branches brachiate, almost terete, smoothish; leaves ovate, obsoletely and unequally toothed, glabrous above, but clothed with fine tomentum beneath; racemes or spikes slender, terminal and axillary; glomerules distinct. ♄. ◡. G. Native of tropical Brazil, Sello. Branches compressed at the nodi. Leaves 3 inches long, and 1 to $1\frac{1}{2}$ broad, tapering into the petioles at base, acute or subacuminated. Spikes slender, 6 inches long, falsely verticillate, sessile; peduncles 3-flowered, opposite, propped by reflexed bracteas. Corolla a little longer than the calyx, with ovate-acute segments. Tomentum rusty. Ovarium glabrous.

Armed Buddlea. Shrub climbing.

45 B. MACROSTA'CHYA (Benth. in Wall. cat. no. 6407. scroph. ind. p. 42.) branches acutely tetragonal, or winged, hardly tomentose; leaves oblong-lanceolate, narrowed at both ends, serrated at apex, glabrous above, but clothed with hoary tomentum beneath; spikes interrupted, simple, tomentose; flowers sessile: lower ones glomerate: superior ones scattered. ♄. G. Native of Silhet.

Long-spiked Buddlea. Shrub.

46 B. CUNEA'TA (Cham. et Schlecht, in Linnæa, 8. p. 17.) branches obsoletely angular, tomentose, densely leafy, strict; leaves opposite, rarely 3 in a whorl, erect, sessile, cuneate-obovate, acutely acuminated, coarsely toothed or crenated in front, rather wrinkled, glabrous and shining above, but clothed with white tomentum beneath; heads of flowers disposed in a spicate raceme, which is terminal, continuous, and simple or branched at the base; bracteas equal in length to the heads; limb of corolla glabrous. ♄. G. Native of Brazil, Sello. Largest leaves 2 inches long, and 1 broad. Heads 4-12-flowered, on short peduncles, or nearly sessile. Flowers usually tetrandrous, but in luxuriant plants pentandrous and hexandrous.

Cuneate-leaved Buddlea. Shrub 2 to 3 feet.

47 B. VE'TULA (Cham. et Schlecht, in Linnæa, 8. p. 18.) branches bluntly tetragonal, loose, densely leafy, tomentose upwards; leaves sessile, loose, lanceolate, acute or obtuse, narrowed at the base: lower ones of the branches cuneate-obovate; very blunt, finely and obsoletely serrated, wrinkled, glabrous and shining above, and tomentose beneath; heads of flowers racemose; raceme leafy, terminal; limb of corolla tomentose outside. ♄. G. Native of Brazil, Sello. Heads dense-flowered, nearly globose. Tube of corolla hardly exceeding the calycine teeth.

Old Buddlea. Shrub.

48 B. CESTRIFLÒRA (Cham. et Schlecht, in Linnæa, 8. p. 20.) branches tetragonal, tomentose; leaves dilated into a connately funnel-shaped base, lanceolate-acute, crenated, membranous, obsoletely wrinkled, tomentose beneath, at length naked above; heads racemose; flowers loose, pedicellate; racemes terminal, leafy; teeth of calyx acuminated, elongated; corolla exceeding the calyx, tomentose outside and glabrous inside. ♄. G. Native of Brazil, Sello. Leaves 7 inches long. Raceme simple or branched at the base; heads 6-10-flowered, pedunculate.

Cestrum-flowered Buddlea. Shrub.

49 B. DI'SCOLOR (Roth, nov. spec. 83.) arboreous; branches almost terete, compressed at the nodi, tomentose; leaves lanceolate, acuminated, subserrated, glabrous above, pale beneath, or clothed with white tomentum; spikes interrupted, slender, simple or panicled; bracteas lanceolate-linear; flowers nearly sessile, subglomerate; capsules reflexed. ♄. G. Native of Nipaul; Oude; Rungpur, &c. Wall. cat. no. 1491. B. salicìna, Lam. ill. 1. p. 291.? Blum. bijdr. p. 742. B. Neémda, β, Benth. in Wall. cat. no. 6401. H. O. Leaves green above. Capsule glabrous.?

Two-coloured-leaved Buddlea. Shrub.

50 B. NEE'MDA (Hamilt. in Roxb. fl. ind. ed. car. 1. p. 411.) arboreous; branches almost terete, compressed at the axils, tomentose; leaves lanceolate, subserrated, clothed with fine down above and white tomentum beneath; spikes interrupted, simple;

bracteas ovate-lanceolate; flowers sessile, glomerate; capsules erectly spreading. ♄. S. Native of the Peninsula of India, Oude, Penang, Wall. Deyra Dhoun, Royle. B. serrulàta, Roth, nov. spec. p. 82. B. subserràta, D. Don, prod. fl. nep. p. 92. Leaves 4-8 inches long, on short petioles, which are joined by a connecting membrane. Spike long, with generally a small one on each side at the base. Flowers small, pure white, generally 3-fold. Capsule ovate-oblong. The specific name is an alteration of the vernacular name, *Nimda*, of the plant in Chittagong.

Neemda Buddlea. Fl. June, July. Clt. 1824. Shrub 15 feet.

51 B. Madagascarie'nsis (Vahl, symb. 3. p. 14.) arboreous; branches nearly terete, densely tomentose; leaves petiolate, ovate-lanceolate, almost quite entire, rounded at the base, thick, wrinkled, glabrous above, but densely clothed with tomentum beneath; racemes almost simple; peduncles scattered, 3-5-flowered. ♄. G. Native of Madagascar. Hook. bot. mag. t. 2824. Lam. ill. 1. t. 69. f. 3. Tomentum ferruginous. Leaves 2 inches long, petiolate. Racemes furnished with one or two small ones at the base. Corolla orange-coloured, with roundish segments.

Madagascar Buddlea. Fl.? Clt. 1824. Shrub 10 to 12 feet.

52 B. cri'spa (Benth. in Wall. cat. no. 6494. scroph. ind. 43.) branches divaricate, densely tomentose; leaves ovate-lanceolate, crenately curled: lower ones cordate at the base: superior ones rounded, all thick and wrinkled, clothed with soft tomentum on both surfaces; racemes short, dense, a little branched; flowers sessile; glomerules dense, subpedicellate. ♄. G. Native of Oude and Silhet, Wall.; mountains of Syen, Royle.

Curled-leaved Buddlea. Shrub.

53 B. Asia'tica (Lour. coch. p. 72.) leaves lanceolate-linear, wrinkled, glabrous, subserrated; spikes long, terminal, full. ♄. G. Native of Cochinchina. Branches ascending. Leaves subserrated. Flowers white, disposed in a long uninterrupted spike. Segments of calyx subulate. Corolla campanulate, with rounded segments. Stigma longish, bifid. Capsule oblong.

Asiatic Buddlea. Shrub 3 feet.

54 B. densiflòra (Blum. bijdr. 743.) leaves on short petioles, lanceolate, acuminated, acute at the base, acutely serrulated: upper ones quite entire, with revolute edges, canescent, clothed with white tomentum beneath; racemes terminal, solitary, or by threes; pedicels many-flowered, drooping. ♄. G. Native of Java, on the higher parts of Mount Tjeremai, where it is called *Sambung-luna*. Allied to *B. salicifòlia* and *B. serrulàta*.

Dense-flowered Buddlea. Shrub.

* * * *Species natives of the Cape of Good Hope.*

55 B. salvifòlia (Ait. hort. kew. 1. p. 150.) stem tetragonal, tomentose; leaves ovate-lanceolate, acute, cordate, crenated, wrinkled, tomentose beneath; panicle composed of interrupted racemes. ♄. F. Native of the Cape of Good Hope. Jacq. hort. schœnb. 1. p. 12. t. 28. Lantàna salvifòlia, Lin. spec. 875. Mill. dict. no. 12. Stipulas 2, roundish. Thyrse terminal. Flowers fascicled. Corolla tomentose, with a red tube and pale limb; throat bearded. Ovarium beset with stellate hairs.

Sage-leaved Buddlea. Fl. Aug. Sept. Clt. 1760. Shrub 3 feet.

56 B. sali'gna (Willd. enum. 1. p. 159.) leaves linear-lanceolate, quite entire, with revolute edges, tomentose beneath; corymbs terminal, branched, coarctate; flowers fascicled. ♄. G. Native of the Cape of Good Hope. B. salicifòlia, Jacq. hort. schœnbr. 1. p. 12. t. 29. Schultes, obs. bot. p. 23. Leaves on short petioles, sinuately undulated, with scabrous margins. Flowers on short pedicels. Corolla white, with a square red spot at the base, sometimes purplish. Stamens exserted. Scent of plant heavy.

Willowy-leaved Buddlea. Shrub.

57 B. virga'ta (Thunb. prod. 1. p. 30. fl. cap. 1. p. 542.) leaves linear-oblong, obtuse, entire; racemes terminal. ♄. G. Native of the Cape of Good Hope, in Carro, beneath Roggeveld, about river banks. Willd. spec. 1. p. 633. Habit of *Hyssòpus*. Branches filiform, and are, as well as the leaves, clothed with white tomentum. Leaves from a nail to an inch long.

Twiggy Buddlea. Shrub 4 to 6 feet.

58 B. incómpta (Lin. supp. 123. Thunb. l. c.) leaves in fascicles, ovate, hoary; racemes terminal; branches flexuous, stiff. ♄. G. Native of the Cape of Good Hope, on the top of Roggeveld. Leaves silky, entire, minute.

Undecked Buddlea. Shrub 1 foot.

† *Species hardly known.*

59 B. terna'ta (Lour. coch. p. 72.) leaves ternate, acuminated; peduncles 1-flowered. ♄. G. Native of Cochinchina. Poir. suppl. 1. p. 746. Leaves lanceolate, serrated. Flowers white, on axillary, solitary peduncles. Segments of corolla ovate. Stigma bifid. Nectarium pilose. Capsule 2-celled, many-seeded.

Ternate-leaved Buddlea. Shrub 2 feet.

60 B. volu'bilis (Lam. ill. 1. p. 291. no. 1492.) leaves linear, acute, quite entire; cymes axillary, clothed with rusty tomentum; stem twining. ♄. ◠. S. Native of the Island of Bourbon. Poir. suppl. 1. p. 745. Corolla with a very short tube, and deep 4-parted limb.

Twining Buddlea. Shrub twining.

Cult. The species of *Buddlèa* are all showy when in blossom; they are, therefore, worth cultivating for ornament. The *B. globòsa* and *B. salvifòlia* are the only species ascertained to be almost hardy; they requiring only a little protection in severe frosts. A light rich soil answers them best; and cuttings of all strike root readily in mould, under a hand-glass; those of the stove species in heat. All the species are abundant flowerers; and the flowers of all are sweet-scented.

Tribe VIII.

CALCEOLARIE'Æ. Calyx 4-parted, valvate in æstivation. Corolla irregular, bilabiate. Stamens 2-4, inserted in the throat. Cells of anthers diverging at the base, and confluent at apex. Stigma undivided, capitate. Capsule membranous; dissepiment constituted from the inflexed margins of the valves; placentas 2, stipitate, or adnate to the dissepiment. Seeds minute, with a mucrone-formed umbilicus; testa membranous. Albumen fleshy. Embryo terete, about half the length of the albumen.—Herbs or subshrubs, natives of South America and the Cape of Good Hope, usually clothed with glandular pubescence. Leaves opposite, generally undivided, but sometimes pinnate and pinnatifid. Flowers terminal, usually corymbosely panicled or racemose, generally yellow, rarely purple. This very natural tribe forms an osculant group between the *Scrophularineæ* and the *Gesneriàceæ*, in the æstivation of the calyx being valvate; in the valves of the capsule being revolute and placentiferous; in the very minute seeds, furnished with a longer umbilical funicle; in habit, inflorescence, and opposite, usually wrinkled, crenated leaves, and albuminous seeds. The *Calceolària petio-*

làris, and some others, have sometimes irregular tubular corollas.

LXXXVIII. CALCEOLA'RIA (from *calceolus*, a little slipper; in allusion to the form of the corolla.) Feuill. per. 3. p. 12. t. 7. Lin. syst. p. 61. Schreb. gen. no. 39. Gærtn. fruct. 1. p. 290. t. 62. Juss. gen. p. 120. ed. Usteri, p. 135. H. B. et Kunth, nov. gen. amer. 2. 378. Lam. ill. t. 15.

Lin. syst. *Diándria, Monogýnia.* Calyx 4-parted, nearly equal; upper segment generally a little broader than the rest. Corolla with a very short tube; limb bilabiate; upper lip short, truncately rounded, entire: lower lip large, concave, slipper-shaped. Stamens 2, inserted in the base of the tube, short; cells of anthers divaricate (one of which is sometimes sterile.) Stigma simple. Capsule ovate-conical, propped by the permanent calyx, 2-celled, septicidally 2-valved; valves bifid; placentas adnate to the dissepiment. Seeds sulcately angular.—Shrubs, subshrubs, or herbs, rarely stemless. Leaves opposite, sometimes 3 in a whorl, rarely alternate. Peduncles 1 or many-flowered, alar, axillary or terminal, corymbose. Corolla generally yellow, rarely purple.

§ 1. *Leaves opposite, pinnate or pinnatifid. Stems leafy. One of the cells of the anthers separated from the transverse connective: the other sterile or wanting. Herbaceous plants.*

1 C. pinna'ta (Lin. syst. 65. mant. 171. act. holm. 1770. p. 286. t. 8.) herbaceous, clothed with clammy hairs; leaves pinnate; leaflets or segments toothed: lower ones pinnatifidly toothed; peduncles twin or tern, panicled. ⊙. H. Native of Peru, in humid places. Curt. bot. mag. t. 41. Vahl, enum. 1. p. 189. exclusive of the synonymes. Plant much branched. Leaves petiolate. Calycine segments ovate-cordate, much spreading. Corolla sulphur-coloured. Ovarium hairy.

Pinnate-leaved Slipperwort. Fl. July, Sept. Clt. 1773. Pl. 2 to 3 feet.

2 C. chelidonioi'des (H. B. et Kunth. nov. gen. 2. p. 379.) herbaceous, hairy; leaves pinnate at base and pinnatifid at top, rather hispid above, and glabrous beneath; leaflets pinnatifidly cut, sharply serrated, glandularly ciliated; lateral flowers twin, and terminal ones subumbellate. ⊙. H. Native at the foot of Mount Javirac, near Quito, at the altitude of 1500 hexapods. C. concínna, Willd. herb. Erect, dichotomously branching; branches tetragonal. Leaves subpetiolate. Corolla yellow, glabrous, size of those of *C. pinnàta*. Ovarium glabrous.

Swallow-wort-like Slipperwort. Pl. 2 to 3 feet.

3 C. gra'cilis (H. B. et Kunth. l. c. p. 379.) herbaceous, clothed with clammy hairs; lower leaves pinnate or ternate: superior ones nearly simple, serrated, hispid above, but beset with white hairs beneath; lateral flowers axillary, twin: terminal ones subcorymbose. ⊙. H. Native of Quito, on the banks of the river San Pedro, near Chillo, at the altitude of 1340 hexapods. Herb slender, dichotomously branched; young branches red. Leaves petiolate. Corolla pale yellow. Ovarium glabrous.

Slender Slipperwort. Pl. 1 foot.

4 C. tripartì'ta (Ruiz. et Pav. fl. per. 1. p. 14. t. 22. f. a.) herbaceous, hairy; leaves tripartite: lobes ovate, serrated; peduncles terminal, corymbose; pedicels 5-6. ⊙. H. Native in the groves of Panatahua. Stem terete, branched. Leaves petiolate; the middle lobe the largest. Corolla pale yellow.

Tripartite-leaved Slipperwort. Pl. 1 to 2 feet.

5 C. scabiosæfòlia (Rœm. et Schultes, syst. 1. p. 185.) prostrate; lower leaves pinnate: superior ones pinnatifid, 3-lobed or simple: the terminating segment always the largest; peduncles terminal, corymbose. ♃. F. Native of Peru. Sims, bot. mag. 2405. C. heterophýlla, Willd. enum. 1. p. 29. C. pinnàta, Ruiz. et Pav. fl. per. 1. p. 14. t. 19. Calceolària foliis scabiosæ vulgàris, Feuill. per. 3. t. 12. f. 1. C. pinnàta, β, Willd. spec. 1. p. 106. Plant rather hairy. Corollas pale yellow: lower lip large, ventricose.

Scabious-leaved Slipperwort. Fl. May, Oct. Clt. 1822. Pl. trailing.

§ 2. *Leaves entire or toothed, radical, usually rosulate. Peduncles scape-formed. Herbaceous plants.*

6 C. plantagi'nea (Smith, icon. ined. 1. t. 2. Vahl, enum. 1. p. 172. exclusive of the syn. of Jovellàna scapiflòra) stemless, pubescent; leaves radical, ovate, rhomboid, rosulate, serrated, nerved; scapes generally 2-3-flowered, pilose; lower lip of corolla large, hemispherical: upper one small, bifid. ♃. F. Native of the Straits of Magellan; and of Chili, on the Cordilleras, &c. Hook. bot. mag. 2805. C. biflòra, Lam. ill. p. 52. Corollas yellow.

Plantain-like Slipperwort. Fl. Aug. Clt. 1826. Pl. 1 foot.

7 C. na'na (Smith, icon. ined. 1. t. 1.) nearly stemless; leaves oblong-ovate, almost quite entire; peduncles scape-formed, 1-flowered; upper lip of corolla large, pendulous. ♃. F. Native of the Straits of Magellan. C. uniflòra, Lam. ill. t. 15. f. 3. Plant decumbent. Leaves hardly ½ an inch long. Peduncles solitary or numerous, 2 inches high. Corolla large, yellow.

Var. β; leaves larger, a little toothed; flowers larger. ♃. H. Native along with the species.

Dwarf Slipperwort. Pl. decumbent.

8 C. Fothergi'llii (Ait. hort. kew. 1. p. 30. t. 1.) leaves spatulate, quite entire, pilose above; peduncles scape-formed, 1-flowered. ♃. F. Native of the Falkland Islands. Lam. ill. t. 15. f. 1. Curt. bot. mag. t. 348. Cav. icon. 5. t. 442. f. 1. Tratt. tab. t. 405. C. Neeàna, Spreng. syst. 1. p. 44. Stem a little divided near the root. Leaves hardly an inch long, connate at the base. Peduncles solitary or twin, villous, clammy. Segments of calyx ovate-acute. Upper lip of corolla yellowish: lower lip 4 times the size of the upper ones, sulphur coloured, having the margins spotted with red. Cavanilles's plant is said to have the leaves crenated.

Fothergill's Slipperwort. Fl. May, Aug. Clt. 1777. Pl. ¼ to ½ foot.

9 C. polyrrhi'za (Cav. icon. 5. p. 25. t. 441.) plant almost stemless; leaves cuneiform, serrated a little, acute; peduncles scape-formed; pedicels umbellate. ♃. F. Native of the Falkland Islands, in humid places. Under each umbel of flowers there are 2 small leaves. Segments of the calyx ovate, each furnished with 3 stripes. Corolla yellow, dotted with red: lower lip almost an inch long, incurved at top.

Many-rooted Slipperwort. Pl. ½ to 1 foot.

10 C. monta'na (Cav. icon. 5. p. 27. t. 443. f. 1.) plant almost stemless; leaves obovate, unequally toothed, wrinkled, hoary; scape dichotomous. ♃. F. Native of the Cordillera of Chili. Scapes 1½ foot high, reddish, twice bifid, with a solitary 1-flowered pedicel in the second fork; lateral peduncles 4-flowered. There are 2 opposite small leaves under each division. Calycine segments 3-nerved.

Mountain Slipperwort. Pl. 1½ foot.

11 C. pinifòlia (Cav. icon. 5. p. 26. t. 442. f. 2.) plant almost stemless; leaves linear, with revolute edges; peduncles scape-formed, dichotomous; pedicels umbellate. ♃. F. Native on the Cordillera of Chili. Root thick. Stem hardly an inch, divided near the base. Leaves approximate, an inch long. Peduncles 2 inches long, twice bifid, furnished with 2 leaves under each division; middle pedicels 1-flowered: lateral ones 2-flowered. Corolla yellow; lower lip narrowed to the base.

Pine-leaved Slipperwort. Pl. ½ foot.

§ 3. *Leaves entire or toothed: radical ones broad, usually rosulate. Stems few-leaved, corymbosely many-flowered. Herbaceous plants.*

12 C. racemòsa (Cav. icon. 5. p. 29. t. 448.) leaves oblong, toothed, wrinkled, tomentose; peduncles terminal, bifid; pedicels racemose. ♃. F. Native of the Falkland Islands. Stems terete, tomentose, few-leaved. Radical leaves numerous, rosulate. Lateral peduncles bifid, 2-flowered, with the middle pedicel 1-flowered. Lower lip of corolla ovate.

Racemose-flowered Slipperwort. Pl. $\frac{1}{2}$ to 1 foot.

13 C. ca'na (Cav. icon. 5. p. 27. t. 443. f. 2.) leaves cuneiform, hoary, tomentose, quite entire; stems ascending; peduncles dichotomous. ♃. F. Native of Peru. Root thick. Leaves densely tomentose, 2 a little above the others. Corollas small, yellow: lower lip narrowed to the base.

Hoary Slipperwort. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

14 C. crenatiflòra (Cav. icon. 5. p. 28. t. 446.) leaves obovate-oblong, unequally serrated, rather tomentose; lower lip of corolla crenated. ♃. F. Native of Chili, in humid places. Hook, bot. mag. 3255. Lindl. bot. reg. 1609. C. anómala, Pers. ench. 1. p. 16. C. péndula, Sweet, brit. fl. gard. t. 155. Stem bifid at top. Radical leaves many: cauline ones few: 2 lower ones subpetiolate: superior ones sessile. Pedicels racemose, 1-flowered. Calycine segments ovate. Corolla yellow; lower lip spotted with red. Capsule papery, fulvous. There are several hybrids between this and other species. See Sweet, fl. gard. 262.

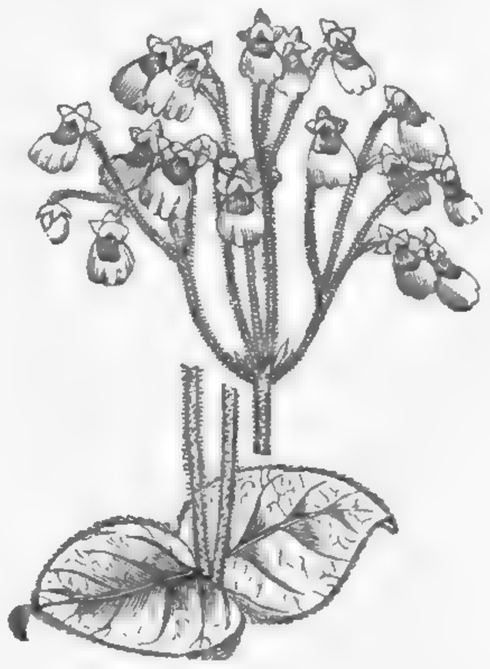
Notched-flowered Slipperwort. Pl. $1\frac{1}{2}$ foot.

15 C. para'lia (Cav. icon. 5. p. 29. t. 447.) leaves unequally toothed: radical ones cuneated: superior ones oblong, connate, and are, as well as the capsules, tomentose. ♃. F. Native of Chili. C. Paralénsis, Spreng. syst. 1. p. 45. Peduncles axillary and terminal, dichotomous. Corolla yellow: lower lip of corolla narrowed towards the throat.

Paralia Slipperwort. Pl. 2 feet.

16 C. corymbòsa (Ruiz. et Pav. fl. per. 1. p. 14. t. 20. f. b.) radical leaves ovate and cordate, petiolate, doubly crenated: cauline leaves few, cordate, half stem-clasping. ♃. F. Native of Chili, in shady places. Ker. bot. reg. 723. Hook, bot. mag. 2418. Plant hairy. Radical leaves broad, rosulate, white beneath. Stems leafless at bottom, but dichotomous and leafy at top. Flowers corymbose, yellow, marked with purple dots and lines. There are several garden hybrids reared, between this and several other species. 1. C. Gellaniàna, Penny, with dusty copper coloured flowers. This is a hybrid between *C. corymbòsa* and *C. purpúrea*. 2. C. hìans, Penny, with yellow flowers. 3. C. Hopeàna, Morrison, with yellow flowers, a hybrid between *C. corymbòsa* and *C. plantagínea*. 4. C. polyántha, Penny, with yellow flowers; a hybrid between *C. corymbòsa* and *C. petiolàris*. 5. C. Yoúngii, Penny, in bot. reg. 1448, with ochraceous and dirty purple flowers; a hybrid between *C. corymbòsa* and *C. arachnóidea*. (fig. 58.)

FIG. 58.



Corymbose-flowered Slipperwort. Fl. May, Oct. Clt. 1822. Pl. 1 to $1\frac{1}{2}$ foot.

17 C. purpu'rea (Graham, in edinb. phil. journ. 1827. bot. mag. 2775.) herbaceous; stems numerous, erect, branched; leaves wrinkled, hispid: radical ones cuneate-spatulate, serrated, quite entire behind, petiolate, acutish: cauline leaves cordate, decussate: superior ones smaller, and quite entire; corymbs terminal, many-flowered. ♃. F. Native of Chili, on the Cordilleras. Lindl. bot. reg. 1621. Stems many from the same root, downy. Leaves with a few long scattered hairs on their surfaces. Calyx downy. Corolla rather small, of an uniform reddish violet colour. Habit of *C. corymbòsa*. There are several hybrids between this and other species. See Sweet, fl. gard. n. s. t. 244.

Purple-flowered Slipperwort. Fl. July, Sept. Clt. 1827. Pl. 1 foot.

18 C. oblónga (Ruiz. et Pav. fl. per. 1. p. 15. t. 24. f. b.) leaves oblong, serrated, petiolate; peduncles trifid, with 3-6-flowered branches; stem simple. ⊙. F. Native of the groves of Panatahua. Root fascicled. Radical leaves numerous: cauline ones few, on short petioles. Calyx hairy. Corolla yellow, dotted with red inside; lower lip large, tricrenate at the top.

Oblong-leaved Slipperwort. Pl. $1\frac{1}{2}$ foot.

19 C. puni'cea (Ruiz. et Pav. fl. per. 1. p. 15. t. 24. f. a.) hairy; stems creeping; leaves oval, serrated; peduncles terminal, bifid, 7-8-flowered; pedicels umbellate. ♃. F. Native of the groves of Panatahua. Root fascicled. Leaves glabrous above, on short petioles. Corollas scarlet, glabrous, form of those of *C. oblónga*.

Scarlet-flowered Slipperwort. Pl. 1 to 2 feet.

§ 4. *Leaves toothed, crenated, or serrated, petiolate; petioles naked. Stems leafy.*

* *Herbaceous plants. Leaves opposite.*

20 C. serra'ta (Lam. ill. 1. p. 51.) erect; branches clothed with tomentose pubescence; leaves petiolate, ovate, acute, acutish at the base, sharply serrated, finely downy, canescent beneath; corymbs terminal, sub-trichotomous; pedicels pubescent. ♃. F. Native of Quito, near Chillo, Humb. et Bonpl. Peru in Canta, Ruiz. et Pav. H. B. et Kunth, nov. gen. 2. p. 381. C. infléxa, Ruiz. et Pav. fl. per. 1. p. 16. t. 25. f. a.? Herb erect, branched. Leaves $1\frac{1}{2}$ inch long, and 9 lines broad. Calycine segments ovate, acute. Corolla glabrous, yellow; lower lip reflexed, narrowed at the base.

Serrated-leaved Slipperwort. Pl. 2 to 3 feet.

21 C. divarica'ta (H. B. et Kunth, nov. gen. 2. p. 381.) twining; branches divaricate, glabrous; leaves petiolate, ovate, acute, cordate, coarsely and crenately-serrated, ciliated, glabrous, downy on the veins beneath; panicles terminal, leafy; flowers corymbose; pedicels clothed with glandular pili. ♃. F. Native of Peru, in temperate places near Succhubamba and Ayavaca, at the altitude of 1400 hexapods. Leaves $1\frac{1}{2}$ inches. Calyx clothed with glandular hairs, with ovate, acute segments. Corolla yellow. Ovarium clothed with glandular hairs.

Divaricate Slipperwort. Pl. twining.

22 C. rotundifòlia (H. B. et Kunth, l. c. p. 382.) stems simple, 1-2-3-flowered, and are, as well as the leaves, pubescent; leaves petiolate, roundish, obtuse, coarsely crenated, convex, thick. ⊙. H. Native of Peru, in cold places between Chulucana and Guamcabamba. Stems simple, fleshy. Leaves $\frac{1}{2}$ inch long. Calyx downy. Corolla yellow; throat hairy.

Round-leaved Slipperwort. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

23 C. sibthorpioìdes (H. B. et Kunth, l. c.) stems procumbent; branches hispidly pilose; leaves petiolate, ovate-roundish, acutish, cordate, crenately cut, hairy on both surfaces; flowers terminal, corymbose; peduncles clothed with glandular hairs. ♃. F. Native of Peru, in icy places on mount Gual-

gayoc, near the mines of Micuipampa, at the altitude of 1840 hexapods. Leaves membranous. Calyx clothed with glandular hairs; segments ovate-oblong, bluntish. Corolla yellow.

Sibthorpia-like Slipperwort. Pl. procumbent.

24 C. saxa'tilis (H. B. et Kunth, l. c.) erect; branches villous; leaves on short petioles, ovate, bluntish, rounded at the base, subcordate, deeply crenated, hairy above, but clothed with hoary tomentum beneath; corymbs terminal; pedicels pilose. ♃. F. Native in stony places on Mount Chimborazo, at the altitude of 1750 hexapods. Leaves 9-10 lines long. Flowers about the size of those of *C. pinnàta*, copper-coloured. Calycine segments ovate, acute.

Stone Slipperwort. Pl. 1 foot.

25 C. lamiifòlia (H. B. et Kunth, l. c. p. 383.) stem erectish, and is, as well as the branches, pilose; leaves petiolate, ovate, acute, truncately rounded at the base, coarsely serrate-crenated, beset with adpressed hairs on both surfaces, white beneath; peduncles terminal, generally twin, pilose. ♃. F. Native near the town of Quito, at the altitude of 1490 hexapods. Leaves 1 to 1½ inch long. Calyx pilose, with roundish-ovate, acute segments. Corollas large, yellow, glabrous. This species is said hardly to differ from *C. bícolor*.

Dead-nettle-leaved Slipperwort. Pl. 1½ to 2 feet.

26 C. ova'ta (Smith, icon. ined. 1. t. 3. Vahl, enum. 1. p. 182.) erect, branched, beset with long, white hairs; leaves ovate, obsoletely crenated, or serrated, on short petioles; peduncles twin, filiform, longer than the leaves. ☉. F. Native of Peru. C. integrifòlia, Lin. suppl. 86, but not of his systema. C. dichótoma, Lam. ill. p. 52. C. biflòra, Ruiz. et Pav. fl. per. 1. p. 16. t. 20. f. a. Pers. ench. 1. p. 16. Lower branches opposite: superior ones alternate, dichotomous. Leaves 1 inch long, obscurely crenated, or quite entire. Peduncles usually by twos, filiform, longer than the leaves. Corollas small.

Ovate-leaved Slipperwort. Pl. ½ to 1 foot.

27 C. bicrena'ta (Ruiz. et Pav. fl. per. 1. p. 15. t. 23. f. b.) erect, branched; leaves on short petioles, ovate, doubly serrated, or crenated, tomentose beneath; peduncles axillary and terminal, furnished with 2 leaves at top; pedicels umbellate, hairy, unequal. ♃. ? F. Native of Peru, on the mountains of Cuchero. Leaves wrinkled. Calyx villous. Corolla large. Upper lip inflexed: lower one large, both tricrenate at top.

Twice-crenated-leaved Calceolaria. Pl. 2 to 3 feet.

28 C. heterophy'lla (Ruiz. et Pav. fl. per. 1. p. 16. t. 21. f. b.) very hairy, erect; leaves petiolate, ovate-elliptic and subcordate, serrated; peduncles very long, dichotomous. ♃. G. Native of Peru, in groves. Hairs rusty, some of them long and bristle like, and others shorter and glandular. Stems quadrangular; branches purplish. Leaves roundish, or oblong, often doubly serrated. Peduncles from the superior axils, clammy at top; pedicels 1-flowered, 2 from each fork. Corolla half open: lower lip large, ventricose.

Various-leaved Slipperwort. Pl. 1 to 1½ foot.

29 C. loba'ta (Cav. icon. 5. p. 26. t. 443. f. 1.) erect; leaves cordate, lobate, serrated, clothed with hoary tomentum beneath; stem dichotomous, reddish, pilose; peduncles terminal, 4 in number, 2 centre ones 1-flowered, and the 2 lateral ones 3-flowered. ♃. F. Native of Peru, in dry places. Leaves petiolate, 5-lobed, villous above; lobes short. Petioles very hairy, a little longer than the leaves. Calycine segments ovate, 3-furrowed. Corolla yellow; lower lip lined lengthwise, large.

Lobed-leaved Slipperwort. Pl. 2 feet.

* * *Shrubby plants. Leaves opposite.*

30 C. lana'ta (H. B. et Kunth, nov. gen. 2. p. 383.) suffruticose, densely clothed with white tomentum; leaves petiolate, ovate-deltoid, acute, cordate, doubly crenated; corymbs terminal, fastigiate. ♄. G. Native of Quito, in temperate places between Alausi and Pomallacta, at the altitude of 1300 hexapods. Leaves 2-3 inches long. Corolla large, yellow, smoothish.

Woolly Slipperwort. Shrub.

31 C. stricta (H. B. et Kunth, l. c. p. 380.) shrubby; branchlets rather clammy, erect; leaves petiolate, lanceolate-oblong, acuminated, narrowed at the base, denticulated, glabrous; corymbs terminal, sub-dichotomous; pedicels clammy. ♄. G. Native of New Granada, in temperate places between the river Vinajacu and the city of Loxa, at the altitude of 1100 hexapods. Branches smooth, reddish, clammy while young. Leaves glabrous, paler, and rather clammy beneath, 4 inches long. Calyx rather clammy. Corolla yellow, glabrous. Ovarium glabrous.

Strict Slipperwort. Shrub.

32 C. padifòlia (H. B. et Kunth, l. c.) shrubby; branchlets rather clammy; leaves petiolate, oblong, or ovate oblong, acuminated, acute at the base, toothed, glabrous; flowers terminal, corymbose; pedicels rather clammy. ♄. G. Native of Peru, near Ayavaca, at the altitude of 1400 hexapods. Branches tetragonal, smooth, glabrous. Leaves about 2 inches long, pale beneath. Calycine segments ovate, acute. Corolla yellow, glabrous. Capsule glabrous.

Bird-cherry-leaved Slipperwort. Shrub.

33 C. defle'xa (Ruiz. et Pav. fl. per. 1. p. 18. t. 30. f. b.) shrubby; branchlets clammy, purplish; leaves ovate-lanceolate, serrated, canescent beneath; peduncles axillary and terminal; pedicels umbellate, villous. ♄. G. Native of Peru, in Caxatamba, near water falls. Leaves deflexed, on short petioles, shining above: floral ones quite entire. Peduncles twin. Corolla of a coppery yellow colour; lower lip ventricose, incurved.

Deflexed-leaved Slipperwort. Shrub 3 to 4 feet.

34 C. viscòsa (Ruiz. et Pav. fl. per. 1. p. 18. t. 30. f. a.) the whole plant resinous and clammy; leaves petiolate, ovate, acute, serrated, canescent beneath; peduncles axillary and terminal; pedicels umbellate; calyx tomentose. ♄. G. Native of Peru, on the Alps. The plant is bitter, with the scent of *Teùcrium Màrum*. Pedicels and calyxes tomentose: middle ones 1-flowered: lateral ones 3-flowered. Corollas yellow.

Clammy Slipperwort. Shrub 2 to 3 feet.

35 C. flexuòsa (Ruiz. et Pav. fl. per. 1. p. 17. t. 26. f. a.) shrubby, rough, beset with glandular villi; branches flexuous; leaves cordate, unequally and bluntly crenated, petiolate, remote, rough above; peduncles axillary and terminal, many-flowered; pedicels umbellate. ♄. G. Native of Peru, among the debris of rocks, in the valley of Canta. Corolla yellow: lower lip large, ventricose.

Flexuous Slipperwort. Shrub.

36 C. niva'lis (H. B. et Kunth, nov. gen. 2. p. 381.) shrubby; branches and leaves glabrous; leaves petiolate, ovate, acute, acutish at the base, crenately serrated, rather coriaceous, yellowish beneath; corymbs terminal; flowers umbellately fascicled; pedicels hairy. ♄. G. Native on Mount Assuay, near Los Paredones, and the plains of El Pullal, at the altitude of 1980 hexapods, in frigid places. Leaves 9-11 lines long; petioles hairy. Calyx hairy, with ovate, acute segments. Corolla yellow, glabrous. Capsule glabrous.

Snowy Slipperwort. Shrub 3 feet.

37 C. sca'bra (Ruiz. et Pav. fl. per. 1. p. 19. t. 29. f. a.) shrubby, hispid, of a rusty colour; leaves nearly sessile, oblong, lined, toothed, hispid; peduncles axillary and terminal, solitary, 1-flowered, length of leaves. ♄. G. Native of Peru, among broken rocks. Stem rough, twiggy. Leaves approximate, with revolute edges. Corolla yellow; both lips incurved: lower one large.

Scabrous Slipperwort. Shrub 3 feet.

38 C. Herbertia'na (Lindl. bot. reg. t. 1313.) shrubby, much branched; leaves oblong, wrinkled, crenated, pubescent, petiolate, same colour on both surfaces; peduncles terminal, corymbose, pilose. ♄. F. Native of Chili. Stem pilose. Lower leaves ovate-oblong, obtuse, petiolate: upper ones sessile. Lower lip of corolla very large. Corolla yellow, spotted inside.

Herbert's Slipperwort. Fl. June, Sept. Clt.? Shrub 2 to 3 feet.

39 C. pulverule'nta (Ruiz. et Pav. fl. per. 1. p. 19.) shrubby; branches clothed with rough canescent powder; leaves on short petioles, oblong-lanceolate, dentately serrated; peduncles axillary, solitary, generally 4-flowered. ♄. G. Native of Peru, in Canta, among broken rocks.

Powdery Slipperwort. Shrub 6 feet.

40 C. salicifòlia (Ruiz. et Pav. fl. per. 1. p. 18. t. 19. f. b.) shrubby, quite glabrous; leaves ovate-lanceolate, serrated, shining, and clammy above, but wrinkled and grey beneath; peduncles terminal, twin; pedicels 4: middle ones 1-flowered, and lateral ones 3-flowered. ♄. G. Native of Peru, in boggy and stony places. Branches clammy and resinous. Leaves spreading, or deflexed, very like those of *Sálvia officinàlis*. Corolla large, clothed with glandular villi: lower lip crenated at top.

Willow-leaved Slipperwort. Shrub 6 feet.

41 C. cuneifórmis (Ruiz. et Pav. fl. per. 1. p. 19. t. 27. f. b.) shrubby; branches scabrous, rusty; leaves approximate, cuneiform-ovate, deeply serrated, lined above, and clothed with hoary tomentum beneath; corymbs terminal. ♄. G. Native of the alps of Canta, Tarma, &c. Calyx yellowish. By chewing the leaves the saliva becomes yellow.

Wedge-formed-leaved Slipperwort. Shrub 2 feet.

42 C. involu'ta (Ruiz. et Pav. fl. per. 1. p. 15. t. 23. f. a.) shrubby; leaves on short petioles, ovate, acute, serrated, glabrous; peduncles axillary and terminal, 1-flowered; corolla involute. ♄. G. Native of Panatahua, in forests. Plant glabrous. Peduncles 2-3 together from the axils of the superior leaves. Calyx reflexed. Corolla yellow, large, covering the calyx.

Involute-flowered Slipperwort. Shrub 3 feet.

* * * *Shrubby plants. Leaves opposite, and 3 in a whorl.*

43 C. bícolor (Ruiz. et Pav. fl. per. 1. p. 16. t. 25. f. b.) shrubby; leaves petiolate, opposite, and 3 in a whorl, ovate, biserrated, wrinkled; peduncles axillary and terminal, subdichotomous. ♄. G. Native of Peru, in the valley of Canta. Plant hairy. Branches dependent, bluntly tetragonal, of a rusty purple colour. There are 2-3 sessile leaves under the peduncles, and 2 under the pedicels, which are clothed with glandular villi. Corolla with a white base, and yellow apex: lower lip inflexed, narrowed at the base.

Two-coloured-flowered Slipperwort. Fl. Aug. Sept. Clt. 1829. Shrub 2 feet.

44 C. diffu'sa (Lindl. bot. reg. 1374.) suffruticose, procumbent; leaves cordate-ovate, coarsely and doubly serrated, petiolate, opposite, or 3 in a whorl, hoary beneath; peduncles terminal and axillary, corymbose. ♄. F. Native of Peru, at Canta, Cruckshanks. C. bícolor, Graham, in edinb. phil. journ. oct. 1830. p. 366, but not of Ruiz. et Pav. Branchlets and leaves rather downy. Pedicels pilose. Corolla having the lower lip bent over the upper, with a white base and yellow apex. This is probably nothing more than the *C. bícolor* of Ruiz. et Pav.

Diffuse Slipperwort. Fl. Aug. Sept. Clt. 1829. Shrub proc.

45 C. uniflòra (Ruiz. et Pav. fl. per. 1. p. 16. t. 20. f. c.) shrubby, much branched; leaves on short petioles, opposite, and 3 in a whorl, ovate, serrated, downy; peduncles axillary, solitary, 1-flowered, each furnished with 2 quite entire leaves in the middle. ♄. G. Native of Peru, in Tarma, at Cura. C. monánthos, Poir. suppl. 1. One side of branches purplish. Leaves generally 3 in a whorl. Flowers small.

One-flowered Slipperwort. Shrub.

46 C. denta'ta (Ruiz. et Pav. fl. per. 1. p. 18. t. 29. f. b.) shrubby; branchlets hairy; leaves opposite, and 3 in a whorl, ovate, sharply and doubly toothed, glabrous in the adult state; peduncles terminal, twin, bifid, with a 1-flowered pedicel in the fork; pedicels racemose, secund. ♄. G. Native of Chili, in woods. Corollas yellow, form of those of *C. scàbra*. Shrub much branched, clammy, with the taste of Peruvian bark.

Toothed-leaved Slipperwort. Shrub.

47 C. virga'ta (Ruiz. et Pav. fl. per. 1. p. 20. t. 31. f. a.) shrubby; branches twiggy, purplish; leaves on short petioles, opposite, and 3 in a whorl, ovate, bluntly serrated, pubescent; peduncles axillary and terminal, many-flowered. ♄. G. Native of Peru, on the route to Canta. Stem purple. Branches opposite, or 3 in a whorl, twiggy, brittle, purplish. Leaves spreading, obtuse. Corolla small, villous at the base.

Twiggy Slipperwort. Shrub 2 feet.

48 C. angustiflòra (Ruiz. et Pav. fl. per. 1. p. 17. t. 28. f. a.) shrubby; leaves on short petioles, opposite, or 3 in a whorl, ovate-lanceolate, sharply-serrated, pubescent; peduncles axillary and terminal, opposite, or 3 in a whorl, generally 4-flowered, shorter than the leaves; upper lip of corolla very narrow at the base. ♄. G. Native of Peru, in the valley of Canta, towards Obrasillo. Hook. bot. mag. 3094. Much branched; branches opposite, or 3 in a whorl. Peduncles collected into a terminal panicle. Corolla small, dotted with purple inside.

Narrow-flowered Slipperwort. Fl. July. Clt. 1830. Shrub 1 to 2 feet.

49 C. verticilla'ta (Ruiz. et Pav. fl. per. 1. p. 17.) shrubby, glabrous; leaves 3 in a whorl, cordate, acute, serrated, on short petioles; peduncles 4-flowered, axillary. ♄. G. Native of Peru, among broken rocks in the valley of Canta. Branches chaff-coloured. Peduncles furnished with a single leaf under each twin pedicel.

Whorled-leaved Slipperwort. Shrub 4 to 6 feet.

50 C. terniflòra (Cav. icon. 5. p. 30. t. 450. f. 2.) shrubby; leaves petiolate, 3 in a whorl, ovate-lanceolate, serrated; peduncles axillary and terminal, 3-flowered. ♄. G. Native of Peru. Stem brownish-violet; branches 3 in a whorl. Leaves glaucous: superior ones sessile; 2 at the base of the pedicels. Calyx larger than in the preceding. Lower lip of corolla narrowed to the base Perhaps not distinct from *C. glaúca*.

Tern-flowered Slipperwort. Shrub 3 feet.

51 C. gemelliflòra (Cav. icon. 5. p. 30. t. 450. f. 1.) shrubby; leaves petiolate, 3 in a whorl, ovate-serrated, nearly sessile; peduncles axillary and terminal, 2-flowered, shorter than the leaves. ♄. G. Native of Peru, among stones. Stem branched. Leaves acute, glaucous, 2 at the base of the pedicels. Lower lip of corolla narrowed towards the throat. Perhaps not distinct from *C. angustiflòra*.

Twin-flowered Slipperwort. Shrub 2 feet.

52 C. multiflòra (Cav. icon. 5. p. 29. t. 449.) shrubby, villous; leaves 3 in a whorl, ovate, serrated, nearly sessile; peduncles branched, terminal, panicled. ♄. G. Native of Peru, in dry places towards Lima. Branches obscure, purple. Leaves subcordate. Panicle a foot long. Segments of calyx 3-nerved. Lower lip of corolla narrowed towards the throat.

Many-flowered Slipperwort. Shrub 4 to 6 feet.

53 C. glau'ca (Ruiz. et Pav. fl. per. 1. p. 17. t. 27. f. c.) shrubby; leaves opposite, and 3 in a whorl, lanceolate, unequally serrated; peduncles 3-4, umbellate, 3-flowered, furnished

with narrow-lanceolate leaves at the base. ♄. G. Native of Peru, on the route to Canta. Branches opposite, and 3 in a whorl, purplish. Leaves on short petioles, glaucous above. Corolla yellow, spotted with purple inside. Filaments broad at the base.

Glaucous-leaved Slipperwort. Shrub 2 to 3 feet.

54 C. trífida (Ruiz. et Pav. fl. per. 1. p. 17. t. 26. f. b.) shrubby; leaves cordate-ovate, bluntly serrated, canescent beneath: lower ones opposite, petiolate: upper ones 3 in a whorl, sessile, and beset with glandular villi; peduncles axillary and terminal; 3-8-flowered. ♄. G. Native of Peru, in shady places near the waters of Cheuchin. Stem almost glabrous. Petioles connate.

Trifid Slipperwort. Shrub 2 to 3 feet.

§ 5. *Leaves serrated, or toothed, petiolate; petioles membranaceously winged. Stem leafy.*

55 C. perfòliata (Lin. suppl. 86. Smith, icon. ined. 1. p. 4. t. 4.) herbaceous; branches pilose; leaves triangularly sagittate, acute, doubly serrated, cut, hairy above, but clothed with tomentose pubescence beneath, and hoary; petioles membranously winged, connate; corymbs terminal, sub-dichotomous; pedicels pilose. ♃. or ♂. G. Native of New Granada and Peru. Ruiz. et Pav. fl. per. 1. p. 15. t. 21. f. a. Mutis amer. 1. t. 3. H. B. et Kunth, nov. gen. amer. 2. p. 384. Leaves 1½ to 2 inches long. Corollas yellow, glabrous. Ovarium pilose. The plant of Ruiz. et Pav. is said by them to be clothed with clammy villi; and the leaves are said to be spatulately sagittate.

Perfoliate-leaved Slipperwort. Pl. 2 to 3 feet.

56 C. tomentòsa (Ruiz. et Pav. fl. per. 1. p. 15. t. 22. f. b.) herbaceous; branches downy; leaves spatulately cordate, unequally serrated, tomentose beneath; petioles membranously winged, connate; corymbs terminal, downy. ♃.? ♂ G. Native of Tarma and Cuchero, in Peru. Stem glabrous, branched. Leaves pubescent above. Pedicels umbellate. Corolla large, yellow.

Tomentose Slipperwort. Pl. 3 to 4 feet.

57 C. petiola'ris (Cav. icon. 5. p. 30. t. 445.) plant herbaceous, branched, downy; lower leaves tapering into the winged petioles, doubly toothed: superior ones ovate, subcordate, sessile, connate, dentately serrated: floral ones quite entire; racemes solitary and axillary, or terminal and twin, or by threes; pedicels, calyxes, and ovarium, clothed with glandular villi; both lips of corolla nearly equal. ♂. or ♃. G. Native of South America, in Guayaquil. C. connàta, Hook. bot. mag. 2876. C. floribúnda, Lindl. bot. reg. 1214. but not of Kunth. C. paniculàta, Herbert. Bœ'a alàta, Pers. ench. 1. p. 15. Plant more downy at top than bottom, clammy. Leaves 7 inches long, and 4 broad, ovate, acutish. Common peduncles bifid below the middle, and each branch is again cleft. Corolla pale yellow, downy.

Petiolar Slipperwort. Fl. July, Aug. Clt. 1824. Pl. 2 to 4 feet.

58 C. rugòsa (Ruiz. et Pav. fl. per. 1. p. 19. t. 28. f. b.) shrubby; leaves lanceolate, unequally serrated, wrinkled, downy; petioles winged, connate; corymbs terminal. ♄. G. Native of Chili. C. scabiosæfòlia, Nee. Plant downy at top. Leaves attenuated at both ends. Corolla yellow. Habit of *Sálvia officinàlis*. Lower lip of corolla narrowed at the base.

Wrinkled-leaved Slipperwort. Fl. July, Aug. Clt. 1822. Shrub 2 feet.

59 C. arachnoídea (Graham, in edind. phil. journ. sept. 1828.) stem herbaceous, branched, spreading, clothed with white cobwebbed wool, as well as the leaves and other parts, except the corolla; leaves lingulately-oblong, a little toothed, narrowing downwards into long winged petioles, which are connate at the base; peduncles terminal, twin, elongated, dichotomous. ♄. G. Native of Chili. Hook. bot. mag. 2874. Lindl. bot. reg. 1454. C. tinctòria, Gillies, mss. Leaves with the petioles 5 inches long, wrinkled; the 2 uppermost leaves smaller than the others, sessile, cordate-ovate, placed at the origin of the peduncles. Corolla of a uniform dull purple. There are several hybrids between this and other species. See Sweet, fl. gard. n. s. t. 227.

Cobwebbed Slipperwort. Fl. June, Sept. Clt. 1827. Pl. 1 foot.

60 C. integrifòlia (Lin. in act. holm. 1770. syst. ed. 13th. p. 61.) shrubby; leaves ovate-lanceolate, or lanceolate, denticulated, wrinkled, opaque, rusty beneath; petioles winged, connate; stem and calyxes downy; panicles terminal, corymbose, pedunculate. ♄. G. Native of Chili. Corolla yellow.

Var. β, integrifòlia (Hook. et Arn. in Beech, voy. pt. bot. p. 39.) leaves ovate-lanceolate, sharply denticulated. ♄. G. Native of Chili. C. integrifòlia, Lindl. bot. reg. 744. C. rugòsa, Hook. bot. mag. 2523. exot. bot. 99, but not of Ruiz. et Pav. C. salviæfòlia, Pers. ench. 1. p. 15. Cham. et Schlecht, in Linnæa, 2. p. 565. Chacaul, Feuill. per. 13. t. 7.

Var. γ, angustifòlia (Lindl. bot. reg. 1083.) leaves attenuated at both ends, coarsely denticulated; panicles on long peduncles. ♄. G. Native of Chili, about Valparaiso.

Var. δ, viscosíssima (Hook. bot. mag. t. 8214.) the whole plant clothed with viscid pubescence; leaves larger and broader. ♄. G. Native of Chili. C. viscosíssima, Lindl. bot. reg. 1611.

Entire-leaved Slipperwort. Fl. Aug. Sept. Clt. 1822. Shrub 2 to 3 feet.

61 C. asce'ndens (Lindl. bot. reg. 1215.) suffruticose, ascending; leaves ovate, petiolate, wrinkled, denticulated, pubescent: lower ones acute at the base; petioles winged, connate; corymbs umbellate, few-flowered, branched a little, on long peduncles. ♄. G. Native of Chili, on the Cordilleras. Stem pilose. Upper leaves sessile. Flowers large, of an orange yellow colour. Calyxes roundish, tomentose. Said to be nearly allied to *C. integrifòlia* and *C. rugòsa*.

Ascending Slipperwort. Fl. June, Sept. Clt. 1826. Shrub 1 to 1½ foot.

62 C. Chiloe'nsis (Lindl. bot. reg. 1476.) shrubby; stem, calyxes, and bracteas beset with glandular hairs; cauline leaves oblong-lanceolate, undulated, sharply toothed, downy on both surfaces, tapering into the petioles, which are winged and connate at the base: superior leaves quite entire, ovate, acuminate, sessile; inflorescence cymose, many-flowered, axillary and terminal. ♄. F. Native of the Island of Chiloe, on the south coast of Chili. Corollas yellow.

Chiloe Slipperwort. Fl. July, Sept. Clt. 1831. Shrub 2 feet.

63 C. polifòlia (Hook. bot. mag. 2897.) suffruticose, clothed with white wool in every part; leaves ovate, or oblong, crenated, tapering into the petioles, which are connate at the base; peduncles elongated, terminal, dichotomous; flowers corymbose. ♄. G. Native of Chili, on the Cordilleras, and elsewhere in the same country. Upper lip of corolla small, pale yellow: under one deep yellow. Calyxes 3-nerved.

Polium-leaved Slipperwort. Fl. July, Sept. Clt. 1826. Shrub 1 foot.

§ 6. *Leaves sessile. Stems leafy.*

64 C. se'ssilis (Ruiz. et Pav. fl. per. 1. p. 18.) suffruticose; leaves lanceolate, acuminated, crenated, wrinkled, canescent beneath; corymbs panicled, terminal, dichotomous; lips of corolla nearly equal, ventricose. ♄. G. Native of Chili, in arid places. Lindl. bot. reg. 1628. Sweet, fl. gard. n. s. 3. t. 220. Stem branched. Pedicels elongated. Corolla yellow, glandular.

Sessile-leaved Slipperwort. Shrub 2 feet.

65 C. crena'ta (Lam. dict. 1. p. 556.) shrubby; branches villous; leaves cordate-lanceolate, sessile, crenated, hoary beneath, and villous above; peduncles axillary and terminal, longer than the leaves, clothed with clammy villi, like the pedicels and calyxes; pedicels scattered, subcymose. ♄. G. Native of Peru. Leaves 1½ inch long, similar to those of *Rhinánthus cristagálli*.

Crenated-leaved Slipperwort. Shrub.

66 C. amplexicau'lis (H. B. et Kunth, nov. gen. amer. 2. p. 384. t. 171.) suffruticose branches; leaves stem-clasping, ovate oblong, acuminated, cordate, crenately-serrated, and are, as well as the pedicels, pilose; corymbs terminal; flowers umbellately fascicled. ♄. G. Native on the banks of the river San Pedro, between Chillo and Conocato, at the altitude of 1340 hexapods. Leaves pale beneath, about 3 inches long, at length reflexed. Corollas yellow, glabrous. Ovarium glandular.

Stem-clasping-leaved Slipperwort. Shrub 3 to 4 feet.

67 C. floribu'nda (H. B. et Kunth, l. c. p. 385.) suffruticose; branches and pedicels beset with glandular clammy hairs; leaves stem-clasping, lanceolate, acuminated, cordate, denticulated, hairy beneath; racemes bifid, panicled, or corymbose; flowers usually twin. ♄. G. Native near the town of Quito, at the altitude of 1490 hexapods. Leaves smoothish, and green above, and pale beneath, and clammy, 2 inches long. Flowers small, sub-secund. Calyx villous. Corolla glabrous, orange yellow. Ovarium pilose.

Bundle-flowered Slipperwort. Shrub.

68 C. thyrsiflòra (Graham, in edinb. phil. journ. sept. 1828. bot. mag. 2915.) shrubby, branched, clammy, glabrous; leaves linear, attenuated at both ends, lined, serrate-toothed, sessile; thyrse terminal, crowded; peduncles compound, umbellate. ♄. G. Native of Chili, about Mendoza. Branches rather rough, and obscurely glandular. Leaves 2 inches long, and 2 lines broad, distinctly serrated; teeth reflexed. Flowers yellow, crowded, glabrous outside, and downy within.

Thyrse-flowered Slipperwort. Fl. June, Sept. Clt. 1827. Shrub 1 to 2 feet.

§ 7. *Leaves entire, or quite entire. Stem leafy.*

69 C. rosmarinifòlia (Lam. dict. 1. p. 556.) suffruticose; branchlets pilose; leaves sessile, connate at the base, linear, narrowed at apex, with quite entire and revolute edges, rather coriaceous, glabrous above, and clothed with golden tomentum beneath; flowers umbellately corymbose, paniculately disposed; pedicels beset with glutinous hairs. ♄. G. Native at the foot of Mount Chimborazo, near the Lake Ganacoche, at the altitude of 1800 hexapods; and of Chili, on the Cordilleras. H. B. et Kunth, nov. gen. 2. p. 385. C. ferruginea, Cav. icon. 5. p. 27. t. 445. f. 1. Branches terete, violaceous. Calyx pilose, clammy. Corolla yellow, glabrous: lower lip large.

Rosemary-leaved Slipperwort. Shrub 2 to 3 feet.

70 C. graminifòlia (H. B. et Kunth, nov. gen. 2. p. 386.) suffruticose, erect; branches nearly glabrous; leaves sessile, linear, narrow-acuminated, with quite entire and revolute edges, glabrous and rather clammy above, but clothed with hoary tomentum beneath; corymbs terminal, trifidly sub-dichotomous; pedicels hairy. ♄. G. Native of Quito, in the valley of Tarquo. Branches terete, compressed at the nodi. Leaves 4-5 inches long, and 2½ lines broad. Calyx hairy. Corolla glabrous, yellow. Very like the preceding.

Grass-leaved Slipperwort. Shrub 4 to 6 feet.

71 C. lavandulæfòlia (H. B. et. Kunth, l. c.) suffruticose; branchlets hairy; leaves sessile, linear, bluntish, with quite entire and revolute margins, smoothish above, but clothed with hoary tomentum beneath; flowers terminal, corymbose; pedicels clammy. ♄. G. Native in hollows or valleys on Mount Pichincha, and Paramo de Assuay, at the altitude of 1560 hexapods. Branches terete. Leaves 9-10 lines long, and 1 to 1½ lines broad. Corolla yellow, glabrous. Only to be distinguished from the preceding by the size of the leaves.

Lavender-leaved Slipperwort. Shrub.

72 C. hyssopifòlia (H. B. et Kunth. l. c.) shrubby; branchlets and pedicels beset with clammy hairs; leaves almost sessile, narrow-linear, bluntish, with entire and revolute edges, glabrous on both surfaces, clammy above; flowers terminal, corymbose. ♄. G. Native at the foot of Mount Chimborazo, near Calpi and in the plains of Luisa, at the altitude of 1640 hexapods.—Much branched; branches terete. Leaves pale beneath, 9-10 lines long. Distinguished from the preceding by the leaves being glabrous on both surfaces.

Hyssop-leaved Slipperwort. Shrub 4 to 5 feet.

73 C. helianthoi'des (H. B. et Kunth, l. c. p. 387.) shrubby; branches and pedicels clothed with canescent down; leaves nearly sessile, and nearly oblong, acute at both ends, quite entire, glabrous; flowers terminal, subcorymbose. ♄. G. Native of Paramo de Saraguru, in cold places between the river Uduchapa and the city of Loxa. Leaves oblong or lanceolate-oblong, 6-9 lines long, and 2½ to 4 lines broad, pale beneath. Pedicels puberulous. Corolla yellow, glabrous.

Sunflower-like Slipperwort. Shrub 1 to 1½ foot.

74 C. ericoi'des (Juss. ex Vahl, enum. 1. p. 190.) shrubby, much branched; branches crowded, and are, as well as the leaves, hairy on both surfaces; leaves small, sessile, linear, with entire and revolute edges; peduncles axillary and terminal, 1-3-flowered, hairy. ♄. G. Native of Quito, in stony places on Mount Pichincha, at the altitude of 1780 hexapods. Leaves 4-5 lines long. Corollas small, yellow, downy. Ovarium hairy.

Heath-like Slipperwort. Shrub 2 to 3 feet.

75 C. linea'ris (Ruiz. et Pav. fl. per. 1. p. 19.) shrubby, much branched; leaves linear, with quite entire and revolute edges, sessile; peduncles axillary, 1-flowered, pubescent. ♄. G. Native of Peru, on the declivities of the hills of Xauxa. Leaves shining above. Calyx rather tomentose. Corolla yellow.

Linear-leaved Slipperwort. Shrub.

76 C. arge'ntea (H. B. et Kunth, nov. gen. 2. p. 387. t. 170.) shrubby, and clothed with white tomentum; leaves petiolate, nearly oblong, acute at both ends, quite entire; flowers terminal and axillary, usually solitary. ♄. G. Native of Peru, in Paramo de Guamami, between Gualcaquillo and Guamcabamba, in shady places. Branches purple. Leaves 4-6 lines long. Corolla large, yellow, glabrous.

Silvery Slipperwort. Shrub 1 foot.

77 C. lanceola'ta (Cav. icon. 5. p. 27. t. 444. f. 1.) branched a little; leaves linear-lanceolate, quite entire: radical ones petiolate: cauline ones sessile, acute at both ends; peduncles terminal, solitary, 1-flowered. ♃. F. Native of the Maclove Islands. Corolla yellow; upper lip very short: lower one long, and narrowed to the base.

Lanceolate-leaved Slipperwort. Pl. ¼ foot.

78 C. a'lba (Ruiz. et Pav. fl. per. 1. p. 19. t. 27. f. b.) suffruticose, clammy and resinous, simple; leaves linear, remotely serrated; peduncles racemose, dichotomous. ♄. G. Native of Chili, on arid hills. Leaves frequently very narrow and sessile, scabrous on the margins, with fascicles of leaves in the axils. Peduncles elongated: partial ones opposite, twice or thrice divided. Pedicels solitary in the first division, twin in the second, and three in the third. Corollas white. Odour of rosemary.

White-flowered Slipperwort. Shrub.

79 C. alternifòlia (Cav. icon. 5. p. 28. t. 445. f. 2.) stem and under sides of leaves tomentose; leaves linear, alternate,

with entire, revolute edges; peduncles axillary, 3-flowered. ♃.? G. Native of Peru. Leaves sessile, hardly an inch long. Peduncles towards the tops of the branches; with 2 leaves at the base of the pedicels. Lower lip of corolla gradually narrowing towards the base.

Alternate-leaved Slipperwort. Pl. 2 feet.

Cult. Calceolària is a genus of very showy plants, and great favourites at present with gardeners and others. Some of them are annual, others perennial, but the greater mass are shrubby. All of them thrive well in light rich soil, or a mixture of loam, sand, and peat; giving them the treatment of other greenhouse plants. They readily increase by young cuttings, under a hand-glass; and also by seed, which ripens plentifully in this country. By impregnating the stigma of one sort with the pollen of another, many very beautiful hybrids have been reared in the gardens. The seeds of the annual kinds should be reared in a hot-bed, in spring; and when the plants are of sufficient size, they should be set separately in pots; and others may be planted out in the open ground, in a warm, sheltered situation.

LXXXIX. JOVELLA'NA (named after D. Casparo Melchiori de Jovellanos, a promoter of the Flora Peruviàna.) Ruiz. et Pav. fl. per. 1. p. 13. t. 18. f. b.—Bæ'a species, Pers. ench. 1. p. 15. Calceolària species of authors.

Lin. syst. *Diándria, Monogýnia.* Calyx 4-parted. Both lips of corolla nearly equal: upper one concave: lower one inflated. Stamens 2, inserted at the base of the tube, short; cells of anthers confluent. Stigma capitate, emarginate. Capsule ovate-conical, 2-furrowed, 2-celled, 2-valved at apex; valves bifid; placentas adnate to the dissepiment. Seeds angular.—Plants with the habit of *Calceolària.*

1 J. scapiflòra (Ruiz. et Pav. fl. per. 1. p. 13. t. 18. f. b.) leaves ovate, serrated, downy; scapes downy, unequal, 1-flowered. ♃. F. Native of the Andes of Peru. Bæ'a plantagínea, Pers. ench. 1. p. 15.? Leaves an inch long. Corolla yellow: lower lip spotted with purple.

Scape-flowered Jovellana. Fl. Aug. Clt. 1827. Pl. 1 foot.

2 J. puncta'ta (Ruiz. et Pav. fl. per. 1. p. 12. t. 18. f. a.) shrubby; branches slender, glanduliferous; leaves petiolate, oblong-ovate, biserrated, glabrous; peduncles axillary and terminal, cymose; pedicels umbellate. ♄. G. Native of Peru and Chili, in woods. Calceolària punctàta, Vahl, enum. 1. p. 177. Bæ'a punctàta, Pers. ench. 1. p. 15.—Feuill. per. 3. p. 21. t. 16. Leaves white beneath: floral ones quite entire, all dotted with purple on both surfaces. Corolla of a whitish-violet colour, variegated with a pale mark and yellow spots. Stigma emarginate.

Dotted-flowered Jovellana. Shrub 3 feet.

3 J. viola'cea; shrubby; branches violaceous; leaves petiolate, ovate, coarsely serrated, white beneath; peduncles terminal by threes, corymbose; pedicels 1-2-flowered. ♄. G. Native of Talcahuana, on the sea shore; and of Chili, about Conception. Bæ'a violàcea, Pers. ench. 1. p. 15. Calceolària violàcea, Cav. icon. 5. p. 31. t. 452. Leaves length of petioles. Corolla pale violet, spotted with deeper violet beneath. Lips of corolla spreading in a campanulate manner; limb villous.

Violaceous-flowered Jovellana. Shrub 4 to 6 feet.

4 J.? tria'ndra (Cav. icon. 5. p. 32. t. 453.) shrubby; branches, peduncles, and edges of calyx beset with glandular villi; leaves deeply pinnatifid, glaucous beneath, petiolate; peduncles dichotomous; flowers triandrous. ♄. G. Native of Peru. Bæ'a triándra, Pers. ench. 1. p. 15. Bark of branches dark purple. Petioles shorter than the leaves, clasping the stem by a membrane at the base. Filaments 3, very short. Ovarium tomentose. This will probably form a distinct genus, which we would propose calling *Porodittia triándra*, from the triandrous flowers; and in the cells of the anthers being confluent, and opening by a pore at the apex.

Triandrous-flowered Jovellana. Shrub 3 to 4 feet.

Cult. Singular and beautiful plants, with the habit of *Calceolària;* the culture of them is also similar.

XC. BÆ'A (meaning not explained by the author.) Comm. ex Lam. dict. 1. p. 401. ill. t. 15. Juss. gen. p. 121. ed. Usteri, p. 135.

Lin. syst. *Diándria, Monogýnia.* Calyx 5-parted. Corolla with a short tube and a spreading bilabiate limb; upper lip 3-lobed: lower one 2-parted; lips not inflated. Stamens 2, thick, arched, in the middle of the corolla; anthers connivent. Capsule long, corniculate, twisted, 2-celled, 4-valved; the twisting of the valves throwing out the seeds.—An herb, with the habit of the stemless species of *Calceolària.* Leaves radical. Scapes 1 or many-flowered. Flowers subumbellate.

1 B. Magella'nica (Lam. l. c.) ♃. F. Native of the Straits of Magellan, among humid rocks. B. Praliniàna, St. Hil. Leaves petiolate, 2-3 inches long, elliptic-ovate, obtuse, subserrated, quite entire at the base, soft, greenish, canescent. Scapes erect, shorter than the leaves. Calyx villous. Corollas blue. Capsule acuminated, longer than the calyx.

Magellan Bæa. Pl. ¼ foot.

Cult. This singular and pretty plant requires the same treatment as the perennial, herbaceous species of *Calceolària,* p. 607.

XCI. HEMI'MERIS (from ἡμι, *hemi,* half; and μερις, *meris,* a part; in reference to the upper lip of corolla being nearly obsolete.) Lin. fil. suppl. 45. Schreb. gen. 1016. Thunb. nov. gen. 74. Juss. gen. 120. ed. Usteri, 134. but not of others.

Lin. syst. *Diándria, Monogýnia;* or *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla rotate, ringent, with a very short, intruded, white tube, and a bilabiate limb; upper lip cloven, with a kind of bag at the base, composed of little nectareous pits: lower lip concave, blunt. Stamens 2-4, filiform, inserted in the base of the lower lip; anthers very small, cordate, cohering, yellow. Ovarium acute, smooth. Stigma simple, acutish. Capsule ovate, acute, didymous, gibbous at the base on one side, 2-celled, 2-valved. Seeds many, smooth.—Herbs, with opposite or alternate leaves. Flowers terminal and axillary, usually solitary.

§ 1. Diste'mon (from δις, *dis,* twice; and στημων, *stemon,* a stamen; in reference to the stamens only being two.) Flowers diandrous.

1 H. monta'na (Lin. suppl. 280.) leaves opposite, ovate, serrated; stem erect. ♃. G. Native of the Cape of Good Hope. Lam. ill. t. 532. f. 1.—Plukn. alm. 9. t. 331. f. 3. Pæderòta racemòsa, Houtt. pflanz. syst. 5. p. 89. t. 38. f. 1.

Mountain Hemimeris. Pl. ¼ to ½ foot.?

2 H. sabulòsa (Lin. suppl. 280.) leaves opposite, pinnatifid; stem prostrate. ♃. G. Native of the Cape of Good Hope. Lam. ill. t. 532. f. 2.

Sand Hemimeris. Pl. prostrate.

§ 2. Tetraste'mon (from τετρα, *tetra,* four; and στημων, *stemon,* a stamen; in reference to the 4 stamens.) Flowers tetrandrous; stamens didynamous.

3 H. diffu'sa (Lin. suppl. 280.) leaves alternate and opposite, pinnatifid; stems spreading. ♃.? G. Native of the Cape of Good Hope. Pæderòta Bòna Spèi, Lin. spec. p. 20. amœn. acad. 6. afr. 1.—Plukn. phyt. t. 320. f. 5.

Duffuse Hemimeris. Pl. diffuse.

4 H. unilabia'ta (Thunb. prod. 105.) leaves opposite, pinnatifid; stem panicled. ♃.? G. Native of the Cape of Good Hope. Probably not distinct from the preceding.

One-lipped Hemimeris. Pl.

Cult. For culture and propagation see perennial, herbaceous species of *Calceolària*, p. 608.

XCII. THYLACA'NTHA (from *θυλακος*, *thylacos*, a sack; and *ανθος*, *anthos*, a flower; base of lower lip of corolla.) Mart. in nov. act. bonn. 11. p. 45.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx 5-parted, short. Corolla bilabiate; upper lip very short, bifid: lower one 3-lobed, saccate at the base, large. Stamens 4, didynamous; filaments dilated; cells of anthers placed one above the other: upper cell exceeding the truncate apex of the filament. Stigma simple, acute, hooked, longer than the stamens. Capsule valveless, 2-celled, rather resinous, roundish; dissepiment thin, at length separating from the placenta, which is central. Seeds numerous, angular, with a thick, spongy, bullate testa.—An erect plant, with opposite, ovate-oblong leaves; but the floral leaves are lanceolate. Flowers axillary, solitary, violaceous, spotted with deep purple, on slender pedicels.

1 T. campe'stris (Mart. l. c.) ♃. S. Native of Brazil, near Tamburil and Velos, in fields. Angelònia campéstris, Mart. nov. act. bonn. 11. p. 44. Stem tetragonal; angles obtuse. Leaves on short petioles, unequally serrated, with hispid edges, triple-nerved; nerves pilose; floral leaves narrower, sessile, entire.

Field Thylacantha. Pl. 3 to 4 feet.

Cult. For culture and propagation see *Angelònia*, below.

XCIII. ANGELO'NIA (Angelon is the vernacular name of the first species.) Humb. et Bonpl. pl. æquin. 2. p. 92. t. 108. H. B. et Kunth, nov. gen. amer. 2. p. 377.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx deeply 5-parted, equal. Corolla with a very short tube, a concave bottom, and a bilabiate spreading limb: superior lip bifid: lower lip larger, saccately excavated, trifid; segments nearly equal. Stamens didynamous; cells of anthers diverging. Stigma simple. Capsule 2-celled, 2-valved; valves bifid at apex; dissepiment contrary, adnate to the valves; placentas central, at length free.—Herbs with opposite leaves, with the habit of *Célsia* and *Alonsòa*. Flowers axillary, racemose. Corollas blue, or violet. Stem and branches quadrangular.

1 A. salicariæfò'lia (Humb. et Bonpl. l. c.) stems erect, tetragonal, rather pilose and clammy; leaves sessile: lower ones lanceolate, acute, serrated towards the apex, finely pubescent on both surfaces: floral ones ovate, shorter. ♃. S. Native near Caraccas, on arid hills. Ker. bot. reg. 415. Flowers axillary, solitary, pedicellate, disposed in terminal racemes. Calyx pilose. Seeds oblong, cuneated, covered by a reticulated membrane. This species, or one nearly allied, has been collected by Schiede and Deppe in Mexico, near the Hacienda de La Laguna; it has the leaves usually 4 in a whorl, and very scabrous above. The hairs of the stem are somewhat adpressed, and of a dirty, fulvescent colour, not purplish. Corolla purplish, hairy.

Salicaria-leaved Angelonia. Fl. Aug. Clt. 1818. Pl. 1½ to 3 feet.

2 A. hi'rta (Cham. et Schlecht. in Linnæa, 8. p. 27.) hairy; stem tetragonal, erect; leaves somewhat auriculate, sessile: cauline ones subcordate, narrowed at the base, oblong, very acute, sharply and obsoletely serrulated: floral ones dilately and auriculately cordate at the base, short, very acutely acuminated, quite entire, shorter than the peduncles. ♃. S. Native of Brazil, Sello. This differs from *A. salicariæfò'lia* in hairiness and shape of leaves; the habit and inflorescence is the same, but the flowers are a little larger.

Hairy Angelonia. Pl. 1½ to 2 feet.

3 A. procu'mbens (Mart. nov. act. bonn. 11. p. 45.) stems weak, procumbent, tetragonal; leaves elliptic, lanceolate, sharply serrated. ♃. S. Native of Brazil, at Villa dos Ilheos. Physídium procúmbens, Schrad. gött. gel. anz. 1821. vol. 72. p. 714. t. 30. Schelvèria argùta, Bot. zeit. 4. jahrj. 1821. p. 299. and 328. Stems articulated, trichotomous, glabrous; angles winged. Leaves glabrous, spiny-serrated; petioles connate, with the projection ciliated. Flowers axillary, solitary or twin, very like those of a species of *Calceolària*, on pedicels which are shorter than the leaves. Corolla violaceous: upper lip of corolla short, 3-lobed; lobes crenulated: lower lip large, inflated, entire. Seeds angular.

Procumbent Angelonia. Pl. procumbent.

4 A. intege'rrima (Spreng. syst. append. p. 235.) leaves scattered, lanceolate, quite entire; peduncles racemose; stem erect. ♃. S. Native of Rio Grande, Sello.

Quite entire-leaved Angelonia. Pl. erect.

Cult. These are very pretty plants when in blossom, and are, therefore, well worth cultivating. A mixture of light turfy loam and peat is a good soil for them; and cuttings strike root readily in the same kind of mould under a hand glass, but as they are liable to rot, air should be frequently given.

Tribe IX.

EUPHRASIE'Æ (this tribe agrees with the genus *Euphràsia* in the characters given below.) D. Don, in edinb. phil. journ. vol. 19. p. 113. july, 1835. Benth. scroph.

Calyx tubular, 5-toothed. Corolla bilabiate. Stamens 4, didynamous. Cells of anthers parallel, usually spurred at the base. Stigma undivided. Capsule crustaceous; dissepiment placentiferous on both sides. Seeds with a membranous testa. Albumen fleshy. Embryo terete, slender, straight, almost the length of the albumen.—Herbs, with opposite leaves, and terminal, subspicate, bracteate flowers.

Subtribe I. Bartsie'æ. Cells of anthers spurred at the base.

XCIV. EUPHRA'SIA (from *ευφραινω*, *euphraino*, to delight; from the supposition of the plants curing blindness.) Tourn. inst. 78. Lin. gen. no. 741. Schreb. no. 998. Juss. gen. 100. edit. Usteri, p. 112. Gærtn. fruct. 1. p. 257. t. 54. Lam. ill. 518. f. 1. H. B. et Kunth, nov. gen. amer. 2. p. 333. Benth. scroph. ind. p. 51.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx campanulate, 4-cleft, somewhat bilabiate. Corolla bilabiate; upper lip galeate, emarginate: lower lip large, spreading; segments emarginate, retuse, denticulated, or entire. Stamens 4, fertile; cells of upper anthers usually with longer spurs than the lower ones. Stigma thickened, oblique, emarginate. Capsule ovate or oblong-ovate, compressed, usually emarginate; valves entire. Seeds few, wrapped in a membranous, striated testa.—Dwarf herbs. Leaves opposite or alternate: the upper or floral ones generally the broadest. Flowers sessile, solitary, subspicate at the tops of the branches, white, yellow, or purple.

§ 1. *Species natives of Europe and Asia. Anthers ciliated at the base; cells of the 2 lower anthers elongated into bristly spurs.*

1 E. officina'lis (Lin. spec. 841.) glabrous or downy, never scabrous; leaves nearly sessile, ovate: lower ones bluntly serrated; floral leaves ovate or roundish, acutely toothed, equal in length or exceeding the calyxes; calycine teeth acute, about equal in length to the tube of the corolla, which is glabrous;

segments of corolla emarginate; capsule equal in length or exceeding the calyx. ⊙. H. Native of Europe, Siberia, Aleutian Islands, on heaths and other dry places, especially on a chalky or sandy soil; plentiful in Britain, in like situations. Curt. lond. 5. t. 42. Fl. dan. 1037. Woodv. med. bot. 2. p. 220. Sabb. hort. rom. 3. t. 9. Blackw. 427. Smith, engl. bot. t. 1416.—Riv. mon. t. 90. f. 1. The plant varies much in size, branched or quite simple. Flowers varying much in colour from white to yellow; limb tinged with blue or streaked with purple. It seems to have been unnoticed by the ancients. The Arabians mention it under the name of Adhil. Mathæus Sylvaticus, a physician of Mantua, who lived about the year 1320, recommended this plant in disorders of the eyes. It is still in use, particularly as an ingredient in British herb tobacco; and Mr. Lightfoot says that the highlanders of Scotland make an infusion of it in milk, and anoint the patient's eyes with a feather dipped in it. It is, however, neglected by the faculty; and even thought by some to be injurious, at least in inflammation of the eyes. It is a weak astringent, but there seems to be no foundation for the old notion of its being useful in disorders of the eyes.

Var. β, elàtior (Benth. scroph. ind. p. 51.) taller, pubescent, simple or branched. ⊙. H. Native of the Himalaya, Kamaon, Cashmere, and at Kidarkonta. E. depauperàta, Benth. in. Wall. cat. no. 3886. E. símplex, D. Don, prod. fl. nep. p 95.

Var. γ, nemoròsa (Bull. herb. ex Led. fl. alt. 2. p. 422.) erect, nearly simple; serratures of leaves setaceous. ⊙. H. Native in dry places. Pers. ench. 2. p. 149. Bess. enum. pl. volh. p. 25.

Var. δ, intermèdia (Led. l. c.) erectish, nearly simple; leaves serrated: lower ones distant; serratures of the upper ones subsetaceous. ⊙. H. Native of the sandy banks of rivers and lakes. E. officinàlis, Lin. spec. 841. Bieb. fl. taur. 2. p. 69.—Gmel. sib. 3. p. 212. no. 25.

Var. ε, imbricàta (Pers. ench. 2. p. 149.) plant minute, branched; leaves of stem adpressed, cuneate, toothed at apex. ⊙. H. Native of France, in sandy places near Dax. Leaves quite entire towards the base.

Var. ζ, alpéstris (Wimmer et Crabowsky, fl. siles. 2. p. 218. Led. l. c.) stem short erect, simple, few-leaved; leaves bluntish, serrated; corolla large, of a purplish-violet colour. ⊙. H. Native of alpine places.

Var. η, alpìna (Duby, bot. gall. 1. p. 354.) leaves setaceously toothed; calyx glabrous, with linear-setaceous segments. ⊙. H. Native of the alps of Salisburgh, Switzerland, and the Pyrenees. E. Salisburgénsis, Funk, in Rœm. arch. 1. p. 43. Hoppe, taschenb. 1794. p. 190. E. alpìna, Lam. ill. t. 518. f. 2.

Var. θ, mínima (Duby, l. c.) stem nearly simple, small; leaves obtuse; calycine segments lanceolate. ⊙. H. Native of the alps of France, in arid pastures; and of the Pyrenees. E. mínima, Jacq. ex Pers. ench. 2. p. 149. A. officinàlis, β, Lam. dict. 2. p. 400. Upper leaves acutely toothed. Corolla yellow, with bluish veins.

Officinal Eyebright. Fl. July, Sept. Britain. Pl. ¼ to ½ foot.

2 E. Tarta'rica (Fisch. ex Spreng. syst. 2. p. 777.) clothed with subglandular villi; leaves sessile, broad-ovate, serrated; calyx clothed with glandular pubescence; segments of corolla emarginate; capsule exceeding the calyx. ⊙. H. Native of Altaia, in dry open places at the rivers Siba and Kerlyx, (Led.) Tcharysch, (Bunge.) Led. fl. ross. alt. ill. t. 435. Very like *E. officinàlis;* but differs in being clothed with glandular villi; the villi in *E. officinàlis* being simple and retrograde.

Tartarian Eyebright. Pl. ½ to 1 foot.

3 E. tricuspida'ta (Lin. spec. 841.) leaves cuneiform-linear, tricuspidate; segments of the lower lip of corolla emarginate. ⊙. H. Native of Italy; Carniola, on the alps.—Plukn. alm. 142. t. 177. f. 1.—Zanich. hist. 110. t. 76. Leaves linear, with one tooth on each side. Corollas similar to those of *E. officinàlis*.

Tricuspidate-leaved Eyebright. Pl. ¼ to ½ foot.

4 E. a'spera (Brot. fl. lus. 1. p. 185.) stem terete, smooth; leaves ovate, bluntly serrated, scabrous, rugosely lined. ⊙. H. Native of Portugal. Plant apparently suffruticose.

Rough Eyebright. Pl. ½ foot.?

§ 2. *Species natives of Australia. Anthers usually bearded.*

5 E. alpi'na (R. Br. prod. p. 436.) leaves cuneated, 3-5-crenated, glabrous; those of the fertile branches distant, and those of the sterile ones decussate; calyxes nearly sessile, pubescent, a little shorter than the capsule; segments of corolla all emarginate. ⊙. H. Native of Van Diemen's Land.

Alpine Eyebright. Pl. ¼ foot.?

6 E. tetragòna (R. Br. l. c.) stem tetragonal; leaves nearly oval, 3-5-toothed, obtuse, glabrous; calyxes glabrous, obtuse, nearly sessile, equalling the capsule in length; lower segments of corolla emarginate. ⊙. H. Native of the south coast of New Holland.

Tetragonal-stemmed Eyebright. Pl. ¼ foot.?

7 E. colli'na (R. Br. l. c.) leaves linear-cuneated, bluntly tridentate, glabrous; spikes many-flowered, the lower pairs distant; calyxes glabrous, about one half shorter than the capsule; segments of corolla all emarginate. ⊙. H. Native of Van Diemen's Land.

Hill Eyebright. Pl. ¼ foot.?

8 E. stria'ta (R. Br. l. c.) stems ascending; leaves and bracteas somewhat palmately 5-lobed, glabrous; spikes obovate; flowers all imbricate; calyxes acutish, glabrous; segments of corolla striated, retuse. ⊙. H. Native of Van Diemen's Land.

Striated Eyebright. Pl. ¼ foot.?

9 E. paludòsa (R. Br. l. c.) leaves linear, acutish, few-toothed, glabrous; those of the branches distant; spikes many-flowered, with the lower pairs distinct; calyxes acutish; segments of corolla nearly entire. ⊙. H. Native of New South Wales, about Port Jackson.

Marsh Eyebright. Pl. ¼ to ½ foot.?

10 E. speciòsa (R. Br. l. c. p. 437.) leaves decussate, ovate, crenately cut, and are, as well as the stem, which is erect, scabrous; calyxes acutish; segments of corolla retuse: lower middle one emarginate. ⊙. H. Native of New South Wales, along with the preceding.

Showy Eyebright. Pl. ¼ foot.?

11 E. sca'bra (R. Br. l. c.) plant scabrous from glandular pubescence; leaves lanceolate, dentately cut; calyxes acute; corolla downy, with entire segments. ⊙. H. Native of Van Diemen's Land, and the south coast of New Holland.

Scabrous Eyebright. Pl. ¼ to ½ foot.?

12 E. argu'ta (R. Br. l. c.) stem erect; plant pubescent; leaves lanceolate, pinnatifidly cut, scabrous; calyxes and bracteas setaceously acuminated; segments of corolla entire. ⊙. H. Native of New South Wales, about Port Jackson.

Sharp-toothed-leaved Eyebright. Pl. ¼ to ½ foot.?

13 E. cunea'ta (Forst. prod. no. 234.) leaves cuneiform-ovate, toothed at apex; segments of the lower lip of corolla subemarginate. ⊙. H. Native of New Zealand.

Wedge-leaved Eyebright. Pl. ¼ foot.?

§ 3. *Species natives of South America. Anthers usually glabrous, mucronate at the base, exserted.*

14 E. santolinæfòlia (H. B. et Kunth, nov. gen. amer. 2.

p. 333. t. 176.) plant clammy, and clothed with glandular villi; stem branched, terete, erect; leaves sessile, linear, obtuse, crenated; filaments downy; segments of corolla obtuse; calyxes obtuse; anthers, style, and capsules glabrous. ♃. G. Native of New Granada, on high plains between Suacha and Santa Fe de Bogota, at the altitude of 1370 hexapods. Leaves 4-5 lines long. Upper lip of corolla concave, emarginate. Crenatures of leaves revolute. Capsule oblong, obtuse, compressed a little.

Santolina-like Eyebright. Pl. ½ to 1 foot.

15 E. stri'cta (H. B. et Kunth, l. c.) hispid; stem nearly simple, somewhat tetragonal, strict; leaves linear-lanceolate, bluntish, crenated; segments of lower lip of corolla rounded: upper lip ovate, obtuse, concave; filaments and anthers glabrous; style and capsule pilose. ♃. G. Native of Quito, on the declivities of Mount Antisana, and in temperate and frigid places near the town of Chillo, at the altitude of 1350-1700 hexapods. Leaves 7-8 lines long. Corolla yellow, downy. Stamens hidden under the upper lip of corolla. Capsule obtuse, compressed. Very nearly allied to the preceding.

Strict Eyebright. Pl. 1½ foot.

16 E. melampyroìdes (H. B. et Kunth, l. c. p. 334.) stem panicled, nearly terete, hispid from reflexed bristles or hairs; leaves bluntly toothed at apex, hispid; calyxes clothed with glandular villi, linear; segments of the lower lip of corolla obtuse, entire: upper lip sub-emarginate; filaments glabrous; anthers, style, and capsules pilose. ♃. G. Native of Quito, in the plains of Cachabamba, and near Pintac, at the foot of Mount Antisana, at the altitude of from 1350 to 1600 hexapods. Leaves 7-8 lines long. Corolla yellow. Capsule oblong, compressed.

Melampyrum-like Eyebright. Pl. ½ to ¾ foot.

17 E. mu'tica (H. B. et Kunth, l. c.) stem panicled, terete, and is, as well as the leaves, hispid; leaves linear-lanceolate, coarsely serrate-crenated; calyxes hispid, linear, sometimes crenated at top; segments of the lower lip of corolla obtuse: upper lip emarginate; corolla, style, and filaments pilose; anthers glabrous, mutic; capsule hairy, oblong, obtuse, compressed. ♃. G. Native of Peru, in dry places between Lacarque and Ayavaca, at the altitude of 1300 hexapods. Leaves an inch long. Corolla flesh coloured.

Mutic-anthered Eyebright. Pl. twining.

Cult. The seeds of these plants may be sown on rockwork, but none of the species as yet have been found to grow in cultivation.

XCV. ODONTITES (from *οδους οδοντος, odous odontos*, a tooth; the plant is said to be good against the toothache. Pliny, liv. 27. cap. 12.) Dill. gen. p. 117. t. 6. Stev. mon. ped. p. 4. Pers. ench. 2. p. 150. Schkuhr, handb. t. 169. Led. fl. alt. 2. p. 423. Euphràsia species, Lin. and other authors.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 4-cleft. Upper lip of corolla galeate: lower lip trifid, with linear, equal segments. Anthers all mucronate, and a little exserted. Style straight. Capsule obtuse, emarginate. Seeds angular.—Branched, downy, annual, erect herbs. Leaves opposite, or the upper ones are alternate. Flowers red or yellow, disposed in unilateral, leafy racemes.

1 O. ru'bra (Pers. ench. 2. p. 150. Led. fl. alt. 2. p. 424.) stem branched; leaves lanceolate, serrated: upper ones alternate; segments of the lower lip of corolla truncate. ⊙. H. Native of Europe and Siberia, in meadows and moist pastures; plentiful in Britain, in like situations. O. vulgàris, Stev. mon. péd. in mem. soc. nat. mosc. 6. p. 4. Euphràsia odontìtes, Lin. spec. 841. Curt. fl. lond. 1. t. 44. Martyn, fl. rust. t. 42. Smith, engl. bot. 1415. Bieb. fl. taur. 2. p. 70. Bártsia odontìtes, Huds. angl. 268.—Hall. helv. no. 304.—Riv. mon. irr. t. 90. f. 2. Cratæogònum Euphrasìne, Ger. 85. emac. 91-3.—Gmel. sib. 3. p. 213. no. 26. Stem hispid, tetragonal. Corolla dusky red, or purple, sometimes varying to white, hairy. Seeds elegantly latticed.

Var. β, vérna (Pers. ench. 2. p. 150.) leaves ovate-lanceolate, toothed; bracteas longer than the flowers. ⊙. H. Native of Piedmont, in pastures. Euphràsia vérna, Bell. append. fl. ped. p. 33. Willd. spec. 3. p. 194. Perhaps a distinct species. Euphràsia sylvestris major purpurea latifolia, Column, ecphr. 1 p. 201. t. 202. f. 1.

Red Eyebright. Fl. July, Sept. Britain. Pl. ½ to 1 foot.

2 O. lu'tea; leaves linear, serrated: superior ones quite entire; segments of the lower lip of corolla emarginate. ⊙. H. Native of the South of Europe, on arid mountains; and of Barbary. Euphràsia lùtea, Lin. spec. 841. Jacq. fl. austr. t. 398. Desf. fl. atl. 2. p. 35. E. Còris, Crantz, austr. p. 298.—Hall. helv. no. 305. Odontìtes flòre lùteo, Riv. mon. t. 91.—Mor. hist. 3. p. 432. sect. 11. t. 24. f. 16.—Column. 1. p. 204. t. 203. This resembles *Odontìtes rùbra;* but the flowers are yellow; the upper lip bearded and emarginate. Stem and leaves rough. Capsule villous, shorter than the calyx. Calyx pubescent.

Yellow-flowered Eyebright. Fl. July, Sept. Clt. 1816. Pl. 1 foot.

3 O. linifòlia; leaves linear, all quite entire; calyx glabrous or pubescent. ⊙. H. Native of France and Italy. Euphràsia linifòlia, Column. ecphr. 2. p. 68. t. 69. Lin. spec. p. 842. Flowers yellow. Capsule hairy, exceeding the calyx.

Flax-leaved Eyebright. Fl. July, Aug. Clt. 1826. Pl. ½ to ¾ foot.

4 O. viscòsa; leaves linear-lanceolate, 3-nerved, almost quite entire; calyxes clammy; lateral lobes of lower lip of corolla emarginate. ⊙. H. Native of Provence and Switzerland, in sterile, gravelly places. Euphràsia viscòsa, Lin. mant. 86. Gouan. ill. 37. Desf. fl. atl. 2. p. 36. Lam. ill. t. 518. f. 3.—Hall. helv. no. 306. Garid. aix. 351. t. 78. Plant pilose, clammy. Flowers yellow. This differs from *E. lùtea*, in the leaves being linear-lanceolate, not strictly linear; and in the calyxes being villous and clammy, not glabrous. Corolla closed, and not shorter than the stamens. Capsule hairy, equal in length to the calyx. It is also to be distinguished from *E. linifòlia*.

Clammy Eyebright. Pl. 1 foot. ?

5 O. tenuifòlia; leaves subsetaceously linear, caducous, all entire; calyxes nearly glabrous; stem branched, twiggy, nearly naked, terete. ⊙. H. Native of Portugal. Euphràsia tenuifòlia, Pers. ench. 2. p. 150. E. linifòlia, Brot. fl. lus. 1. p. 185, but not of Lin. Corollas yellow. Anthers woolly, not exserted beyond the lips of the corolla.

Thin-leaved Eyebright. Pl. ½ to ¾ foot. ?

6 O. Córsica; stem prostrate at the base, branched; leaves linear, quite entire; flowers axillary, subspicate; calyx equal in length to the corolla. ⊙. H. Native of Corsica, on the mountains. Euphràsia Córsica, Low. fl. gall. 2. p. 367. Flowers yellow.

Corsican Eyebright. Pl. prostrate.

7 O. purpu'rea; leaves linear, quite entire, glabrous; racemes secund; stamens about equal in length to the corolla; capsules oblong, villous. ⊙. H. Native of Barbary, in sandy places. Euphràsia purpùrea, Desf. fl. atl. 2. p. 36. Stem dark purple, stiffish, bluntly tetragonal; branches terete, panicled. Calyx 5-toothed. Corollas violaceous, size of those of *E. viscòsa;* segments of the lower lip roundish, usually denticulated. The purple stems and flowers readily distinguish this from *E. viscòsa* and *E. lùtea.*

Purple-flowered Eyebright. Pl. 1 to 1½ foot.

8 O. LONGIFLÒRA; clothed with clammy pubescence; leaves linear, quite entire; tube of corolla filiform, 3 times as long as the calyx. ⊙. H. Native of Spain, on arid gypsose hills. Euphràsia longiflòra, Vahl, symb. 3. p. 78. Cav. icon. 1. p. 45. t. 62. Barrel. icon. 1204. Leaves blunt: rameal ones imbricate. Upper lip of corolla undivided: lobes of the lower one rounded. Stem purple. Branches quadrangular. Flowers axillary, in spikes, yellow. Seeds striated longitudinally. Cells of anthers awned at the base. Perhaps a new genus.

Long-flowered Eyebright. Pl. ½ to 1 foot.

Cult. For culture and propagation see *Euphràsia* above. A light soil answers the plant best.

XCVI. BA'RTSIA (named by Linnæus in memory of his particular friend John Bartsch, M.D., of whom he gives an interesting melancholy account in his Flora Suecica.) Lin. gen. no. 739. Schreb. gen. no. 996. Juss. gen. p. 100. ed. Usteri, p. 113. Nutt. gen. amer. 2. p. 55. Trixàgo, Stev. ped. p. 4.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 4-cleft. Corolla bilabiate: upper lip concave, entire: the lower lip trifid and reflexed. Stamens 4, didynamous. Anthers tomentose, equally lobed, free. Capsule 2-celled, 2-valved; dissepiment contrary to the valves. Seeds angular.—Herbaceous plants. Leaves entire, alternate, and opposite. Flowers alternate, bracteate, in terminal racemes. Corollas bluish purple, or yellow.

SECT. I. EUBA'RTSIA (this section is supposed to contain the true species of the genus.) Corolla shortly bilabiate. Seeds with membranous striated angles.

1 B. ALPI'NA (Lin. spec. 839.) leaves opposite, ovate-subcordate, bluntly serrated; anthers hairy; capsule pilose, exceeding the calyx. ⊙. H. Native of the mountains of Lapland, Switzerland, Savoy, Mount Baldo; and near Orton, in Westmoreland; Labrador, Colmaster. Smith, engl. bot. 361. Pediculàris, fl. dan. t. 43. Schkuhr, handb. 168. Hall. helv. no. 312. Stæchelìna alpìna, Crantz, fl. austr. p. 294. Euphràsia, &c. Lin. fl. lapp. 246.—Plukn. alm. 110. t. 163. f. 5. Clinopòdium alpìnum, Pon. bald. 343. Stem villous, bluntly quadrangular. Leaves sessile, dry, rather hairy: floral ones purple. Flowers solitary from the axils of the upper leaves, forming an interrupted, leafy spike. Corolla reddish, blue, or deep purple, villous.

Alpine Bartsia. Fl. July, Aug. Britain. Pl. ½ foot.

2 B. SPICA'TA (Pers. l. c.) leaves opposite, ovate-cordate, bluntly toothed: superior ones lanceolate, with remote teeth; flowers imbricately spicate; spike branched; stamens equal in length to the galea; anthers hairy; capsule pilose, exceeding the calyx. ⊙. H. Native of the Pyrenees. Ramond. in bull. di. sc. nat. no. 42. p. 141. f. 4. B. Fagònii, Lapeyr. Spike elongated. Bracteas shorter than the calyxes. Flowers yellow. ?

Spicate-flowered Bartsia. Pl. 1 to 1½ foot.

SECT. II. TRIXA'GO. Galea of corolla semi-cylindrical, short. Seeds minute, not winged.

3 B. PURPU'REA (Duby, bot. gall. p. 354.) stem nearly simple, or branched from the base; leaves ovate dentately palmate; spike interrupted at the base, leafy; calyx villous, with lanceolate, obtuse segments; anthers nearly glabrous, about equal in length to the calyx. ⊙. H. Native of the South of France, in pastures, and on the banks of rivers; and other parts of the South of Europe, and North of Africa. Euphràsia latifòlia, Lin. spec. 841. B. latifòlia, Smith. fl. græc. 6. p. 69. t. 568. Trixàgo purpùrea, Stev. mon. ped. p. 4.—Sabb. hort. rom. 3. t. 7.—Magn. monsp. 95. t. 94.—Mor. hist. 3. p. 330. sect. 11. t. 24. f. 8. Column. ecphr. t. 202. f. 2. Leaves opposite. Corolla with a white tube, and a blood-coloured villous limb; upper lip short straight.

Purple-flowered Bartsia. Fl. July, Sept. Clt.? Pl. ½ foot.

4 B. VISCÒSA (Lin. spec. 830.) hairy; leaves lanceolate, acuminated, coarsely serrated: superior ones alternate, serrated; flowers distant, lateral; stamens shorter than the galea; anthers hairy; calycine segments linear-lanceolate, acutish. ⊙. H. Native of France, Italy, and Britain; in the marshes of Cornwall, Devonshire, Lancashire, and Staffordshire; and of Argyleshire, in Scotland. The same plant has been found in Brazil, in the province of Monte Video, by Sello. Rhinánthus viscòsus, Smith, fl. brit. p. 648. Brot. fl. lus. 1. p. 187. Smith, engl. bot. t. 1045. Lightf. fl. scot. p. 321. t. 14.—Plukn. alm. 142. t. 27. f. 5.—Mor. hist. 3. p. 432. no. 15. Alectorólophos, Barrel. icon. t. 665. Stem terete, simple, villous towards the top. Calyx large, divided into 5 lanceolate segments. Corolla yellow. Capsule hairy, much shorter than the calyx. The whole plant clammy. (Fig. 59.)

FIG. 59.

Clammy Bartsia. Fl. July, Aug. Britain. Pl. 1 foot.

5 B. BÍCOLOR (D. C. icon. rar. t. 10. Duby, bot. gall. p. 354.) pubescent; stem simple, or a little branched; leaves opposite, lanceolate-linear, serrated; flowers densely spicate; bracteas ovate, or ovate-roundish; calyx woolly, with ovate-obtuse segments; anthers hairy; capsule villous, shorter than the calyx. ⊙. H. Native of Brittany. D. C. fl. fr. 5. p. 391. Seeds striated, not winged.

Two-coloured-flowered Bartsia. Pl. 1 foot.

6 B. ACUMINA'TA (Pursh, fl. amer. sept. 2. p. 429.) leaves alternate, long, linear: floral ones ovate, long-acuminated, 3-nerved, all undivided; flowers shorter than the bracteas; teeth of calyx acute. ⊙. H. Native on the north-west coast of America, and in the Island of Unalaschka.

Acuminated-leaved Bartsia. Pl.

7 B. TRIXA'GO (Lin. spec. ed. 1. p. 602.) pubescent; stem quite simple; leaves opposite, lanceolate, bluntly serrated; flowers densely spicate; bracteas ovate-roundish; calyx woolly, with small, obtuse teeth; anthers hairy; capsule villous, equalling the calyx; middle segment of the lower lip obtuse, smaller than the lateral ones. ⊙. H. Native of Palestine, Italy, Montpelier, and Caucasus, in humid places by the sea-side among rushes. Smith, fl. græc. t. 585. Rhinánthus Trixàgo, Lin. spec. 840. Alectorólophus Trixàgo, Bieb. cauc. 2. p. 69. Bellárdia Trixàgo, All. ped. no. 220. Bártsia, Lin. spec. ed. 1st. p. 602. Trixàgo A'pula unicaúlis, Column. ecphr. 1. p. 199. f. 197. Mor. hist. 3. p. 427. sect. 11. t. 24. f. 8. Stem quadrangular, rather woolly. Leaves pale, and so deeply toothed as to appear jagged. Spikes of flowers heaped at the top of the stem, large, quadrangular, woolly, and even rather viscid. Calyx inflated, angular. Corolla large, yellow; upper lip shorter, and narrow; palate prominent, 2-lobed. Seeds striated.

Trixago Bartsia. Pl. 1½ foot.

8 B. VERSÍCOLOR (Pers. ench. 2. p. 151.) hairy; stem simple; leaves opposite: lower ones linear-lanceolate, crenated: superior ones linear, deeply serrated; spikes dense, short; bracteas ovate cordate, acuminated, longer than the flowers; segments of the lower lip obtuse: the middle segment the narrowest. ⊙. H. Native of Italy and the North of Africa. Rhinánthus versícolor, Desf. fl. atl. 2. p. 33. Brot. fl. lus. 1. p. 186. Lam. dict. 2. p.

62. Pediculàris versícolor spicàta, Tourn. inst. p. 172.—Barrel. icon. 666. Flowers white, and purple. Calyx woolly, with obtuse teeth. Stamens shorter than the galea, which is hairy outside. This plant differs from *B. máxima* in the stem being simple, in the leaves being narrow-lanceolate, and in the upper ones being alternate, &c.

Party-coloured Bartsia. Pl. 1 to 1½ foot.

9 B. ma'xima (Pers. l. c.) stem branched; lower leaves opposite: superior ones alternate, oblong, bluntly and coarsely toothed; lower lip of corolla longer than the upper one; segments of the lower lip obtuse, equal in size. ⊙. H. Native of Candia. Rhinánthus máximus, Willd. spec. 3. p. 189. Rhinánthus versícolor, Lam. dict. 2. p. 62. Pediculàris Crética máxima amplioribus foliis et floribus, Tourn. cor. p. 9. Plant pubescent. Flowers yellow, ? disposed in spikes at the tops of the branches and stem. Calyx, stamens, and anthers as in preceding.

Largest Bartsia. Pl. 1½ to 2 feet.

Cult. For culture and propagation see *Euphràsia*, p. 611.

XCVII. BU'NGEA (named after Al. a Bunge, one of the editors of "Ledebour's Flora Altaica." 1829-1832.) Meyer. in verz. pflanz. p. 108.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx bracteate, tubular, 4-cleft. Corolla personate: upper lip tridentate: lower one trifid. Anthers all bicalcarate at the base. Stigma somewhat capitate. Capsule sub-indehiscent, ovate, acuminated, 2-valved, 4-celled, many-seeded. Seeds compressed, wrinkled.—A plant with a simple, rather tomentose stem, trifid, linear, pubescent leaves, and axillary, sessile flowers.

1 B. tri'fida (Meyer, l. c.) ⊙. ? H. Native of Asia Minor; and Caucasus, in stony places on Mount Talusch, near Swant, at the altitude of 670 to 800 feet. Bártsia trífida, Spreng. syst. 2. p. 773. Rhinánthus trífidus, Vahl. symb. 1. p. 44. Pediculàris orientalis supina, folio trifido, flore magno flavescente, Tourn. cor. p. 9.—Buxb. cent. 1. p. 5. t. 8. Corolla yellow, rather villous outside. Calyx pubescent, inflated.

Trifid-leaved Bungea. Pl. ½ to ¾ foot.

Cult. For culture and propagation see *Euphràsia*, p. 611.

XCVIII. SIPHONOSTE'GIA (from *σιφων*, *siphon*, a tube; and *στεγος*, *stegos*, a covering.) Benth. scroph. ind. p. 51.

Lin. syst. *Didynàmia*, *Angiospérmia*. Corolla funnel-shaped; tube elongated; limb 4-5 parted. Upper lip of corolla incurved: lower one shorter, with entire segments. Stamens 4, didynamous; cells of anthers parallel, acute at the base, mutic. Stigma capitately thickened. Capsule oblong, straight; valves entire. An erect herb, with twiggy, downy branches. Lower leaves opposite: superior ones alternate, pinnatifid, with acute, cut, lanceolate segments. Flowers scattered, rather distant, nearly sessile, disposed in terminal, interrupted spikes or racemes.

1 S. Chine'nsis (Benth. l. c.)—Native of China, at Macao.

China Siphonostegia. Pl. ?

Cult. For culture and propagation see *Euphràsia*, p. 611.

XCIX. LAMOUROU'XIA (named by Kunth, after J. V. F. Lamouroux, who has written some works on zoophytes and seaweeds.) H. B. et Kunth, nov. gen. amer. 2. p. 336. t. 167.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx campanulate, nearly equal, bilabiate, 4-cleft. Corolla with a short tube, a long, ventricosely compressed throat, and bilabiate limb; upper lip somewhat galeate, entire: lower one narrower and 3-lobed, plicate; lobes nearly equal, oblong, obtuse. Stamens 4, didynamous, the 2 upper ones very short, and generally sterile, wanting in *L. viscòsa*. Anthers of the fertile stamens reniform. pilose; cells usually mucronate at the base. Stigma clavate, undivided. Capsule ovate, compressed, 2-celled, 2-valved; placentas adnate to the dissepiment. Seeds covered by a reticulately cellular membrane.—Erect, branched herbs. Leaves opposite, sessile, serrated, or pinnatifid. Flowers axillary, solitary, opposite, subspicate, scarlet.

§ 1. *Stamens* 4: *2 upper ones short and sterile.*

1 L. virga'ta (H. B. et Kunth, nov. gen. 2. p. 356. t. 167.) branches nearly terete; calyxes and leaves glabrous; leaves linear-lanceolate, obsoletely crenulated; calycine segments lanceolate, quite entire. ♄. ? S. Native near the town of Quito, at the altitude of 1500 hexapods. Herb suffruticose, branched. Leaves about an inch long, and 2 lines broad. Corolla flesh-coloured.

Twiggy Lamourouxia. Shrub 1½ foot.

2 L. serratifòlia (H. B. et Kunth, l. c. t. 168.) branches tetragonal, bifariously pilose; leaves linear-lanceolate, deeply serrated, and are, as well as the calyxes, glabrous; calycine segments oblong-lanceolate, quite entire. ♃. S. Native of New Granada, near Santa Fe de Bogota, and at the Cataract of Tequendama. Leaves nearly sessile, 14-15 lines long, and 2½ lines broad. Corollas like those of the preceding.

Serrate-leaved Lamourouxia. Pl. 1 to 1½ foot.

3 L. rhinanthifòlia (H. B. et Kunth, l. c. p. 337. t. 169.) stem and branches sub-tetragonal, pubescently pilose; leaves oblong, acute, rounded at the base, half stem-clasping, crenately serrated, finely hairy; calyx pilose, with ovate-lanceolate, serrated segments. ♃. S. Native of New Spain, in temperate places near Magdalena, Actopan, and Santa Rosa de La Sierra, at the altitude of from 1040 to 1300 hexapods. Leaves about an inch long. Corolla as in the two preceding. In the Magdalena plant the stem is said to be nearly terete.

Yellow-rattle-leaved Lamourouxia. Pl. 1 to 2 feet.

4 L. sylva'tica (H. B. et Kunth, l. c.) plant twining a little; branches terete, rather pilose; leaves lanceolate-oblong, acute, narrowed at the base, somewhat doubly serrated, and are, as well as the calyxes, hairy; segments of calyx oblong, acute, serrulated. ♃. S. Native of Peru, near Ayavaca, in woods, at the altitude of 1400 hexapods. Leaves nearly sessile, one inch and more long. Corolla rose-coloured, hairy.

Wood Lamourouxia. Pl. twining.

5 L. corda'ta (Cham. et Schlecht, in Linnæa, 5. p. 103.) this is an intermediate plant between *L. viscòsa* and *L. rhinanthòides*, it differs from the first in the broader leaves, and from the second in the inflorescence being clammy; calycine segments quite entire. ♃. S. Native of Mexico. Habit of the plant peculiar. Stem strict, twiggy, densely leafy. Leaves decreasing in size from the top of the stem; largest only 1¼ inch long. Corolla scarlet.

Cordate-leaved Lamourouxia. Pl. 1 to 2 feet. ?

6 L. viscòsa (H. B. et Kunth, l. c. p. 338.) stem sub-tetragonal, and is, as well as the calyxes and leaves, pilosely tomentose, clammy; leaves lanceolate, acuminated, serrated; calycine segments lanceolate, quite entire. ♃. S. Native of Mexico, on the sea-shore near Acapulco. Habit of *Lobèlia*. Leaves hoary, about 2 inches long, and 6-7 lines broad: floral leaves ovate-lanceolate, an inch long, beset with glandular hairs. Corolla flesh-coloured, tomentose outside.

Clammy Lamourouxia. Pl. 1 to 2 feet.

§ 2. *Stamens* 4, *all fertile.*

7 L. xalape'nsis (H. B. et Kunth, l. c.) stem and branches nearly terete, hairy; leaves lanceolate, acuminated, sharply serrated, and are, as well as the calyxes, glabrous; stamens all fertile; calycine segments oblong-linear, quite entire. ♃. S. Native of Mexico, on the eastern declivities of mountains near the town of Xalapa, at the altitude of 680 hexapods. Leaves

nearly sessile, 1½ inch long, and 3 lines broad. Corolla scarlet, hairy outside. Cells of all the anthers mutic. This is, probably, a distinct genus, from the stamens being all fertile, and from the cells of the anthers being mutic at the base.

Xalapa Lamourouxia. Pl. 1 to 2 feet. ?

8 L. multífida (H. B. et Kunth, l. c. p. 339.) stem sub-tetragonal, and is, as well as the leaves, nearly glabrous; leaves pinnatifid; stamens all fertile; calyx clothed with mealy down, with lanceolate, quite entire segments. ♃. S. Native of Mexico, between Guanaxuato and Santa Rosa de La Sierra, at the altitude of 1200 hexapods; and among bushes near Jalapa, &c. Stenochìlus élegans, Willd. herb. no. 11694. Stem rather pilose, reddish. Leaves petiolate, 9-12 lines long. Corolla scarlet, downy outside. Cells of anthers all awned at the base.

Multifid-leaved Lamourouxia. Pl. 1 to 2 feet.

† *A species not sufficiently known.*

9 L. bartsioi'des (Hook. bot. misc. 1. p. 234.) pubescent, branched; leaves linear-oblong, obtuse, crenately pinnatifid, scabrous; bracteas lanceolate, shorter than the corolla; flowers crowded into an oblong spike. ♃. ? S. Native of Peru, in the valley of Canta. Habit of *Bártsia viscòsa*, or *Rhinánthus cristagálli*; but the calyx is cylindrical, and the corolla, as far as can be judged by dried specimens, of *Lamouroúxia*.

Bartsia-like Lamouroúxia. Pl. 1 to 2 feet. ?

Cult. For culture and propagation see *Angelònia*, p. 609.

Subtribe II. Castillegie'æ. Cells of anthers mutic at the base.

C. CASTILLE'JA (named by Linnæus after D. Castillejo, a botanist of Cadiz.) Lin. suppl. 47. no. 1408. Schreb. gen. no. 1059. Lam. ill. 519. Smith, icon. ined. t. 40. Juss. gen. p. 100. ed. Usteri, p. 112. H. B. et Kunth, nov. gen. amer. 2. p. 329.—Bártsia species of authors.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx tubular, compressed, cleft on one side, rarely regular. Corolla tubular, compressed, bilabiate: upper lip linear, canaliculate, entire: lower lip very short, tridentate, or tripartite, ventricose at the base. Stamens 4, didynamous. Stigma capitate. Capsule ovate, compressed, 2-celled, 2-valved. Seeds covered by a loose, reticulated membrane.—Herbs, sub-shrubs, or shrubs. Leaves alternate, entire, or trifid or multifid: floral ones of two forms, bractea-formed and coloured. Flowers axillary, solitary, or terminal and spicate. Corolla white, or greenish.

Sect. I. Eucastille'ja (from εν, *eu*, well; and *Castillèja*. This section is supposed to contain the true species of the genus.) Calyx cleft on one side, and toothed or lobed on the other. Anthers distinct, narrow, with equal lobes. Herbs or subshrubs.

1 C. pa'llida (Kunth, ex Cham. in Linnæa, 2. p. 580. Spreng. syst. 2. p. 232.) tomentose; radical leaves linear, acuminated, entire: superior ones alternate, ovate-lanceolate, 3-nerved, toothed; spike simple; calyx villous. ♃. H. Native of Siberia, in shady places on the banks of rivers; also of Hudson's Bay and Labrador, &c.; Canada and New Hampshire, on the white hills. C. septentrionàlis and C. Sibírica, Lindl. bot. reg. 925. Bártsia pállida, Lin. spec. 839. Michx. fl. bor. amer.—Gmel. sib. 3. p. 201. no. 11. t. 42. Corollas pale purple.

Var. β, *Unalaschénsis* (Cham. et Schlecht, 2. p. 584.) stem simple, thickness of a hen's quill; upper leaves ovate-lanceolate, 3, rarely 5-nerved, more hairy than in the species, and the bracteas less jagged. ♃. H. Native of the Aleutian Islands.

Pale Castilleja. Fl. June, Sept. Clt. 1782. Pl. ½ to 1 foot.

2 C. affi'nis (Hook. et Arn. in Beech. voy. pt. bot. p. 154.) stem herbaceous, nearly simple, pilosely hispid; leaves linear-lanceolate, 3-nerved, pubescent, entire: floral ones linear, entire, rarely dentately lobed at apex; lower flowers pedunculate; floriferous calyx tubular, cleft both in front and behind; lobes bifid: segments linear-lanceolate, acute; corolla exceeding the calyx. ♃. H. Native of California. Nearly allied to *C. pállida*, the *Bártsia pállida*, Michx. It differs from *C. lithospermoìdes* of Kunth, in the floral leaves not being dilated, and from *C. integrifòlia*, Lin. in the calyx being tubular, not ventricose.

Allied Castilleja. Pl. 1 foot.

3 C. Toluce'nsis (H. B. et Kunth, nov. gen. 2. p. 329.) stems branched, procumbent, glabrous; leaves lanceolate, obtuse, hispid, nearly entire: superior ones trifid at apex, 3-nerved; flowers axillary, sessile; calyx about equal in length to the corolla. ♄. G. Native of Mexico, on the mountains near the town of Toluca, at the altitude of 1380 hexapods. Stems tufted. Branches quadrangular, densely leafy. Corolla glabrous. Calyx bifid; lobes rounded.

Toluca Castilleja. Shrub procumbent.

4 C. Morane'nsis (H. B. et Kuuth, l. c.) stem suffruticose, simple, prostrate, pubescently hispid; leaves lanceolate, acute, hispid, entire: superior ones trifid; flowers axillary, sessile; corolla exceeding the calyx a little. ♄. G. Native of Mexico, in temperate places between Pachuca and Moran, at the altitude of 1320 hexapods. Calyx bifid; lobes emarginate.

Moran Castilleja. Clt. 1825. Shrub prostrate.

5 C. nubi'gena (H. B. et Kunth, l. c. p. 330.) stem shrubby, branched, erect, hispid; leaves linear, trifid at apex, densely hairy, the middle segment also somewhat trifid; flowers axillary, on short peduncles; floriferous calyx ventricose, about equal in length to the corolla. Cleft on one side, and lobed on the other. ♄. G. Native on Mount Pichinca, in sandy places near the plains of Verde Cuchu, at the altitude of 1800 hexapods. Branches tetragonal. Floral leaves red.

Nubigenous Castilleja. Shrub ¼ to ½ foot.

6 C. lacinia'ta (Hook. et Arn. in Beech. voy. pt. bot. p. 40.) plant beset with a few stiff hairs; stem erect, herbaceous; leaves linear, trifidly pinnatifid, with elongated, filiform segments; flowers axillary, almost sessile; calyx equal in length to the corolla. ♃. ? G. Native of Chili, about Conception. Very closely allied to *C. nubìgena*, but that appears to be suffruticose, and has an inflated calyx, and the segments of the leaves are much broader and shorter.

Jagged-leaved Castilleja. Pl. 1 foot. ?

7 C. fissifòlia (Lin. suppl. 293.) stem suffruticose, branched, erect, hispid; leaves linear, trifid at the apex, densely hairy: middle segment 3-lobed; flowers spicate, pedicellate; calyx tubular, one half shorter than the corolla. ♄. G. Native of New Granada, in frigid places between Zipaquira and Santa Fe de Bogota, at the altitude of 1360 hexapods. Smith, icon. ined. t. 40. H. B. et Kunth, l. c. p. 330. Leaves 3-nerved, an inch long. Rudiments of branches from the axils of the leaves.

Cleft-leaved Castilleja. Shrub 2 to 3 feet.

8 C. arve'nsis (Cham. et Schlecht, in Linnæa, 5. p. 103.) stem herbaceous, simple, or branched, hispid from pili; leaves spatulate-lanceolate, or oblong-lanceolate, obtuse, narrowed at the base, 3-nerved, entire, hairy; flowers spicate; corolla scarcely exceeding the calyx. ♃. G. Native of Mexico, near Jalapa, among corn, between San Andres and Serra Colorado. Nearly allied to *C. lithospermoìdes*, but is distinguished from it by the form of the leaves. Seeds cuneated, not winged.

Corn-field Castilleja. Pl. 1 foot.

9 C. integrifòlia (Lin. suppl. 293.) stem shrubby, branched, erect, hispid from white hairs; leaves linear, entire, pubescently hispid; flowers spicate, nearly sessile; floriferous calyx

ventricose at the base, shorter than the corolla. ♄. G. Native of New Spain, in temperate places near Tasco, San Augustin de las Cuevas, at the altitude of 1100 hexapods. Smith, icon. ined. t. 39. H. B. et Kunth, nov. gen. 2. p. 33. Leaves 3-nerved, 8 lines long, and 1½ line broad. Calyx bidentate.

Entire-leaved Castilleja. Clt. 1825. Shrub 1 to 1½ foot.

10 C. LITHOSPERMOI'DES (H. B. et Kunth, l. c. p. 331. t. 164.) stem herbaceous, nearly simple, pilosely hispid; leaves lanceolate-linear, narrowed at top, obtuse, entire, beset with pili; flowers subspicate, sessile; corolla hardly exceeding the calyx. ♃. ? G. Native of New Spain, near Real del Monte and Moran; and of the province of Quito, near Chillo, at the altitude of 1350 hexapods; and of the South of Brazil, Sello. C. hyssopifòlia, Willd. herb. no. 11697. Leaves 3-nerved, 1½ to 2 inches long, and 3 lines broad: floral ones red, dilated at apex. Calyx cleft on one side, and 2-lobed on the other. Corolla white.

Lithospermum-like Castilleja. Pl. 1 foot.

11 C. OCCIDENTA'LIS (Torrey, in ann. lyc. 2. p. 230.) stem herbaceous, simple, pilose; leaves linear-lanceolate, attenuated at apex, minutely pubescent, quite entire, acutish; flowers spicate, sessile; corolla hardly exceeding the calyx; bracteas trifid, with erect segments. ♃. H. Native of North America, among the rocky mountains. Leaves sessile, 3-nerved. Spike simple, oblong. Middle segments of the bracteas sometimes trifid. Calyx a little cleft on one side, 4-toothed.

Western Castilleja. Pl. ¼ to ½ foot.

12 C. SCORZONERIFÒLIA (H. B. et Kunth, l. c. p. 331. t. 165.) stem herbaceous, simple, ? pilosely hispid; leaves linear, dilated at the base, half stem-clasping, entire, rather hispid: floral ones bractea-formed, coloured; flowers spicate, sessile; corolla hardly exceeding the calyx. ♃. G. Native of New Spain, on rocks near Pascuaro and Ario, at the altitude of 1100 hexapods. Stem angular, reddish. Leaves 3-nerved, about 3 inches long, and 2-3 lines broad: floral ones purplish. Calyx cleft on both sides; segments emarginately bidentate. Corolla pilose. Very nearly allied to the preceding.

Scorzonera-leaved Castilleja. Pl. 1 foot.

SECT. II. EUCHRÒMA (from *ευ, eu*, well; and *χρωμα, chroma*, colour; in allusion to the common name of the species in North America. "Painted cup," from the brilliant colouring of the bracteas.) Euchròma, Nutt. gen. amer. 2. p. 54. Calyx spathe-formed, bifid, or emarginate, or quadrifid; segments subulate. Anthers linear, with unequal lobes, all cohering in the form of an oblong disk.—Herbaceous plants with simple stems. This section differs from the first in the anthers being connected, and in their cells being unequal.

§ 1. *Calyx spathe-formed, 2-lobed, or quadrifid, inclined to one side.*

13 C. COCCI'NEA; annual, or biennial; leaves, as well as the coloured bracteas, divaricately trifid; calyx bifid, nearly equal with the corolla: segments retuse and emarginate. ♂. H. Native of the States, from New York to Virginia, and of the Arkansas territory. Bártsia coccínea, Lin. spec. 839. Euchròma coccínea, Nutt. gen. amer. 2. p. 55.—Pluck. alm. 283. t. 102. f. 5.—Mor. hist. 3. p. 395. sect. 11. t. 13. f. 28. Corollas yellow. Bracteas scarlet.

Scarlet-bractead Painted Cup. Fl. July, Aug. Clt. 1787. Pl. ½ to 1 foot.

14 C. LATIFÒLIA (Hook. et Arn. in Beech. voy. pt. bot. p. 154.) stem sub-herbaceous, branched, beset with hairy pubescence at bottom, but rather villous at top; leaves ovate-oblong, obtuse, entire, densely pubescent; floral leaves dilated, cuneated, trifid at apex: lobes short, obtuse, the middle one broadest; flowers nearly sessile; floriferous calyx sessile, equally cleft both in front and back: lobes short, bluntly bidentate; tube of corolla equal in length to the calyx. ♃. H. Native of California. Castillèja Toluccénsis, Cham. in Linnæa, 2. p. 579. but not of Kunth. "This and *C. foliolòsa* belong to the same sub-genus or section of *Castillèja*, with *Euchròma coccínea* of Nutt. having the same kind of calyx, while *Castillèja affìnis* has the same kind of calyx as *Euchròma grandiflòra*." Arnott.

Broad-leaved Painted Cup. Pl. 1 foot. ?

15 C. FOLIOLÒSA (Hook. et Arn. in Beech. voy. pt. bot. p. 154.) plant clothed with snowy tomentum; stem shrubby, branched; leaves crowded: lower ones linear, obtuse: upper and floral ones divaricately tripartite, or rarely entire; flowers nearly sessile; floriferous calyx tubular, equally cleft in front and back: lobes emarginate; tube of corolla shorter than the calyx. ♃. H. Native of California. In some points this plant agrees with *Castillèja fissifòlia*, Lin. The axils of the leaves are furnished with a tuft of small leaves, or short abortive branches.

Leafy Painted Cup. Pl. 2 to 3 feet.

16 C. GRANDIFLÒRA; perennial; leaves and uncoloured bracteas shortly trifid; segments divaricate; calyx 4-cleft, partly oblique; corolla longer than the calyx, with the segments of the lower lip acuminated. ♃. H. Native on the plains of the Missouri, from the confluence of the river Platte to the Mountains; also near the Prairie du Chien, Mississippi. Euchròma grandiflòra, Nutt. gen. amer. 2. p. 55. Castillèja sessiliflòra, Pursh, fl. amer. sept. 2. p. 738. ? Bártsia tenuifòlia, Pursh, fl. 2. p. 738. ? Plant downy in every part. Corolla downy, 2-3 inches long, greenish white, a little rosaceous: upper lip almost green.

Great-flowered Painted Cup. Fl. April, June. Clt. 1811. Pl. 1½ foot. ?

17 C. PURPU'REA; leaves cuneated, trifid, or a little jagged; bracteas red; calyx and corollas coloured, quadrifid, unilateral; segments of corolla acute. ♃. H. Native of the Arkansas, on rocks in the hilly prairies of Red river. Euchròma purpùrea, Nutt. in amer. phil. trans. n. s. vol. 5. p. 180. Stem tomentose, the leaves more slightly so. Calyx and corolla of a brilliant reddish purple. Segments of calyx linear, all inclined to one side, and nearly the length of the corolla: apex of the upper lip of the corolla greenish. Nearly related to *E. grandiflòra*, but differs in the proportion of the corolla, and the dilation and brilliant colour of the bracteas.

Purple-flowered Painted Cup. Pl. 1 foot. ?

§ 2. *Calyx quadrifid, equal.*

18 C. AMBI'GUA (Hook. et Arn. in Beech. voy. pt. bot. p. 154.) annual; stems many, branched a little; leaves scattered: lower ones lanceolate, obtuse: superior and floral leaves gradually increasing in size, dilated, and deeply multifid; floriferous calyx tubular, equally 4-cleft to the middle, with subulate segments; tube of corolla exceeding the calyx: upper lip short: lower one 3-lobed: lateral lobes rounded, very concave: middle one straight, mucrone-formed. ♃. ? H. Native of California. Said to be nearly allied to *Bártsia tenuifòlia*, Pursh. The lower lip of the corolla is quite at variance with the character of the genus, yet the upper lip and habit are the same. At each side of the central lobe of the lower lip is a small gland, as in several other species.

Ambiguous Painted Cup. Pl. 1 foot. ?

19 C. PARVIFLÒRA (Bougard, in mem. acad. petersb. 2. p. 157.) stem simple, ascending, clothed with ovate, entire, or cut, acute scales at the base, villous at top; leaves scattered,

sessile, ovate-lanceolate, regularly jagged, with usually 3 segments on each side, opposite, divaricate: lower ones lanceolate, acuminated: upper ones linear, acute: lower ones downy on the nerves: uppermost ones more villous, an inch long; flowers densely racemose at the tops of the branches, sessile, red; bracteas conforming to the leaves, villous; calyx tubular, 4-cleft, with linear lobes; corolla with a tricrenated upper lip, and a tridentate lower one; anthers sagittate, yellow. ♃.? H. Native of the Island of Sitcha. Said to be nearly allied to *C coccínea*, but the flowers are one half smaller.

Small-flowered Painted Cup. Pl. ½ to ¾ foot.

20 C. angustifòlia; dwarf, hairy; leaves divaricately trifid; radical ones simple, with linear, bluntish segments; bracteas trifid; middle segment generally 3-lobed; calyx quadrifid, segments equal. ♃. H. Native in dry prairies, on the borders of little Goddin river, near the source of the Columbia. Euchròma angustifòlia, Nutt. in journ. acad. nat. sc. phil. 7. p. 46. Many stems from the same root, about 3-4 inches high, and hairy; the leaves covered with shorter pubescence, rather hoary; the segments divaricate, bifid, trifid, and simple. Bracteas apparently of a lake colour. Corollas small, hardly longer than the equal calyx.

Narrow-leaved Painted Cup. Pl. ¼ to ½ foot.

21 C. Bradbu`rii; rather pilose; leaves palmately somewhat twice trifid, with linear segments; bracteas divided like the leaves; calyx quadrifid, with equal segments. ♃. H. Native along with the preceding. Euchròma Bradbùrii, Nutt. l. c. p. 47. Stem simple. Leaves pubescent, trifidly divaricate from the middle; the central segment trifid. Bracteas apparently scarlet, the central segment 3-lobed.

Bradbury's Painted Cup. Pl. ½ foot.

Cult. The species are very difficult to cultivate. Peat is the best soil for them. They may be grown in shady peat borders; but are best in pots, being more easily sheltered during winter, by placing them under a frame.

CI. ORTHOCA'RPUS (from *ορθος, orthos*, straight; and *καρπος, karpos*, a fruit; the straightness of the fruit readily distinguishes it from *Melampỳrum*.) Nutt. gen. amer 2. p. 56.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx tubular, semiquadrifid. Corolla bilabiate, closed; upper lip smaller, compressed, with inflexed margins: lower lip concave, obsoletely 3-toothed, unexpanded. Anthers free; cells unequal, divaricate. Capsule straight, elliptic-ovate, 2-celled, 2-valved, many-seeded, opening on both sides; dissepiment transverse. Seeds small, with a winged lunate margin.—Annual. Stem simple. Leaves alternate, entire. Flowers axillary, alternate, sessile, and bracteate; bracteas divaricately trifid. Corollas yellow.

1 O. lu`teus (Nutt. l. c.) ☉. H. Native in humid situations on the plains of the Missouri, near Fort Mandan, very local. Flowers size and form of those of *Melampỳrum* at first sight. Leaves lanceolate, linear, sessile, acute, opaque, and are, as well as the bracteas and calyx, viscidly pubescent. Margins scabrous. Bracteas 3-nerved. Corolla yellow, smooth. Stigma simple, minute.

Yellow-flowered Orthocarpus. Pl. 1 foot.

Cult. For culture and propagation see *Euphràsia*, p. 611.

CII. SCHWA'LBEA (named by Christian George Schwalbe, who has written a Botanical and Medical History of the Quina of the shops). Grov. virg. 92. Schreb. gen. no. 1001. Lam. ill. t. 520. Nutt. gen. amer. 2. p. 54.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx ventricose, tubular, obliquely 4-cleft: upper segment shortest: the lower large and emarginate, or bidentate. Corolla bilabiate: upper lip entire, arched, the lower 3-lobed. Capsule ovate, nearly terete, 2-celled, 2-valved; dissepiment produced by the inflexed margins of the valves, and parallel with the longitudinal receptacle. Seeds numerous, imbricate, linear, and winged.—A perennial, herbaceous plant. Leaves alternate, entire. Flowers axillary, racemose, alternate, on short pedicels. Calyx mostly marked with 10-12 angular stripes, and conspicuously bibracteate at the base. Said by Nuttall to belong to the *Antirrhìneæ*. Capsule without any transverse dissepiment, opening longitudinally always below the adhering summit.

1 S. America`na (Lin. spec. p. 844.) ♃. H. Native from New York to Florida, generally occurring on the borders of spagnose swamps, not far from the sea coast.—Plukn. mant. 73. t. 348. f. 2.? Corollas of a dull yellowish colour. Anthers crescent-shaped.

American Schwalbea. Pl. 2 feet.

Cult. For culture and propagation see *Castillèja* above.

CIII. LAFUE'NTEA (evidently named after some Spanish botanist of the name of La Fuente, of whom we know nothing.) Lag. ex Spreng. syst. 2. p. 680.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla bilabiate: upper lip 2-cleft: lower one 3-cleft. Capsule 2-celled, many-seeded; dissepiment equal.—A strong-scented, suffruticose plant, clothed with glandular, clammy hairs. Leaves decussate, reniform, crenated. Spikes axillary, pedunculate, solitary.

1 L. rotundifòlia (Lag. l. c.) ♄. F. Native of the South of Spain.

Round-leaved Lafuentea. Shrub small.

Cult. For culture and propagation see *Castillèja*, above.

Tribe X.

TEEDIE`Æ (this tribe contains plants agreeing with *Teèdia* in the nearly equal corolla and baccate fruit.) Calyx 5-parted. Limb of corolla nearly equal. Fruit baccate.

CIV. TEE`DIA (meaning not explained by the author.) Rudolf, in Schrad. journ. 2. p. 289. Ker. bot. reg. t. 209. and 214.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, with subulate segments. Corolla salver-shaped; tube cylindrical, a little longer than the calyx, thrust in near the base in front, and consequently gibbous behind; throat pilose; limb nearly regular, 5-cleft, with ovate, obtuse, equal segments. Stamens 4, didynamous; anthers didymous, roundish. Style shorter than the stamens. Stigma subcapitate, convex, obsoletely bifid. Berry globose, black, size of a large pea, girded by the calyx, 2-celled, many-seeded. Seeds inserted in parietal placentas, oval, scrobiculate, ex Burch.—Suffruticose, biennial herbs, natives of the Cape of Good Hope. Stems tetragonal. Leaves opposite, oblong-ovate, about 2 inches long, acuminated; petioles winged, half stem-clasping. Peduncles axillary, usually 3-flowered, forming terminal, leafy panicles. Corollas rose-coloured, with dark purple spots near the throat.

1 T. lu`cida (Rudolf. l. c. Pers. ench. 2. p. 166. Ait. hort. kew. ed. 2. vol. 4. p. 47.) leaves glabrous on both surfaces, like the rest of the plant. ♂. G. Native of the Cape of Good Hope. Ker. bot. reg. 209. Caprària lùcida, Ait. hort. kew. ed. 1st. vol. 2. p. 353. Willd. spec. 3. p. 324. Borckhausènia lùcida, Roth. catalect. bot. 2. p. 56. Bracteas subulate, length of peduncles.

Shining-leaved Teedia. Fl. April, July. Clt. 1774. Pl. 1 to 2 feet.

2 T. pube'scens (Burch. in bot. reg. 214.) leaves downy on both surfaces. ♂. G. Native of the Cape of Good Hope. Very like the preceding species in habit.

Downy Teedia. Fl. May, Oct. Clt. 1816. Pl. 1 to 2 feet.

Cult. Both species are very pretty when in blossom. They thrive best in rich light soil, and are readily increased by cuttings or seeds.

CV. FREYLI'NIA (meaning not explained by the author.) Coll. Freyl. with a figure. Caprària species of Lin. and Thunb.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted. Corolla funnel-shaped. Stamens 4, unequal, perfect, with the rudiment of a fifth. Drupe containing 4 2-seeded nuts. Shrubs with opposite, entire leaves, and terminal panicles of flowers.

1 F. cestroìdes (Coll. l. c.) leaves linear-lanceolate, quite entire, glabrous; panicle terminal, composed of short racemes; segments of corolla revolute. ♄. F. Native of the Cape of Good Hope. Caprària lanceolàta, Lin. suppl. 284. Ait. hort. kew. ed. 1st. vol. 2. p. 354. Link, et Otto, icon. pl. hort. berol. 11. t. 4. Freylìnia oppositifòlia, Spin. seb. not. 13. Búddlea glabérrima, Cat. hort. taur. 13. Leaves 2-3 inches long, acute, striated, stiff. Corolla copper-coloured.

Cestrum-like Freylinia. Fl.? Clt. 1774. Shrub 3 to 6 feet.

2 F. undula'ta; leaves ovate-oblong, quite entire, undulated: upper ones subcordate, verticillate; racemes spike-formed, simple. ♄. G. Native of the Cape of Good Hope. Caprària undulàta, Lin. suppl. 284. Ait. hort. kew. ed. 1st. p. 354. Lher. sert. ang. p. 21. Lam. ill. t. 534. f. 1. Sims, bot. mag. 1556. Corollas purple, 5 times longer than the calyx.

Undulated-leaved Freylinia. Fl. Mar. July. Clt. 1774. Shrub 2 to 3 feet.

3 F. densiflòra (Benth. in Hook. comp. 2. p. 55.) lower leaves verticillate: superior ones scattered, oblong-elliptic, flattish, glabrous; raceme dense, subpanicled; corolla 3-4 times longer than the calyx. ♄. G. Native of North Africa, in the Uitenhage district.

Dense-flowered Freylinia. Shrub.

4 F. longiflòra (Benth. l. c.) leaves opposite or scattered, oblong-elliptic, hardly undulated, glabrous; raceme elongated, simple; corollas 5 times longer than the calyx. ♄. G. Native of North Africa, in Zwarteberg, Ecklon.

Long-flowered Freylinia. Shrub.

5 F.? rí'gida; leaves ovate, entire, glabrous; flowers panicled. ♄. G. Native of the Cape of Good Hope. Caprària rígida, Thunb. prod. p. 103.

Stiff Freylinia. Shrub.

Cult. Some of the species of this genus will survive in the open ground against a wall with a south or west aspect, with a little protection in winter. They will grow freely in any light rich soil, or a mixture of turfy loam and peat; and cuttings strike root readily under a hand-glass.

Tribe XI. HALLERIE'Æ (this tribe only contains the genus *Hallèria.*) Link. Calyx small, 3-4-lobed, unequal, permanent. Corolla large, funnel-shaped; throat ventricose; limb erect, oblique, 4-cleft, unequal: upper segment the largest, obtuse, and emarginate: the side ones shorter, broader, and sharper: the lowest one very short, very slender, and very sharp. Stamens 4, didynamous. Fruit baccate, roundish, terminated by the style, 2-celled, many-seeded. Seeds flat, roundish, winged.—A shrub with opposite, serrated, shining leaves. Pedicels axillary, aggregate.

CVI. HALLE'RIA (so named by Linnæus in honour of the famous Albert Haller, M.D., author of "Stirpes Helveticæ," and other considerable works on botany.) Lin. gen. no. 761. Schreb. gen. no. 1020. Juss. gen. p. 118. ed. Usteri. p. 133.

Lin. syst. *Didynàmia, Angiospérmia.* The character of the genus the same as that of the tribe.

1 H. lu'cida (Lin. spec. 872.) leaves ovate, acuminated, serrated; corollas bilabiate; calyx 3-lobed; stamens exserted. ♄. G. Native of the Cape of Good Hope, in woods. Thunb. nov. act. ups. 6. p. 39. Sims, bot. mag. 1744.—Burm. afr. 244. t. 89. f. 2.—Duh. arb.. ed. nov. fasc. 20. p. 239. t. 69. Branches and leaves green. Leaves size of those of the *Privet.* Corolla reddish, large, drooping. Fruit roundish.

Shining-leaved Halleria. Fl. June, Aug. Clt. 1752. Shrub 4 to 6 feet.

2 H. elli'ptica (Thunb. nov. act. ups. 6. p. 39.) leaves oblong, acute, toothed, cuneiform at the base, and quite entire; corollas equal; calyx 4-lobed; stamens inclosed. ♄. G. Native of the Cape of Good Hope. H. lùcida, β, Lin. spec. 872.—Burm. afr. 243. t. 89. f. 1 Corolla red, drooping. Fruit oblong. "Leaves elliptic. Corollas truncate. Calyx 5-leaved." ex Thunb. l. c.

Elliptic-leaved Halleria. Fl.? Clt. 1816. Shrub 4 to 6 feet.

Cult. These shrubs may be treated like other hardy greenhouse plants, by being housed with myrtles in the winter. A light rich earth is the best for them; and cuttings root readily under a hand glass. They require to be exposed as much as possible to the air, and to have plenty of water given to them during summer.

† *Genera probably belonging to the order, but are not sufficiently known.*

CVII. PI'KRIA (from πικρος, *pikros*, bitter; from the bitterness of the plant.) Lour. coch. p. 393. Pers. ench. 2. p. 165.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 4-leaved, deciduous, longer than the corolla; alternate leaves linear, and shorter. Corolla tubular, ringent, bilabiate; tube constricted in the middle: upper lip spatulate, emarginate: lower lip larger and trifid, with equal, roundish segments. Stamens 4, didynamous; the 2 longer filaments streaked by a papillose tube, and bearing 1-celled anthers, and the two shorter ones bearing 2-celled, connected anthers. Berry ovate, 2-celled, many-seeded. —A very bitter, medicinal plant, with ovate serrated leaves, and crowded flowers.

1 P. Fe'l-te'rræ (Lour. l. c.) ♃.? G. Native of China and Cochinchina. Stem tetragonal.

Earth-gall Pikria. Pl. 1½ foot.

Cult. For culture and propagation see *Castillèja*, p. 616.

CVIII. DIPLANTHE'RA (from διπλοος, *diploos*, double; and ανθηρα, *anthera*, an anther; in reference to the cells of the anthers being distinct and diverging, therefore they appear double.) R. Br. prod. p. 548.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx trifid; upper segment entire: lateral ones bifid. Corolla bilabiate; throat compressed; upper lip obcordate: lower one tripartite, with roundish lobes. Stamens 4, inserted in the bottom of the corolla, exserted, nearly equal, ascending; cells of anthers distinct, diverging, reflexed to the sides of the filaments in æstivation. Ovarium 2-celled, many-seeded; placentas 2, adnate in each cell. Stigma bilamellate. Pericarp unknown.—A middle-sized tree, with a diffuse, irregular tufted top. Branches terete, tomentose. Leaves 4 in a whorl, large, petiolate, entire, biglandular above the base. Thyrse terminal, roundish, depressed. Partial peduncles verticillate; pedicels trichotomous. Flowers showy. Calyx half coloured. Corolla yellow. This genus is probably nearer allied to *Hallèria* than to any other.

1 D. tetraphy'lla (R. Br. l. c. p. 449.) ♄. S. Native of New Holland, within the tropic.

Four-leaved Diplanthera. Tree.

Cult. For culture and propagation see *Hallèria* above.

CIX. GOMA'RA (Lopez de Gomara, a Spanish botanist, mentioned by Tournefort in his Isagoge Flore du Perou.) Ruiz. et Pav. fl. per. syst. 168.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 4-cleft. Corolla irregular; tube curved, coarctate in the middle; nectary cup-shaped, membranous. Stigma capitate. Capsule 2-celled, 2-valved, many-seeded.

1 C. racemòsa (Ruiz. et Pav. l. c.) leaves oblong-lanceolate, denticulated at apex; flowers racemose.—Native of Peru, in woods; flowering in the autumn.

Racemose-flowered Gomara. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Angelònia*, p. 609.

CX. RHYNCHOGLO'SSUM (from ῥυγχος, *rhynchos*, a beak; and γλωσσα, *glossa*, a tongue.) Blum. bijdr. p. 741.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx bilabiate: upper lip trifid: lower one bifid. Corolla ringent: upper lip bifid, reflexed: lower lip larger and semi-trifid: middle segment the largest; throat bicallous. Stamens 4, almost inclosed, 2 of these sterile, and very small; anthers connected. Stigma obtuse. Capsule beaked, 1-celled, 2-valved; dissepiment double, incomplete, contrary to the valves; valves inflexed on both sides, and placentiferous.—A much branched, rather downy herb. Leaves alternate, (one being supra-axillary, and stipule-formed,) oblong, very oblique. Raceme terminal, drooping; pedicels secund. Said by Blum. to be nearly allied to *Gerárdia*.

1 R. obli'quum (Blum. l. c.) ♃. S. Native of Java, on the Seribu mountains.—Rheed. mal. 9. t. 80.

Oblique-leaved Rhynchoglossum. Pl. 2 to 3 feet.

Cult. For culture and propagation see *Angelònia*, p. 609.

Order CLXX. RHINANTHA'CEÆ (this order contains plants agreeing with the genus *Rhinánthus* in the characters given below.) D. C. fl. fr. 3. p. 454. D. Don. in edinb. phil. journ. vol. 33. p. 112. July 1835. Melampyràceæ Richard. Pediculàres part, Juss. gen. p. 99. ed. Usteri. p. 111.

Calyx tubular, 4-5-cleft, permanent. Corolla tubular, hypogynous, deciduous, irregular, imbricate in æstivation; upper lip usually galeate. Stamens 4, didynamous, all fertile; anthers spurred at the base. Ovarium 2-celled. Stigma undivided. Capsule 2-celled, 2-4-valved, many-seeded. Testa of seeds membranous. Albumen copious, fleshy. Embryo inverted, terete; radicle centrifugal, remote from the umbilicus.—Usually humble, herbaceous, rarely suffruticose plants, natives of Europe, Asia, and North America. Leaves usually opposite, and pinnatifid. Flowers terminal, spicate, bracteate. This is intimately allied to the preceding order, but is satisfactorily distinguished by its inverted embryo, with the radicle directed to the opposite extremity of the seed. The tribe *Euphrasièæ* of *Scrophularíneæ* have been included by most botanists in this family, and were they to be retained, the separation between it and the preceding order would be impossible. *Cymbària* differs from the rest of the genera in the very considerable degree of developement of its embryo.

Synopsis of the genera.

Tribe I.

Rhinanthie'æ. Embryo minute at the apex of the albumen.

1 Rhina'nthus. Calyx compressed, membranaceously inflated. Upper lip of corolla galeate. Seeds few, girded by the membranous wing.—Alectorólophus, Stev.

2 E'lephas. Superior lip of corolla linear, beak-like. Seeds few, striated.—Rhinánthus, Stev.

3 Pedicula'ris. Calyx 5-cleft, or unequally 2-3-cleft. Upper lip of corolla galeate, elongated, usually incurved. Seeds girded by a membrane.

4 Melampy'rum. Galea of corolla compressed, with replicate lobes. Seeds large, wingless, one in each cell.

5 Parentuce'llia. Upper lip of corolla galeate, concave: lower one linear at the base, channelled, 3-lobed at top. Calyx 5-toothed, inflated. Seeds wingless.

6 Triphysa'ria. Superior lip of corolla subulate: lower one tripartite, with saccate segments; anthers 1-celled. Calyx 4-cleft. Seeds wingless.

Tribe II.

Cymbarie'æ. Embryo rather foliaceous, almost the length of the albumen.

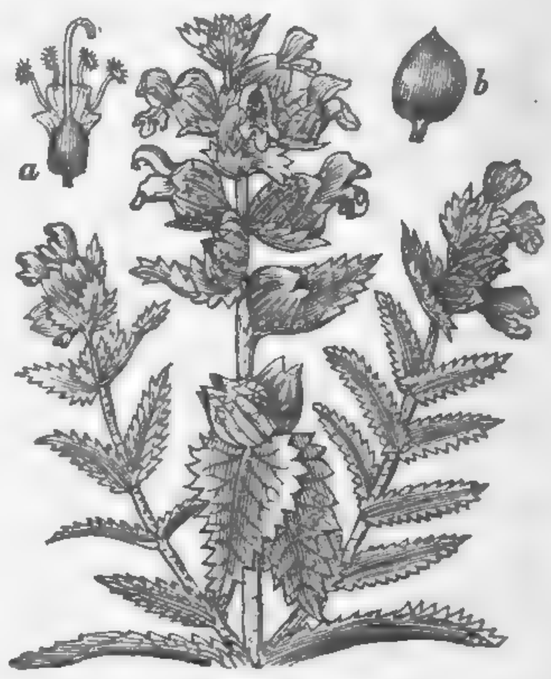
7 Cymba'ria. Corolla tubularly ventricose. Calyx 10-parted.

I. RHINA'NTHUS (from ῥὶν, *rhin*, a snout; and ἀνθος, *anthos*, a flower; so named from its ringent corolla.) Lin. gen. no. 740. Schreb. gen. no. 997. Juss. gen. p. 101. ed. Usteri. p. 113. Gærtn. fruct. 1. p. 255. t. 54. f. 5. Lam. ill. t. 517. f. 1. Schkuhr, handb. t. 169. Alectorólophus, Bieb. fl. taur. 2. p. 68. Stev. mon. ped. p. 4. Ledeb. fl. alt. 3. p. 419.—Pediculàris species, Tourn. inst. 77.—Cristagálli, Riv. mon. irr. t. 92. f. 2, and of many other old authors.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx compressed, membranous, inflated, 4-toothed. Superior lip of corolla galeate, compressed, bidentate at apex: lower one spreading, 3-lobed. Anthers bipartite, mutic, villous. Capsule 2-celled, obtuse, compressed. Seeds compressed, marginate, or girded by a membranous wing.—Marsh annual plants, natives of Europe. Leaves opposite, sessile, lanceolate, deeply toothed, cordate at the base. Flowers opposite, bracteate, disposed in terminal, secund spikes or racemes. Corollas yellow.

1 R. Crísta-ga'lli (Lin. spec. p. 840.) stem slightly branched; leaves lanceolate, serrated; calyx smooth; style inclosed; seeds with a dilated, membranous border. ⊙. H. Native of Europe and America, in barren pastures and meadows; plentiful in Britain. Smith, engl. bot. 657. Curt. lond. 5. t. 43. Fl. dan. 981.? Mart. fl. rust. 148. R. mìnor, Ehrh. herb. 46. beitr. 6. p. 144. Alectorólophos crísta-gálli, Bieb. fl. cauc. 2. p. 68. Mímulus crísta-gálli, Scop. fl. carn. no. 751. Alectorólophus glàber, All. ped. no. 206. Hall. helv. no. 313. Crísta-gálli fémina, Bauh. hist. 3. p. 436. f. 3. Dill. giss. append. 44. Crísta-gálli, Riv. mon. irr. 92. f. 3. Stem branched, quadrangular. Calyx greenish yellow; segments of the upper lip short, bluish. The plant has the name of yellow-rattle from the yellow flowers and rattling of the seeds in the capsule when ripe; and for the same reason it is called rattle-boxes in Ireland. It is known in some counties by the name of Penny-grass, and in Yorkshire by that of Henpenny, from the shape and size of the seed-vessels, like

FIG. 60.



the silver penny. Its other appellation of Cockscomb is derived from the appearance of the upper leaves, or bracteas, which accompany the flowers. Mr. Miller says, that the Dutch formerly carried on a trade with the seeds and seed vessels of a species of this genus to Germany. They call it Semen Savadillos, and it appears very like the seed vessels of this sort. The use they make of it is to kill vermin, especially bugs. They boil a quantity of the seeds and capsules in common water, with which they wash their wainscot, bedsteads, &c. and it is said effectually to destroy the insects.

Cockscomb, or Common Yellow Rattle. Fl. June, July. Britain. Pl. 1 to 1½ foot.

2 R. ma'jor (Ehrh. herb. 56. beitr. 6. p. 144.) stem much branched; leaves linear-lanceolate, serrated; bracteas taper-pointed; calyx smooth; style prominent; seeds slightly bordered. ⊙. H. Native of Europe, in corn fields; in the north of England, in Yorkshire, Northumberland, Durham, &c. R. Crísta-gálli, γ, of authors, β. Lin. spec. 840. R. Alectorólophus, Poll. pall. no. 580. Hoffm. fl. germ. 215. Roth. fl. germ. 1. p. 264. 2. p. 53. Corolla yellow, with a purple upper lip; tube incurved.

Larger Yellow Rattle. Fl. July, Aug. Britain. Pl. 2 to 3 feet.

3 R. hirsu'ta (Lam. fl. fr. 2. p. 353.) stem branched; leaves lanceolate, serrated; style inclosed; ? calyx hairy; seeds with a membranous border. ⊙. H. Native of Middle Europe, as of France, Switzerland, &c. in dry pastures. Mímulus Alectorólophus, Scop. carn. no. 752. Alectorólophus hirsùtus, All. ped. no. 201.—Hall. helv. no. 314. Crísta-gálli mas. Bauh. hist. 3. p. 436. R. crísta-gálli, γ, Lin. spec. 840. Corolla yellow, with a purplish upper lip.? Perhaps a variety of *R. crísta-gálli*.

Hairy-calyxed Yellow Rattle. Pl. 1 foot.

Cult. Sow the seeds in moist soil, and they will grow and flower in cultivation.

II. E'LEPHAS (from *elephas*, an elephant; from the resemblance of the upper lip of the corolla to the proboscis of that animal.) Column. ecphr. 1. p. 186. t. 181. Tourn. cor. 48. itin. 2. p. 299. t. 299. Rhinánthus, Stev. mon. ped. p. 3.—Rhinánthus species of authors.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx bipartite, even to the base: lower lip bipartite: upper lip entire, or bidentate. Upper lip of corolla beak-like, tubular: lower lip trifid. Capsule 2-celled, 2-valved, obtuse, compressed. Seeds few, simple, striated.—Erect, annual, hairy, branched plants. Leaves opposite, serrated. Flowers opposite, disposed in terminal bracteate racemes or spikes. Corollas yellow.

1 C. incu'rva; upper lip of corolla subulate, incurved; calyx 4-cleft, the first under the beak of the corolla, the lateral ones reflexed on both sides, and the fourth straight and obtuse. ⊙. H. Native of the Levant. Rhinánthus orientàlis, Lin. spec. 840. Mill. dict. no. 2. E'lephas orientàlis flore magno, proboscide incurvâ, Tourn. cor. p. 48. itin. 2. p. 96. & 126. with a figure. Tournefort says this is one of the most showy plants that the Levant produces.

Incurved-beaked Elephas. Fl. July, Aug. Clt. 1759. Pl. 1½ foot.

2 C. re'cta; upper lip of corolla subulate, straight; calyx trifid, 2 of the segments reflexed, and the third larger, straight, plicate, and acute. ⊙. H. Native of Italy and Siberia, in shady places; on the coast of the Black Sea, by Tournefort; also of Caucasus. E'lephas orientàlis, Bieb. cauc. 2. p. 69. Rhinánthus élephas, Lin. spec. 840. Lerche, in nov. act. A. N. C. 85. append. 183. E'lephas Campoclarénsium, Col. ecphr. 1. p. 186. t. 188.—E'lephas Itálica, flore magno, proboscide surrectâ, Tourn. cor. 48.—Mor. hist. 3. p. 432. sect. 11. t. 24. f. 14. Habit of the preceding.

Var. β, *parviflòra*; flowers smaller. ⊙. H. Native of the Levant. E'lephas orientàlis flore parvo, proboscide surrectâ, Tourn. cor. p. 48. itin. 3. p. 54.

Straight-beaked Elephas. Fl. July, Aug. Clt. 1759. Pl. 1½ foot.

Cult. For culture and propagation see *Rhinánthus* above.

III. PEDICULA'RIS (from *pediculus*, a louse; from its supposed quality of making sheep that feed on it lousy.) Tourn. cor. t. 77. Lin. gen. 794. Schreb. gen. no. 1067. Rottb. in coll. hafn. 2. p. 255. Gærtn. fruct. 1. p. 246. t. 53. f. 5. Lam. ill. 517. Schkuhr, handb. t. 171. Stev. mon. ped. Led. fl. alt. 1. p. 424.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-cleft or 5-toothed, or unequally 2-3-toothed. Upper lip of corolla galeate, elongated, usually incurved: lower lip trifid, closed, or often spreading. Stamens didynamous. Cells of anthers usually acute, but sometimes obtuse and spurred. Stigma subcapitate. Capsule obliquely mucronate, rarely globose and straight; valves entire. Seeds girded by a membranous testa, rarely naked.—Usually simple herbs. Leaves alternate, opposite, or verticillate, deeply toothed or pinnatifid. Flowers sessile, disposed in dense, terminal, interrupted spikes.

Sect. I. Persona'tæ (so named from the personate corollas.) Stev. mon. ped. p. 17. Leaves opposite. Lower lip of corolla erect, ex Stev. Lips of corolla closed, ex Benth.

1 P. grandiflòra (Fisch, in. mem. nat. cur. mosq. 3. p. 60. no. 3. Stev. mon. p. 17. t. 2.) galea of the corolla, which is closed, falcate; leaves tripinnatifid. ♃. H. Native of Dauria. Plant glabrous. Radical leaves a span long. Flowers rather remote. Bracteas broad, jagged. Calyx of *P. scéptrum*. Corollas purple. Filaments villous at the base. Cells of anthers awned.

Great-flowered Lousewort. Pl. 1½ foot.

2 P. sce'ptrum Carolìnum (Lin. spec. 845.) lips closed; corolla nearly equal; galea obtuse; leaves pinnatifid: lobes ovate, crenulated; stem few-leaved. ♃. H. Native from Bothnia to Dauria, in boggy or spongy parts of woods; in Russia, to lat. 550; in Europe, not further south than the tops of the alps of Salisburgh. Fl. dan. t. 26. Rudb. itin. 1. t. 1. Lin. fl. lapp. no. 243. t. 4. f. 4, 5. Plant glabrous. Spike interrupted. Flowers twin or tern. Lower bracteas leafy: upper ones ovate, serrated. Corollas an inch long, golden-yellow: lower lip tinged with purple or blood-colour. Filaments glabrous. Cells of anthers obtuse. Rudbeck named this plant *Scéptrum Carolìnum*, in honour of Charles II. king of Sweden, from its manner of growth like a sceptre. The plant is common in Norway, Denmark, and Lapland. In the plant figured in Flora Danica, the leaves, bracteas, and flowers are 3-4 in a whorl.

Charles's Sceptre. Fl. Aug. Clt. 1793. Pl. 3 to 4 feet.

3 P. lanceola'ta (Michx. fl. bor. amer. 2. p. 18. Stev. mon. p. 18.) lips of closed corolla nearly equal; galea somewhat beaked; stem leafy; leaves lanceolate, opposite. ♃. H. Native of North America, in the States. Pursh, fl. 2. p. 425. P. Virgínica, Poir. dict. 5. p. 126. P. pállida, Nutt. gen. amer. 2. p. 50. Pursh, l. c. P. serótina, Muhl. cat. Stem usually simple, glabrous at top, but furnished with 2 rows of villi at base. Leaves doubly crenated, cut, downy beneath. Spikes dense, 1½ inch long. Bracteas ovate, crenated. Calyx obliquely 2-lobed: lobes crenulated. Corollas yellow, smaller than those of *P. scéptrum Carolìnum*. Filaments glabrous. Cells of anthers obtuse.

Lanceolate-leaved Lousewort. Pl. 1 to 3 feet.

4 P. CAPITA'TA (Adams, in mem. nat. cur. mosc. 5. p. 100. no. 8. Stev. mon. p. 19. t. 3. f. 2.) lower lip of corolla, which is closed, about half the length of the upper one: galea obtuse; stem nearly naked; leaves bipinnatifid; heads few-flowered. ♃. H. Native of Siberia, at the mouth of the Lena, Adams; Kamtschatka, Steller; Unalaschka, Langsdorf; Russian America, Chamisso. Stem downy, 2-edged at top, and twisted. Leaves downy beneath: radical ones few: cauline one usually solitary. Bracteas foliaceous, villous. Corollas yellow, size of those of *P. scéptrum Carolìnum*. Calyx 5-cleft; segments toothed, oblong. Anthers hardly cordate.

Capitate-flowered Lousewort. Pl. ¼ to ¾ foot.

5 P. STRIA'TA (Pall. itin. 3. p. 266. 321. 435. 737. no. 98. t. R. f. 2. Willd. spec. 3. p. 208. no. 12. Stev. mon. p. 20.) corolla closed; galea acutely bidentate; leaves pinnate, with linear, serrulated segments. ♃. H. Native of Dauria, in high exposed places about Kjachta and elsewhere. P. venòsa, Pall. herb. Corollas size of those of *P. scéptrum*. Galea drawn out into a beak, as in *P. comòsa*. Two of the filaments bearded. Capsule acuminated. Cells of anthers acute.

Striated Lousewort. Pl. 1 to 2 feet.?

6 P. AVA'NA (Wall. cat. no. 1007. Benth. scroph. ind. p. 52.) diffuse, hairy; leaves opposite, pinnatifid; with short, lanceolate, rather cut segments; calyx 5-parted, with linear, quite entire segments; both lips of corolla nearly equal; galea straight, obtuse: lower lip shortly 3-lobed. ♃. H. Native of the Birman Empire, near Ava, towards Mount Taong Dong. Perhaps not a species of this genus.

Ava Lousewort. Pl.?

SECT. II. VERTICILLA'TÆ (so named from the leaves being disposed in whorls or verticils.) Stev. mon. ped. p. 20. Corolla ringent. Leaves verticillate.

§ 1. ROSTRA'TÆ. *Galea beaked.*

7 P. CHAMISSÒNIS (Stev. mon. p. 20. t. 4.) leaves pinnatifid, 4 in a whorl, with lanceolate segments: lower segments pinnatifid: upper ones serrated; galea uncinate. ⊙. H. Native of Siberia, on the Corgon alps frequent, Pallas; Unalaschka, Langsdorf and Chamisso. P. hamàta, Bieb. herb.—A showy glabrous plant. Calyx 5-toothed. Corolla yellow, drying purple. Galea drawn out into an acute, deflexed, or straight, toothless beak. Capsule very oblique, with a long mucrone.

Chamisso's Lousewort. Pl. 1 foot.

8 P. MYRIOPHY'LLA (Pall. itin. 3. pp. 331. 446. 737. no. 99. t. S. f. 1. A.) leaves 4 in a whorl, bipinnatifid, with linear segments; galea of corolla hooked. ♃. H. Native of Siberia, on rocks at the river Jenesee; in alpine marshes of Dauria, at the river Kirkun, among the Altaian mountains. Radical leaves length of stem, bipinnate. Whorls of flowers crowded, spicate. Calyx 5-toothed. Beak of galea hooked, bidentate. Two of the filaments bearded. Anthers sagittate. Capsule oblique, acuminated.

Myriad-leaved Lousewort. Fl. May, July. Clt. 1816. Pl. 1 foot.

9 P. ABROTANIFÒLIA (Bieb. in Stev. mon. p. 22. t. 5. f. 1. Led. fl. ross. alt. ill. t. 275.) leaves 4 in a whorl, bipinnatifid, with linear segments; galea of corolla straight, a little beaked. ⊙. H. Native of Ulterior Siberia. P. verticillàta, β, Willd. spec. 3. p. 214. Plant downy. Stem branched at base. Spike dense, hairy. Calyx hairy, 5-toothed: teeth linear, and are, as well as the bracteas, hairy, ciliated: lower one usually serrated. Corolla sulphur-coloured. Beak of galea short, obtuse. Stamens glabrous. Capsule oblique, hardly mucronate.

Var. β, *glabréscens* (Ledeb. fl. alt. 2. p. 426.) plant earlier and taller than the species; calyxes and bracteas smoothish; spike interrupted at the base. ♂.? H. Native of Altaia, on dry mountains at the river Tschuja.

Southern-wood-leaved Lousewort. Pl. ½ to 1 foot.

10 P. INTERRU'PTA (Stephan, in litt. ex Willd. spec. 3. p. 214. Stev. mon. p. 23. t. 6.) leaves 4 in a whorl, pinnatifid, with lanceolate, deeply serrated segments; galea of corolla dilated, hemispherical, with a very short beak. ♃. H. Native of the Altaian mountains. Ledeb. fl. ross. alt. ill. t. 434. Stem simple. Spike interrupted. Whorles of spikes 6-8-flowered. Lower bracteas denticulated. Calyx smoothish, 5-cleft; segments serrated. Corollas pale yellow, ex Ledeb. Stamens glabrous. Capsule oblique, mucronate. Beak of galea almost toothless.

Interrupted-spiked Lousewort. Pl. ½ to 1 foot.

11 P. GRA'CILIS (Wall. cat. no. 413. Benth. scrop. ind. p. 52.) tall, and paniculately branched; stem bifariously pilose; leaves 4 in a whorl, pinnatifid, with oblong, obtuse, serrulated or cut segments; flowers distant; calyx cleft on one side: teeth short, obtuse, quite entire; beak of galea slender, straight.—Native of Nipaul, in Gosainthan and Kamaon, Wall; Mussooree, Royle. P. stricta, Wall. cat. no. 414. P. Brunoniàna, Wall. cat. no. 422. There are varieties of this with the leaves more or less cut.

Slender Lousewort. Pl. tall.

12 P. PECTINA'TA (Wall. cat. no. 420. Benth. scroph. ind. p. 52.) erect, tall, nearly simple, glabrous; leaves pinnatifid, with lanceolate, acute, serrated, or pinnatifid segments; spike rather loose; teeth of calyx short, entire; beak of galea long, twisted at apex. ♃.? H. Native of Kamaon, Wall.; Choor, Pyr Pundjal, and towards Cashmere, Royle.

Pectinate-leaved Lousewort. Pl. tall.

13 P. PYRAMIDA'TA (Royle, mss. ex Benth. scroph. ind. p. 52.) erect, tall, nearly simple; stem quadrifariously pilose; leaves pinnatifid, with oblong-lanceolate, obtuse, serrately crenated, or somewhat pinnatifid segments; spike interrupted at the base; calyx hairy, with short, acute, quite entire teeth; beak linear, twisted, twice as long as the galea itself.—Native of the Himalaya, towards Cashmere, Royle.

Pyramidal-spiked Lousewort. Pl. tall.

14 P. TENUIRÓSTRIS (Benth. scroph. ind. p. 52.) tall, erect, nearly simple; stem quadrifariously pilose; leaves pinnatifid, with ovate-oblong, obtuse, crenulated segments; spike dense, imbricate; calyxes hairy, with short, quite entire teeth; beak slender, and a little twisted at top, hardly longer than the galea itself.—Native at Pyr Pundjal, Royle.

Slender-beaked Lousewort. Pl. tall.

15 P. PORRE'CTA (Wall. cat. no. 423.) humble, ascending, nearly simple; stem furnished with 2-3 rows of hairs; leaves pinnatifid, with oblong, obtuse, deeply serrated segments; spike rather loose, few-flowered; calyx glabrous, with short, rather crested teeth; beak of galea long, slender, incurved, a little twisted. ♃. H. Native of Kamaon, Wall; at Shalma, and towards Cashmere, Royle.

Stretched Lousewort. Pl. ½ foot.

16 P. BREVIFÒLIA (D. Don, prod. fl. nep. p. 94.) stem erectish, dwarf, simple, clothed with hoary villi at top; leaves ovate, villous, pinnatifid, with short, deeply toothed segments; spike rather dense; calyx hairy, with short crested teeth; beak of galea slender, long, straight. ⊙. H. Native of Nipaul, in Gosainthan, Wall. P. laciniàta, Wall. cat. no. 419. Corolla purple.

Short-leaved Lousewort. Pl. ½ foot.

§ 2. EROSTRA'TÆ. *Galea without a beak.*

17 P. MÓLLIS (Wall. cat. no. 415. Benth. scroph. ind. p. 53.) stem erect, tall, branched, hairy at apex; leaves hairy,

pinnatifid or bipinnatifid, with oblong-lanceolate, deeply serrated segments; spikes interrupted, slender; calycine teeth oblong, crested; galea straight, toothless and beakless.—Native of Nipaul, in Gosainsthan, Wallich. Corolla slender, hardly 4 lines long.

Soft Lousewort. Pl. tall.

18 P. VERTICILLA'TA (Lin. spec. 846.) erect, nearly simple, rather hairy at top; leaves pinnate or pinnatifid, with oblong or ovate, obtuse, toothed segments; spikes dense, or interrupted at the base; calyx hairy, 5-toothed: teeth short, entire; galea straight, toothless and beakless. ♃. H. Native of the western alps of Europe; Kanaour, Royle. Jacq. fl. austr. 3. t. 206. Hall. helv. ed. 2d. no. 318. t. 9. f. 1. Hall. helv. ed. 1st. no. 623. t. 17. f. 1. Flowers pedicellate. Corolla rose-coloured or white; both lips equal in length. Longer filaments bearded; pairs of anthers contiguous. Capsule acuminated, nearly straight.

Var. β, Sibírica; plant more hairy; teeth of calyx serrated: capsule twice as long as the calyx; corolla smaller. ♃. H. Native of Dauria, about Doroninsk, at the river Corgon, and on the Ural mountains; and of Altaia. P. verticillàta, Pall. itin. 3. p. 34. 242. 444.—Gmel. sib. 3. p. 206. no. 18. Hardly distinct from the species.

Whorled-leaved Lousewort. Fl. May, June. Clt. 1790. Pl. ½ to 1 foot.

19 P. SUBROSTRA'TA (Meyer. verz. pflanz. p. 108.) stem simple; cauline leaves 4 in a whorl, pinnatifid; segments short, blunt; flowers densely spicate; calyx smoothish, semiquinquefid; corolla purple, ringent; galea straight, with a short beak. ♃. H. Native of Caucasus, in alpine meadows, at the altitude of 1200 to 1400 hexapods. Leaves of *P. verticillàta*, and corollas of *P. adúnca*.

Subrostrate-flowered Lousewort. Pl. ½ to 1 foot. ?

20 P. STEVE'NII (Bunge, in Ledeb. fl. alt. 2. p. 427.) plant ascending, glabrous, except the angles of the stems; leaves 4 in a whorl, pinnatifid, with ovate, obtuse, doubly serrated, imbricate segments, having white cartilaginous margins; spikes composed of distant whorls; galea straight, obtuse, shorter than the lower lip; calyx hairy, one half shorter than the capsule. ♃. H. Native of Dauria and Altaia, in humid places at the river Tscharysch, and at the fountains of the river Jebagan. P. verticillàta, γ, Stev. mon. p. 24, 25. Two of the filaments are bearded. Pairs of anthers remote.

Steven's Lousewort. Fl. June, July. Pl. ½ to 1 foot.

21 P. SPICA'TA (Pall. itin. 3. p. 444. 738. no. 100. t. S. f. 2. B.) leaves 4 in a whorl, pinnatifid, with obtuse segments; calyx 2-lobed; galea of corolla straight, obtuse. ♃. H. Native of Dauria, in marshes; in shady places at Imgoda. Stem branched. Leaves sometimes 5 in a whorl: the uppermost ones often quite entire. Spike dense, elongated. Calyx hairy: lobes rounded, rarely obsoletely toothed. Corollas purple, like those of *P. verticillàta*. Galea shorter than the lower lip. Capsule oblique, mucronate.

Spicate-flowered Lousewort. Pl. 1 foot.

22 P. AMŒ'NA (Adams, ex Stev. mon. p. 25. t. 7.) leaves 4 in a whorl, pinnatifid, with linear, acutely serrated, or cut segments; calyx 5-cleft, with ovate-linear segments; galea of corolla straight, obtuse, shorter than the lower lip. ♃. H. Native of Kamtschatka and the Curil Islands, Steller; and at the mouth of the river Lena. V. árctica, Bieb. herb. The plant is, with the angles of the stem, hardly downy. Corolla larger than that of *P. verticillàta*, beautiful purple. Stamens all glabrous. Hardly distinct from *P. verticillàta*.

Var. β, álba; flowers white. ♃. H. Native of the Altaian mountains.

Pleasant Lousewort. Pl. ½ to 1 foot.

23 P. CAUCA'SICA (Bieb. fl. cauc. 2. p. 72. Stev. in mem. mosq. 3. p. 267. mon. p. 26. t. 8.) stems simple; leaves 4 in a whorl, pinnatifid, with obtuse, sharply serrated segments; calyx 5-cleft, with serrated segments; galea straight, obtuse, very short. ♃. H. Native of Caucasus, on alps, Casbek and Schagdag; and on the alps in the north of Persia, Hablitz. Spikes terminal, short. Calyx hairy.

Caucasian Lousewort. Pl. ½ foot.

SECT. III. SIPHONA'NTHA (from *σιφων*, *siphon*, a tube; and *ανθος*, *anthos*, a flower; in allusion to the long tube of corolla.) Leaves alternate. Corolla ringent; tube much exserted; galea falcate, beaked; beak proboscis-like, twisted or hooked.

24 P. SIPHONA'NTHA (D. Don, prod. fl. nep. p. 95.) plant humble, tufted, smoothish; leaves elongated, pinnate: leaflets short, oblong, serrated; spikes short; calyx hairy, cleft on one side or bifid, crested; tube of corolla 4 times longer than the calyx; beak of galea proboscis-like, twisted and emarginate. ♃. F. Native of Nipaul, on Gosainthan, where it is called *Cheelomoote Swa* by the natives. Stem and petioles villous. Leaves glabrous. Lateral lobes of calyx 2-lobed or toothed. Corolla purple. Lobes of lower lip of corolla and filaments ciliated.

Tube-flowered Lousewort. Pl. ¼ foot, tufted.

25 P. HOOKERIA'NA (Wall. cat. no. 421. Benth. scroph. ind. p. 53.) plant ascending, a little branched, smoothish; leaves pinnate or pinnatifid, with oblong or ovate, toothed or pinnatifid segments; calyx hairy, cleft on one side or bifid, crested; tube of corolla about 3 times longer than the calyx; beak of galea proboscis-like, twisted, and emarginate. ♃.? F. Native of Kamaon, Wall.; at Simla, and in Cashmere, Royle. Corolla reddish purple or white.

Hooker's Lousewort. Pl. ascending.

26 P. MEGALA'NTHA (D. Don, fl. nep. p. 94.) plant erect, glabrous or hairy at top; leaves pinnatifid, with oblong or ovate, pinnatifid or serrated segments; spikes at length elongated, interrupted; calyx 5-toothed, crested; tube of corolla twice as long as the calyx; beak of galea proboscis-like, twisted, and trifid. ♃. F. Native of Kamaon and Gosainthan, Wall.; at Choor, in Mussoree and Cashmere, Royle. Stems simple. Leaves glabrous. Pedicels and calyxes villous. Corolla large, yellow. Filaments hairy.

Large-flowered Lousewort. Pl. ½ to 1 foot.

27 P. ELEPHANTOI'DES (Benth. scroph. ind. p. 53.) plant erect, pubescent; leaves pinnatifid, with ovate-oblong, pinnatifid or toothed segments; spikes elongated, dense; calyx 5-toothed, crested, cleft on one side; tube of corolla one half longer than the calyx; beak of galea proboscis-like, ascending, incurved and emarginate at top. ♃.? H. Native at Pyr Pundjal, Royle.

Elephas-like Lousewort. Pl. ½ to 1 foot. ?

SECT. IV. FAUCIDE'NTES (from *faux*, the throat, and *dens*, a tooth; in reference to the upper lip or galea being toothed beneath the middle.) Stev. mon. ped. p. 27. Corolla ringent. Superior lip of corolla or galea with a tooth beneath the middle on both sides. Stem branched. Leaves alternate.

28 P. WLASSOVIA'NA (Stev. mon. p. 27. t. 9. f. 1.) superior lip of corolla straight, with a toothlet on both sides beneath the middle; leaves narrower, less divided than those of *P. palústris*. ⊙. H. Native of Dauria, about Doroninsk, Wlassow. Habit of *P. palústris*. Plant glabrous. Flowers on short pedicels: lower ones remote: upper ones spicate. Calyx unequally 5-toothed; larger teeth serrated. Corolla size of that of *P. flámmea;* upper lip dark purple: lower one paler. Filaments ciliated. Capsule roundish, very oblique, with a straight mucrone.

Wlassow's Lousewort. Pl. 1 foot.

29 P. PALU'STRIS (Lin. spec. 845.) upper lip of corolla furnished with a tooth on each side below the middle; galea dilated, gibbous. ⊙. H. Native of Europe, in marshes; plentiful in Britain, North of Russia, Siberia, Altaia, Aleutian Islands. Smith, engl. bot. t. 399.—Riv. mon. t. 92. f. 1.—Petiv. brit. t. 36. f. 3. Branches spreading. Leaves bipinnate or pinnate, with pinnatifid segments. Spikes loose. Corolla purple, varying to white; lower lip fringed. In marshes and wet meadows this is rather common, particularly in the North; it is said to be disagreeable to cattle, and thought by some to be destructive to sheep.

Marsh Lousewort. Fl. June, July. Britain. Pl. 1 foot.

30 P. MACRODÓNTIS (R. Br. in Richards, fl. no. 233.) stem almost simple; leaves pinnatifid; segments linear, obtuse, sinuately toothed or crenated; flowers axillary, sessile; calyx 2-lobed, curled; galea very blunt, toothed at the throat. 4. H. Native of Hudson's Bay. Flowers like those of *P. palústris*.

Large-toothed-calyxed Lousewort. Pl. 1 to 1½ foot.

31 P. ADU'NCA (Bieb. ex Stev. mon. p. 29. t. 5. f. 2.) upper lip of corolla furnished with a tooth on each side beneath the middle; galea falcate, beaked. ⊙. H. Native of Siberia and Kamtschatka. P. palústris, var. Willd. spec. 3. p. 203. Plant glabrous, branched. Leaves an inch long, deeply pinnatifid, with toothed segments. Calyx 2-lobed: lobes ovate, denticulated. Corollas smaller than those of *P. palústris*. Two of the filaments ciliated at top. Capsule very oblique, mucronate.

Hooked Lousewort. Pl. ½ foot.

SECT. V. ROSTRA'TÆ (from *rostra*, a beak; in allusion to the galea of corolla being beaked.) Stev. mon. ped. p. 30. Leaves alternate. Corolla ringent; tube hardly exserted. Galea toothless at the base, falcate; beak straight.

32 P. CARNÒSA (Wall. pl. rar. asiat. 2. p. 44. t. 154.) erect, pubescent; leaves oblong, obtuse, crenated, narrowed at the base: lower ones petiolate; spikes few-flowered, at length elongated, interrupted; calyx cleft on one side, obliquely 2-3-cleft, crested a little; corollas straight; beak of galea slender, straight; lip very broad. ⊙. H. Native of Nipaul, at Narainhetty, Hamilt.; at Choor, and in Mussooree, Royle. Corollas large, rose-coloured.

Fleshy Lousewort. Pl. 1 to 2 feet.

33 P. FURFURA'CEA (Wall. cat. no. 412. Benth. scroph. ind. p. 54.) plant ascending, branched a little; leaves petiolate, ovate: lower ones ample, half pinnatifid: lobes ovate, deeply toothed or pinnatifid; superior leaves small, deeply toothed, or somewhat pinnatifid; calyx cleft on one side, and 2-3-toothed on the other; beak of galea slender, straight, emarginate; lower lip very broad. ⊙.? H. Native of Nipaul, on Gosainsthan.

Scurfy Lousewort. Pl. ½ to 1 foot.?

34 P. ASPLENIFÒLIA (Wall. cat. no. 416. Benth. scroph. ind. p. 54. but not of Floerke) humble; leaves lanceolate, pinnatifid: segments ovate-lanceolate, serrulated; raceme few-flowered; calyx 5-toothed at apex, crested; galea of corolla elongated, falcate, with a straight beak.—Native of Kamaon, Wall. Corolla more open than in *P. rostràta*; the leaves narrower, and less dissected; the capsule more straight, and longer; the rest of the plant is, however, very similar, and is therefore probably only a variety.

Spleenwort-leaved Lousewort. Pl. ½ to 1 foot.

35 P. ROSTRA'TA (Lin. spec. 845.) stems declinate; leaves pinnate: leaflets or segments pinnatifid; raceme few-flowered; calyx cylindrical, 5-cleft: teeth dilated, serrated; galea falcately beaked. 4. H. Native of the West of Europe, on the alps; as of France, Italy, Savoy, Switzerland, Austria, &c. Jacq. austr. 3. t. 205.—Hall. helv. no. 322. t. 8. f. 1. P. aspleniifòlia, Floerke, spicul. fl. salisb. med. ex Willd. spec. 3. p. 208. Plant sometimes glabrous, and sometimes hairy. Corollas purple. Beak of galea truncate at apex. Two of the filaments are bearded. Capsule ovate, oblique, ending in a hooked mucrone.

Beaked Lousewort. Fl. July, Aug. Clt. 1819. Pl. ¼ to ¾ foot.

36 P. TUBIFLÒRA (Fischer, in mem. nat. cur. mosc. 3. p. 58. Stev. mon. p. 30.) glabrous; leaves pinnatifid, with roundish, crenated segments: floral ones with broad, ciliated petioles; calyx downy, 2-lobed: lobes deeply toothed, sometimes there is a small third lobe; tube of corolla very long; galea subulately and circinately incurved. 4. H. Native on rocks, at lake Baical, among moss. P. longiflòra, Rudolph. mem. acad. petrop. 4. (1811.) p. 345. t. 3. Filaments inserted at the top of the tube, not at the base, as in other species. Raceme short, compact. Corollas yellow; tube narrow, 3 inches long. Stamens all bearded.

Tube-flowered Lousewort. Pl. ¼ foot.

37 P. TEUCRIIFÒLIA (Bieb. ex Stev. mon. p. 31. t. 10. f. 1.) stems many, simple; leaves lanceolate, doubly crenated, tomentose on both surfaces; calyx more deeply cleft above, obliquely bifid; galea of corolla subulate, falcate. 4. H. Native of the Curil Islands, Bieb. et Pallas. Very like the preceding; but differs in the form of the corolla. Root tufted. Flowers not half the size.

Germander-leaved Lousewort. Pl. ¾ foot.

38 P. RESUPINA'TA (Lin. spec. 846. Stev. mon. p. 31.) stem branched; leaves nearly sessile, lanceolate, doubly crenated, smoothish; calyx more or less downy, oblique, bifid; galea circinately hooked. 4. H. Native throughout Siberia, in shady humid places. Pall. itin. 3. p. 316. 319. Amm. ruth. 42.—Gmel. sib. 3. p. 204. no. 16. t. 44. Stem angular, and often pubescent. Leaves generally glabrous, rarely tomentose beneath. Flowers sessile in the upper axils, rather remote, at length aggregate into a dense head or short spike. Corolla purple, flesh-coloured, or white. Beak of galea acuminated, bifid. Longer filaments bearded. Capsule obliquely mucronate.

Resupinate Lousewort. Fl. May, July. Clt. 1816. Pl. 1 foot.

39 P. GRŒNLA'NDICA (Retz. scand. ed. 1st. p. 117. Willd. spec. 3. p. 212. Stev. mon. p. 32.) stem simple; leaves deeply pinnatifid, with lanceolate, acuminated, serrated segments; calyx glabrous, 5-toothed; corolla closed; beak of galea subulate, arched upwards. 4. H. Native of Greenland. Fl. dan. t. 1166. P. incarnàta, e. Grœnlandia, Retz. obs. 4. p. 27. t. 1. Filaments all glabrous. Corolla red.

Greenland Lousewort. Pl.

40 P. PROBOSCI'DEA (Stev. mon. p. 33.) leaves deeply pinnatifid; segments doubly serrated; spike dense, elongated; calyx campanulate, bilabiate, 5-toothed, glabrous; galea of corolla ovate, acuminated, rostrately beaked, with a villous margin. 4. H. Native of Dauria, at Angura, Gmelin; Altaian mountains, in fertile meadows, Pallas. P. uncinàta, labio corollæ inferiore villoso, Steph. in Willd. spec. 3. p. 213.—Gmel. sib. 3. p. 209. no. 20. t. 45. Pall. itin. 2. p. 523. This is very like *P. uncinàta*, in the spikes and form of the leaves; but the flowers are very distinct. Leaves shorter and broader; pinnæ more numerous, and nearly imbricated. Bracteas all lanceolate, and quite entire, with villous edges. Corolla yellow. Beak of galea straight, acuminated, truncate at apex. Galea exceeding the lower lip.

Proboscis-like Lousewort. Pl. 2 to 3 feet.

41 P. UNCINA'TA (Steph. in Willd. spec. 3. p. 213. Stev. mon. p. 34. t. 12.) glabrous; stem simple; leaves deeply pinnatifid, with lanceolate, serrated segments; spike elongated, loose; calyx glabrous, campanulate, 5-toothed; beak of galea

acuminated, emarginate, twice as long as the lower lip. ♃. H. Native of Siberia, from the Jenesee even to Dahuria, in cold shady places. P. incarnàta, Lin. spec. 847. exclusive of the syn. of Allioni and colour of the flowers. P. altíssima, Pall. itin. 3. p. 297. 317. 319. Leaves on short petioles; serratures ciliately serrulated. Corolla yellow; galea sometimes falcate and sometimes hooked. Two of the filaments are bearded. Capsule ovate, obliquely acuminated, mucronate.

Hooked Lousewort. Fl. July, Aug. Clt. 1815. Pl. 2 to 3 feet.

42 P. BRACHY'STACHYS (Bunge, in Ledeb. fl. alt. ross. ill. t. 427. fl. alt. 2. p. 429.) stem downy, simple; leaves deeply pinnatifid, glabrous, with lanceolate-linear, acutely serrated segments; spike short, few-flowered; calyx 5-toothed, rather hairy; galea beaked, arcuately inflexed, ciliated, equal in length to the lower lip, and inclosed in it. ♃. H. Native of Altaia, on the top of alp Aigulac, between the rivers Katunga and Tschuja. Lower bracteas deeply serrated: upper ones subtrifid. Calycine segments acute, serrated. Corolla cream-coloured. Two of the filaments are bearded. Galea and habit of *P. proboscídea* and *P. uncinàta*.

Short-spiked Lousewort. Pl. 1 to 2 feet. ?

43 P. LAPPÓNICA (Lin. spec. 847.) stem simple; leaves nearly pinnate, with serrated segments; spike short, loose; calyx ovate, with short teeth, cleft on the under side; galea of corolla hooked. ☉. H. Native of Lapland, Greenland, Kamtschatka, and of Siberia, even to the mouth of the river Lena, in stony places; also of the Caucasian alps. Oed. fl. dan. t. 2. Pall. itin. 3. p. 34. 444.—Lin. fl. lapp. 242. t. 4. f. 1. Stem downy at top. Calyx 2-3-toothed, rarely 5-toothed. Beak of galea truncate at apex. Filaments glabrous. Capsule ovate, oblique, mucronate. Corolla yellow.

Lapland Lousewort. Pl. ½ foot. ?

44 P. COMPA'CTA (Steph. in Willd. spec. 3. p. 219. Stev. mon. p. 36. t. 11. f. 1.) stem simple; leaves bipinnatifid, with serrulated segments: upper pinnæ imbricate and confluent; spike dense, capitate; calyx inflated, membranous, 5-toothed; galea of corolla furnished with a rectangular deflexed hook. ♃. H. Native of Siberia, in meadows; Soongaria, Altaia, &c. P. physòdes, Herb. Gorenki. Stem downy at top. Calyx glabrous, cleft almost to the middle on the under side. Corolla yellow. Beak of galea truncate at the apex, or emarginate, about equal in length to the lower lip. Two of the filaments bearded.

Compact Lousewort. Fl. July, Aug. Clt. 1815. Pl. 1 to 1½ foot.

45 P. INCARNA'TA (Jacq. austr. 2. t. 140. Stev. mon. p. 38.) stem simple; leaves deeply pinnatifid, with unequally toothed, linear-lanceolate segments; spike loose; calyx ovate, 5-cleft, clothed with hoary pubescence; galea of corolla falcately beaked. ♃. H. Native of the alps of Europe: as of Switzerland, Dauphiny, Savoy, Austria, Carinthia, &c. All. ped. no. 28. t. 3. & t. 4. f. 2. P. rostrato-spicàta, Crantz. austr. p. 317.—Hall. helv. no. 319. Corolla pale red. Beak of galea obtuse or emarginate. Filaments glabrous. (fig. 61.)

FIG. 61.

Flesh-coloured-flowered Lousewort. Fl. June, July. Clt. 1796. Pl. 1 foot.

46 P. TUBERÒSA (Lin. spec. p. 847.) stem simple; leaves bipinnatifid: segments toothed; spike loose; calyx campanulate, 5-cleft, smoothish; galea of corolla falcately beaked. ♃. H. Native of the alps of Europe; as of France, Switzerland, and Italy. Vill. dauph. 2. p. 430. Willd. spec. 3. p. 217. exclusive of var. β.—Hall. helv. no. 323. t. 10. P. alpìna lùtea, Segu. pl. ver. 3. p. 126. Angles of stem downy. Superior bracteas palmately jagged. Teeth of calyx usually quite entire. Corolla yellow; beak of galea emarginate. P. adscéndens, Sternb. et Hoppe. in act. soc. bot. bav. 2. p. 122. bot. zeit. 1820. p. 62. is more hairy, and the teeth of calyx ciliated; but it is hardly a species; it appertains to P. tuberòsa, γ, Bertol. amœn. ital. p. 381.

Tuberous-rooted Lousewort. Fl. July, Aug. Clt. 1799. Pl. ½ to 1 foot. ?

47 P. ATRORU'BENS (Schleicher, cat. pl. helv. 1817. p. 21. D. C. syn. fl. fr. 212) glabrous; stem simple; leaves bipinnatifid; spike compact, calyx 5-cleft; galea of corolla arched, with a short beak, which is somewhat bidentate at apex. ♃. H. Native of Switzerland, on Mount St. Bernard. P. pennìna, Gaudin. Habit of *P. recutìta*, with which it is mixed in herbaria. Bracteas ciliated. Calyxes hairy, usually entire. Corolla dark purple. Two of the filaments bearded, and the other two furnished with a few hairs under their top. Capsule ovate, oblique, mucronate.

Dark-purple-flowered Lousewort. Fl. June, Aug. Clt. 1819. Pl. 1 foot.

48 P. GYROFLE'XA (Vill. dauph. 2. p. 426. t. 9. Stev. mon. p. 40.) stem hairy, simple; leaves pinnate; leaflets bipinnatifid; spike elongated, loose; calyx downy, 5-cleft, with serrated segments; galea of corolla arched, with a short conical beak. ♃. H. Native of the alps of Dauphiny; Mount Cenis; and the Apennines, Switzerland, &c.—Hall. helv. no. 324. t. 11. P. tuberòsa, All. ped. no. 131. ? Flowers purple. Beak of galea emarginate. Filaments all more or less bearded.

Circular Lousewort. Fl. July, Aug. Clt. 1819. Pl. ½ to 1 foot.

SECT. VI. BICUSPIDA'TÆ (so called in consequence of the bidentate top of the galea of the corolla.) Leaves alternate. Upper lip of corolla toothless at the base; galea short, bidentate at apex, without a beak.

49 P. ÆQUINOXIA'LIS (H. B. et Kunth. nov. gen. amer. 2. p. 332. Stev. mon. p. 41. t. 3. f. 1.) stem simple; leaves lanceolate, crenately pinnatifid, with very blunt, emarginate, toothed segments; calyx obliquely 2-lobed; galea of corolla convex, bidentate. ♃. G. Native of Mexico, on the mountains, in shady places. Habit of *P. Canadénsis;* but the leaves are more numerous, and the segments dense and obtuse.

Equinoxial Lousewort. Pl. 1 foot.

50 P. CANADE'NSIS (Lin mant. 86.) stems simple; leaves pinnatifid, with obtuse, crenated segments; calyx hairy, obliquely 2-lobed: galea of corolla obtuse, bidentate. ♃. H. Native of North America. Pursh, fl. 2. p. 425. Nutt. gen. amer. 2. p. 50. Sweet, fl. gard. t. 67. P. mariàna, & Plukn. phyt. t. 437. f. 3. Very like *P. euphrasioìdes*, but differs in the compact hairy spike. Lobes of calyx obtuse, entire. Corollas like those of *P. comòsa*, wholly cream-coloured, or the galea is purple. Two of the stamens bearded at top. Capsule obliquely acuminated.

Var. β, gladiàta; spike elongated. ♃. H. Native of North America. P. gladiàta, Michx. fl. bor. amer. 2. p. 18. Pursh. l. c. Nutt. l. c.

Canadian Lousewort. Fl. July, Aug. Clt. 1780. Pl. ½ to 1 foot.

51 P. EUPHRASIOI'DES (Steph. in Willd. spec. 3. p. 204.) stem branched; leaves linear-lanceolate, pinnatifidly toothed: upper ones becoming entire; racemes terminal, loose; calyx cleft on the lower side, and shortly tridentate on the other; galea of corolla convex, bidentate. ⊙. H. Native on the eastern part of the Ural mountains; at the Lena; beyond the Baical; in Kamtschatka, and Aleutian Islands; Labrador, &c. P. paniculàta, Pall. itin. 3. p. 34, 265, 287, 316. P. corymbòsa, Pall. in herb. Bieb. P. heterophýlla, Patrin, in herb. D. C. P. ramòsa, Wormskiold, in herb. D. C. P. Labradórica, Houtt. pfl. syst. 8. p. 39. t. 57. C.—Gmel. sib. 3. p. 203. no. 15. t. 43. Stem downy at top. Lower leaves similar to those of *P. palústris*, but becoming gradually entire as they ascend. Corollas size of those of *P. palústris*, yellow, fulvous, spotted with purple, or altogether purple. Two of the filaments bearded. Capsule lanceolate, obliquely acuminated. The Labrador, Kamtschatka, and Greenland plants have pure yellow flowers.

Eyebright-like Lousewort. Fl.? Clt. 1816. Pl. ½ to 1 foot.

52 P. NASU'TA (Bieb. ex Stev. mon. p. 43. t. 15. f. 1.) stem or scape naked, or furnished with 1 leaf; leaves bipinnatifid: segments linear, serrated; calyx downy, 5-cleft; galea of corolla arched, with a very short, bidentate beak. ♃. H. Native of Kamtschatka and the neighbouring islands. Plant glabrous, with the habit of the preceding. Spike terminal, ovate, dense; lower bracteas like the leaves: upper one ovate, hairy. Corollas purple, size of those of *P. palústris*. Filaments all glabrous.

Beaked-flowered Lousewort. Pl. ¾ foot.

53 P. SUDE'TICA (Willd. spec. 3. p. 209. Stev. mon. p. 44. t. 15. f. 2.) stems simple; leaves pinnatifid, with lanceolate, serrated segments; calyx 5-cleft: segment entire, or finely serrulated; galea of corolla convex, obtuse, bidentate. ♃. H. Native of Savoy; Siberia, on the sea-shore, about the mouth of the river Lena; Kamtschatka, &c. Richards, in Frankl. journ. ed. 2d. append. 25. P. hirsùta, Hænke, sud. p. 86.? P. incarnàta, Krok. siles. no. 984. P. comòsa, Mattuschk. siles. no. 600. Stem downy under the spike. Filaments all glabrous. Corollas purple. The Siberian plant has the calyx more densely woolly than that from Savoy; and the colour of the flowers is purple; this is *P. serótina*, Adams. There is also a variety from the Lena, (*P. Stevènii*, Adams,) which has the corolla yellow, with a purple helmet.

Savoy Lousewort. Pl. ½ to ¾ foot.

54 P. SYLVA'TICA (Lin. spec. 845.) stem branched at the base; leaves pinnate; leaflets ovate, deeply toothed; spikes few-flowered; calyx glabrous, 5-toothed, inflated in the fructiferous state; galea of corolla very blunt, bidentate. ⊙. H. Native of Europe and Siberia, in wet marshes and heaths, also in woods. Smith, engl. bot. t. 400. Fl. dan. t. 225.—Petiv. brit. t. 36. f. 4. P. mìnor, Riv. mon. t. 92. f. 2. Aletorólophus III. Clus. 2. p. 211. f. 1.—Gmel. sib. 3. p. 203. no. 13. Habit of *P. palústris*, but differs in the want of the teeth on the sides of the galea of the corolla. Two of the filaments bearded at top. Capsule inclosed, oblique, mucronate. Corollas purple. Four of the calycine teeth are said to be crested. The expressed juice of the herb, or a decoction, has been used with advantage as an injection in sinous ulcers. The plant is said to be injurious to sheep which feed upon it.

Wood Lousewort. Fl. June. Britain. Pl. ½ to 2 feet.

55 P. FLA'VA (Pall. itin. 3. append. no. 97. t. R. f. 1. Stev. mon. p. 45. Ledeb. fl. ross. alt. ill. t. 439.) stem simple, pubescent; leaves fleshy, deeply pinnatifid, with distant, oblong, coarsely and doubly toothed segments; calyx woolly, 5-toothed: teeth serrated, shorter than the foliaceous bracteas; galea of corolla obtuse, bidentate; filaments all glabrous. ♃. H. Native of Dahuria, in gravelly places at the river Onon-Borsa; and of Altaia, in grassy places. P. sulphùrea, Pall. itin. 3. p. 230, 321. Corolla like that of *P. comòsa*, yellow, striped with red. Galea very convex. What is P. flàva, Sibth. et Smith, fl. græc.?

Yellow-flowered Lousewort. Pl. 1 foot.

56 P. COMÒSA (Lin. spec. 847. Stev. mon. p. 46. t. 14.) root fascicled; stem simple, downy; leaves pinnate: leaflets pinnatifid and toothed; calyx 5-toothed, exceeding the long, entire bracteas; galea of corolla obtuse, bidentate. ♃. H. Native throughout the Russian empire, in fields; in Europe, as of the Pyrenees, alps of France, and Italy, even to Calabria. Bieb. fl. cauc. no. 1195. Pall. itin. 1. p. 148. 2. p. 448. All. ped. no. 229. t. 4. f. 1. Steph. icon. mosc. t. 5. All. spec. 50. t. 11. f. 1. P. tuberòsa, Pall. itin. 2. p. 38. Falck, itin. 2. p. 211. P. bulbòsa, Pall. itin. 2. p. 87. P. foliòsa, Pall. itin. 3. p. 510. P. cónica laciniòsa, pyramidàta, imbricàta, and frondòsa, Pall. in herb. Bieb. P. tuberòsa, β, Vill. dauph. 2. p. 427.—Alectorólophos, alp. I. Clus. var. 210, with a figure. The plant varies much in the leaves and colour of the flowers, and in downiness. Segments of the calyx usually entire. Corolla cream-coloured. Two of the filaments are more or less bearded. Capsule shorter than the calyx, ovate, obliquely mucronate. Spike short, dense.

Var. β; corolla white, or flesh-coloured. ♃. H. P. tanacetifòlia, Adams, mem. nat. scrut. mosc. 5. p. 102. no. 9. P. incarnàta, Pall. itin. 2. p. 404.

Var. γ; corolla purple. ♃. H. P. fasciculàta, Bell. in Willd. spec. 3. p. 218. D. C. fl. fr. 3. no. 2440. P. asparagoìdes, Lapeyr. ex D. C. l. c.

Tufted-spiked Lousewort. Fl. July, Aug. Clt. 1775. Pl. ½ to 2 feet.

57 P. ALTA'ICA (Steph. mon. p. 48. t. 14. A. Ledeb. fl. alt. ross. ill. t. 442. fl. alt. 2. p. 436.) stem simple; radical leaves pinnate, with ovate, bluntish, coarsely crenate-serrated leaflets; cauline leaves deeply pinnatifid, with serrulated lobes: uppermost ones linear, crenated; spike loose, elongated; calyx foliaceous, cylindrical, obsoletely and bluntly 5-toothed, canescent, spotted, about equal in length to the pinnatifid or serrated bracteas; two of the filaments are bearded. ♃. H. Native of Altaia, in grassy places at the river Tschuja, and in the Kirghisean Steppe. Stem spotted with purple. Corolla yellow; galea furnished with very short teeth.

Altaian Lousewort. Fl. July. Pl. 1 to 2 feet.

58 P. RU'BENS (Steph. in Willd. spec. 3. p. 219. Ledeb. fl. ross. alt. ill. t. 435. fl. alt. 2. p. 435.) stem simple, smoothish, pilose; leaves lanceolate, bipinnate: segments acute, glabrous; spike leafy; calyx foliaceous, cylindrical, unequally 5-toothed: teeth and bracteas foliaceous, deeply serrated; teeth of galea drawn out into thickish beaks. ♃. H. Native of Siberia and Altaia, in marshes at the river Tscharysch and Ursul. P. incarnàta, Pall. itin. 2 & 3, in many places. P. comòsa, var. γ, Steph. mon. p. 48.—Gmel. sib. 3. p. 210. no. 21.—Amm. ruth. p. 32. no. 41. Bracteas pinnatifid, exceeding the calyx. Corolla purple. Two of the filaments bearded. Capsule twice as long as the calyx.

Reddish-flowered Lousewort. Pl. ½ to 1 foot.

59 P. ACHILLEÆFÒLIA (Steph. in Willd. spec. 3. p. 219. Ledeb. fl. ross. alt. ill. t. 446.) plant canescent from down; stem simple; leaves pinnate: leaflets distant, deeply pinnatifid; segments deeply toothed; spike dense, elongated; calyx foliaceous, cylindrical, acutely 5-toothed, about equal in length to the foliaceous, deeply toothed bracteas; two of the filaments are bearded. ♃. H. Native of Altaia, on dry rocks at the rivers Tscharysch, Kurtschum, and Tschuja; and of Caucasus. P. comòsa, var. β, Stev. mon. p. 47. et 48. t. 14. B.? Plant at

first canescent, but at length becoming glabrous. Spikes naked. Corolla pale yellow, or white; galea furnished with short teeth. Capsule ovate-lanceolate, acuminated.

Milfoil-leaved Lousewort. Pl. 1 to 1½ foot.

60 P. LASIÓSTACHYS (Bunge, in Ledeb. fl. alt. ross. ill. t. 440. fl. alt. 2. p. 434.) stem downy; leaves pinnate: leaflets dense, linear, pinnatifid; spike short, dense, leafy; calyx membranous, funnel-shaped, acutely 5-toothed, densely woolly, shorter than the bracteas, which are foliaceous, quite entire at the base, pinnate in the middle, and serrulated at top; filaments all glabrous. ♃. H. Native of Altaia, in marshes on the tops of the alps at the river Tschuja, near the mouth of the river Tschegan. Root fascicled. Branches and calyxes clothed with yellowish wool. Corolla ringent, pale yellow, hardly twice the length of the calyx. Style less exserted than in *P. flàva*. Habit of *P. Langsdórfii*, but that has no teeth at the top of the galea.

Woolly-spiked Lousewort. Fl. July. Pl. ¼ to ½ foot.

61 P. A'RCTICA (R. Br. in Frankl. journ. append. p. 742.) stem simple, woolly; leaves pinnatifid: lobes subovate, dentately cut, glabrous in the adult state; petioles of cauline leaves dilated; calyx woolly, 5-cleft; galea obtuse, truncate, bidentate; longer filaments hairy. ♃. H. Native of Melville Island. Corolla purple, glabrous. Said to be nearly allied to *P. Sudética*.

Arctic Lousewort. Pl. ¼ foot.

SECT. VII. EDE'NTULÆ (so named from the galea of corolla being toothless.) Leaves alternate. Corolla ringent; galea toothless, without a beak.

62 P. LANGSDÓRFII (Fisch. in Stev. mon. p. 49. t. 9. f. 2.) stem simple; leaves bipinnatifid: segments more or less cut: rachis of cauline leaves dilated; calyx 5-cleft, 4 times shorter than the corolla; galea obtuse, truncate. ♃. H. Native of Arctic Siberia, about the mouth of the river Lena; Kamtschatka, and other Russian American Islands. Stem hairy, or woolly at top. Spike dense, leafy. Corolla purple. Filaments all more or less ciliated. Capsule a little longer than the calyx, oblique, mucronate.

Var. β; calyx woolly. ♃. H. P. alopecuroìdes, Adams. P. lanàta, Pall. in Bieb. herb. Willd. herb. no. 11310. Cham. et Schlecht. in Linnæa, 2. p. 583. Perhaps a species.

Langsdorf's Lousewort. Pl. ½ foot.

63 P. HIRSU'TA (Lin. spec. p. 848. Stev. mon. p. 51.) stem simple; leaves pinnatifid, with lanceolate, bluntly toothed segments; rachis of cauline leaves dilated into foliaceous petioles; calyx hairy, 5-cleft; corolla twice as long as the calyx; galea very blunt. ♃. H. Native of Lapland; and of Siberia, at the mouth of the river Lena. Pall. itin. 3. p. 34. Wahl. fl. lapp. no. 31. P. árctica, Adams, mss.—Lin. fl. lapp. 245. t. 4. f. 3. Petioles of cauline leaves stem-clasping. Segments of calyx often toothed. Filaments all glabrous. Capsule longer than that of *P. flámmea*.

Hairy Lousewort. Pl. 1 foot.?

64 P. FLA'MMEA (Lin. spec. 846. Stev. mon. p. 51.) stem simple; leaves pinnate: leaflets roundish, imbricated backwards, doubly toothed; calyx 5-cleft, glabrous; galea of corolla very blunt, rounded; segments of the lower lip linear. ♃. H. Native of Lapland and Greenland. Willd. spec. 3. p. 215, exclusive of most of the synonymes. Wahl. fl. lapp. no. 310, exclusive of var. β. Lin. fl. lapp. 244. t. 4. f. 2. Filaments all glabrous. Corolla pale red.

Flame-coloured-flowered Lousewort. Fl. May, June. Clt.? Pl. ½ to 1 foot.

65 P. VERSÍCOLOR (Wahl. fl. helv. p. 118.) dwarf; leaves pinnate: segments or leaflets imbricated backwards, serrated; spike oblong; calyx 5-cleft, hairy, crested a little; galea straight, obtuse, angular in front. ♃. H. Native of Siberia, towards the mouth of the river Lena, Altaia, Kamtschatka, Aleutian Islands: Lapland, Switzerland, Denmark, Carpathian mountains, &c.; on the Himalaya at Sholma, and towards Cashmere, Royle. Royle, ill. himal. t. 72. f. 1. P. flámmea, of German and Swiss authors. — Fl. dan. t. 30. P. filicifòlia, Adams, mss.—Hall. helv. no. 315. t. 8. f. 3. Root fasciculately tuberous. Petioles of lower cauline leaves slender: of the upper ones dilated at the base, and supporting the flowers. Apex of galea reflexed. Two of the filaments bearded. Corolla party-coloured, ? red and yellow, or pure yellow.

Party-coloured-flowered Lousewort. Fl. June, Aug. Clt. 1819. Pl. ½ to 1 foot.

66 P. ZEYLA'NICA (Benth. scroph. ind. p. 54.) erect, simple; leaves oblong, obtuse, cartilaginous, doubly crenated, clothed with scurfy down beneath; raceme elongated, loose; calyx cleft on one side, and 5-toothed on the other, crested; galea straight, obtuse, rather angular in front.—Native of Ceylon, Macrae.

Ceylon Lousewort. Pl. ?

67 P. ELA'TA (Willd. spec. 3. p. 210. Stev. mon. p. 53. t. 11. f. 2.) glabrous; stem simple; leaves pinnatifid, with lanceolate, serrulated segments; spike loose, elongated; calyx ovate, glabrous, with 5 short teeth; galea of corolla obtuse, obsoletely toothed, glabrous. ♃. H. Native of Siberia, at the Oby; about Kranojarsk; and about Smejof, Patrin. P. punícea, Pall.—Gmel. sib. 3. p. 211. no. 22, exclusive of the synonymes. Root fascicled. Corolla purple. Two longer filaments bearded. Capsule mucronate, rather oblique.

Tall Lousewort. Pl. 1½ to 2 feet.

68 P. ORIZA'BÆ (Schlecht. et Cham. in Linnæa, 5. p. 103.) stem erect, simple; leaves pectinately pinnatifid, with lobately pinnatifid segments, glabrous; calyx 5-toothed: teeth lobulate; galea short, rostrately truncate.—Native of Mexico, on Mount Orizaba. Radical leaves 3-4 inches. Corolla purple: lower lip trifid. Allied to *P. elàta*.

Orizaba Lousewort. Pl. ½ to 1½ foot.

69 P. RÒSEA (Jacq. icon. rar. 1. t. 115. Wulf. in Jacq. misc. 2. p. 57.) stem simple; leaves pinnate: leaflets linear, pinnatifid; calyx hairy, tubular, unequally 5-toothed, or 5-cleft; galea of corolla obtuse. ♃. H. Native of the Alps, as of Carinthia, Italy, and France; also of Siberia. P. hirsùta, All. ped. 227. t. 341. spec. 52. t. 12. f. 1. Stems naked, or few-leaved. Flowers few, purple. Two of the filaments bearded. Capsule longer than the calyx, obliquely mucronate.

Rose-coloured-flowered Lousewort. Pl. ½ foot.

70 P. RECUTÌTA (Lin. spec. p. 846.) stem simple; leaves pinnatifid, with deeply toothed segments; spike compact, leafy; calyx glabrous, about equally 5-toothed; galea of corolla very blunt. ♃. H. Native of the alps of Middle Europe, as of Switzerland, Italy, Austria, &c.; and on the confines of Russia. Jacq. austr. 3. t. 258. P. obsolèta, Crantz. austr. p. 316. —Hall. helv. no. 316. t. 8. f. 2. Habit singular, from the leaves being collected under the spike. Calyx usually glabrous, but sometimes hairy. Corolla purple. Two of the filaments bearded. Capsule mucronate, very oblique.

Surrounded-spiked Lousewort. Fl. July, Aug. Clt. 1787. Pl. 1 to 1½ foot.

71 P. WILHELMSIA'NA (Stev. mon. p. 55. t. 16. Bieb. fl. taur. 3. p. 412.) stem simple; leaves pinnate: segments or leaflets ovate, pinnatifid; spike dense; calyx ovate, woolly, 5-cleft, with linear, elongated segments; galea of corolla very short. ♃. H. Native of Caucasus, on Mount Beschtau, and about Nartzana. Habit of *P. foliòsa*. Root yellow, divided into oblong tubers. Stem downy, with few leaves, or even naked

to the spike. Radical leaves similar to those of *Spiræ'a filipéndula*. Bracteas large, foliaceous. Corolla cream-coloured. Filaments all bearded. Capsule length of calyx.

Wilhelms's Lousewort. Pl. $\frac{1}{2}$ to $1\frac{1}{2}$ foot.

72 P. foliòsa (Lin. syst. 552. mant. 86. Stev. mon. p. 56.) stem simple; leaves pinnate: leaflets pinnatifid, with lanceolate, unequally toothed segments; spike dense; calyx obliquely 5-toothed; galea of corolla very blunt. 4. H. Native of Europe, as of Switzerland, Hungary, Dauphiny, Italy, even to the Crimea. Jacq. austr. 2. t. 139. P. comòsa, Scop. carn. no. 765.—Hall. helv. no. 317. t. 9. f. 3. P. sumàna, Poll. pl. ver. 16. Stem short, and almost naked, or tall and leafy. Calyx glabrous, or hairy. Corolla cream-coloured; galea downy, or glabrous.

Leafy Lousewort. Fl. July. Clt. 1786. Pl. $\frac{1}{2}$ to 3 feet.

73 P. condensa'ta (Bieb. fl. taur. 2. p. 73. no. 1193.) stem simple; leaves pinnate: leaflets pinnatifid, with lanceolate, unequally toothed segments; calyx woolly, tubular, with a straight, 5-toothed mouth; galea of corolla very blunt. 4. H. Native of Caucasus, in humid, alpine meadows; Iberia, above Tschala; and of Hyrcania. This is a very showy species; the leaves and flowers as they ascend give the stem a pyramidal appearance. Corolla exactly of *P. foliòsa*. Filaments all bearded, more or less.

Dense Lousewort. Pl. 1 foot.?

74 P. trístis (Lin. spec. 846. Stev. mon. p. 57. t. 10. f. 2.) stem simple; leaves pinnatifid, with short, obtuse, sharply and doubly denticulated segments; spike dense; calyx 5-cleft; galea of corolla furnished with a short mucrone, villous on the edges. ⊙. H. Native of the Altaian mountains, in Dauria, and beyond the Lena, &c.; also of Kamtschatka. Pall. itin. 2. p. 566. 3. p. 444. P. macrocárpos, Pall. herb.—Gmel. sib. 3. p. 212. no. 23. Plant trailing. Corolla yellow. Filaments glabrous. Capsule hardly exceeding the calyx.

Sad-flowered Lousewort. Pl. $\frac{1}{2}$ to 1 foot.

75 P. acau'lis (Wulf. in Jacq. coll. 1. p. 207. t. 14.) stemless; leaves pinnate: leaflets ovate, obtuse, toothed; scapes or peduncles 1-flowered, shorter than the leaves; calyx 5-cleft, with toothed segments; galea obtuse, with a villous margin. 4. H. Native of the alps of Carniola and Carinthia.—Scop. carn. no. 761. t. 31. Flowers showy, very unlike those of other species. Corolla whitish. Filaments all villous at the base, or only 2 of them.

Stemless Lousewort. Pl. dwarf.

Cult. All the species of *Pediculàris* are extremely shy of cultivation. Peat soil and a moist situation suit the generality of the species. All foreign species require the protection of a frame, or other covering in winter, and for this purpose they had better be grown in pots. Tragus affirms, and others take it from him, that these plants in pastures breed lice on animals that feed on them. The truth, however, seems to be, that they indicate a very bad pasture, and the want of proper food may occasion the cattle to be in bad condition, and to breed vermin.

IV. MELAMPY'RUM (Μελαμπυρον, of Theophrastus; from μελας, *melas*, black; and πυρος, *pyros*, wheat.) Tourn. inst. t. 78. Lin. gen. no. 742. Schreb. gen. no. 999. Juss. gen. p. 101. ed. Usteri. p. 113. Gærtn. fruct. 1. p. 244. t. 53. Lam. ill. t. 518. Schukhr, handb. t. 170. Nutt. gen. amer. 2. p. 58. Led. fl. alt. 2. p. 438.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx tubular, bilabiate, 4-cleft. Corolla tubular, bilabiate: upper lip galeate, compressed, with the margin folded back: lower lip grooved, trifid, nearly equal. Stamens 4, didynamous, inclosed; anthers oblong; cells acuminated. Capsule 2-celled, obliquely acuminated, opening on one side; cells 2-seeded, ex Nutt., 1-seeded, ex Lin. Seeds cartilaginous, cylindrically oblong, or ovoid.—Annual plants. Leaves opposite, lanceolate-linear, entire. Flowers opposite, usually secund, forming terminal racemes; bracteas more or less pinnatifid.

1 M. crista'tum (Lin. spec. 842.) spike quadrangular; bracteas cordate, plicate, denticulated, imbricate, coloured; calycine segments linear, acute. ⊙. H. Native of the North and middle of Europe, and Siberia, in meadows and woods; plentiful in some parts of Britain. Smith, engl. bot. t. 41. Fl. dan. 1104.—Riv. mon. t. 81. f. 1.—Plukn. phyt. t. 99. f. 2.—Mor. hist. sect. 11. t. 23. f. 32.—Leaves linear-lanceolate, quite entire. Flowers reddish, yellow, and white. Beard of throat constantly yellow. According to Relham the galea is purplish, or white, with a yellow edge. Corolla gaping.

Crested Cow-wheat. Fl. July, Aug. England. Pl. 1 to $1\frac{1}{2}$ foot.

2 M. arve'nse (Lin. spec. 842.) spikes conical, loose; bracteas ovate, setaceously-toothed, coloured; teeth of calyx scabrous, lanceolate-linear, acuminated; corollas closed. ⊙. H. Native of the South of Europe, in fields of wheat; in England but rare, particularly in Norfolk. Smith, engl. t. 53. Fl. dan. 911.—Riv. mon. t. 80.—Sabb. hort. rom. 3. t. 8.—Mor. hist. sect. 11. t. 23. f. 1. Tríticum vaccínium, Dod. pempt. 541. f. 2. Lob. icon. 1. t. 37. Plant slightly downy. Leaves linear lanceolate. Bracteas purple, entire at top. Corolla yellow, and dusky purple. The seeds when ground with corn give a bitterness and greyish cast to the bread, but do not render it unwholesome.

Var. β, *argyrocòmium* (Fisch.) Native of the alpine regions of Caucasus. Bracteas white.

Corn-field Cow-wheat. Fl. June, July. England. Pl. 1 to $1\frac{1}{2}$ foot.

3 M. barba'tum (Waldst. et Kit. ex Willd. spec. 3. p. 198.) spikes conical, loose; bracteas setaceously toothed; teeth of calyx bearded; corolla gaping. ⊙. H. Native of the south of Hungary, in fields. This species differs from *M. arvénse*, to which it is nearly allied, in the bracteas being green, in the teeth of the calyx being furnished with long diaphanous hairs, in the corolla being gaping, the upper lip more villous on the edges, and the corolla totally yellow.

Bearded-calyxed Cow-wheat. Pl. 1 to $1\frac{1}{2}$ foot.

4 M. nemoro'sum (Lin. spec. 843.) flowers secund, lateral; bracteas cordate-lanceolate, toothed: upper bracteas coloured, sterile; calyxes woolly, lanceolate, or ovate acuminated. ⊙. H. Native of Europe, in woods; as of Upland and Scania, Denmark, Switzerland, Carniola, Austria, Silesia, and Dauphiny. Fl. dan. t. 305. M. sylvàticum, Riv. mon. t. 81. f. 2.—Barrel. icon. t. 769. f. 2. Stem 4 cornered. Leaves ovate-lanceolate, acuminated, or somewhat sagittate, eared and toothed at the base, rough, hairy beneath, with hispid edges. Bracteas bluish violet, jagged, or toothed at the base. Corolla greenish yellow; throat deeper yellow; the tube purplish. Calyx coloured, woolly. Anthers bearded at the base. This is the most showy of the species.

Grove Cow-wheat. Fl. July, Aug. Clt.? Pl. 1 to $1\frac{1}{2}$ foot.

5 M. prate'nse (Lin. spec. 843.) flowers axillary, secund; corollas gaping; leaves long-lanceolate: floral ones hastate, or pinnatifidly cut; calycine segments linear, acuminated. ⊙. H. Native of the North of Europe, in dry fields and woods; plentiful in many parts of Britain, in like situations. Smith, engl. bot. t. 113.—Hall. helv. no. 308.—Besl. eyst. t. 150. f. 2.—Mor. hist. sect. 11. t. 23. f. 3.—Besl. eyst. astiv. 12. t. 2. f. 2. Cratæogònum album, Gerard. herb. 84. emac. 91. Corolla full yellow; throat orange coloured.

Field Cow-wheat. Fl. July, Aug. Britain. Pl. 1 to 1½ foot.

6 M. SYLVA'TICUM (Lin. spec. 843.) flowers axillary, secund; corollas gaping; leaves long-lanceolate, quite entire; calycine segments linear lanceolate, acute. ⊙. H. Native of the north of Europe, in woods; and on the mountains in the south of Europe; in England. Fl. dan. t. 145. Smith, engl. bot. t. 804.—Hall. helv. 307. This species is said to differ from *M. praténse*, in the corollas being one half shorter, with a gaping limb, and in the full yellow colour, not with a white tube as in that species.

Wood Cow-wheat. Fl. July, Aug. Britain. Pl. 1 to 1½ foot.

7 M. LINEA'RE (Lam. dict. 4. p. 23.) flowers axillary; corolla gaping; lower leaves linear, quite entire: floral ones lanceolate, toothed behind. ⊙. H. Native from Canada to Carolina, in woods, particularly on the mountains. M. Americànum, Michx. fl. amer. bor. 2. p. 16. Habit of *Euphràsia linifòlia*. Branches subtetragonal. Corollas pale yellow, with a tinge of purple; superior lip obtuse, with a villous margin.

Linear-leaved Cow-wheat. Pl. 1 foot.

8 M. LATIFÒLIUM (Muhl. cat. ex Nutt. gen. amer. 2. p. 58.) we know nothing of this plant but the name. ⊙. H. Native on the Delaware.

Broad-leaved Cow-wheat. Pl. 1 foot.?

Cult. The plants being all annual, the seeds of them may be sown in the open ground. They are, however, very shy of cultivation.

V. PARENTUCE'LLIA (named in honour of Th. Parentucelli, of Sarzana in Liguria, founder of the botanic garden at Rome.) Viv. fl. libyc. p. 31. t. 21. f. 2.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx tubular, inflated, membranous, 5-toothed; teeth linear-lanceolate, unequal, beset with glandular hairs. Corolla with a slender tube, and a bilabiate limb; upper lip ovate, concave, galeate; lower linear, pilose towards the throat, channelled, 3-lobed at top. Stamens 4, nearly equal from the base of the upper lip; anthers globose, didymous, conniving. Stigma thick, truncate. Capsule somewhat 2-celled, 2-valved; dissepiment incomplete from the inflexed valves. Seeds inserted in parietal placentas, hanging by short funicles.—A hairy, annual, erect herb. Leaves opposite, sessile, 5-7-nerved; radical ones ovate, acute, deeply serrated: superior and floral ones ovate-lanceolate, dentately cut: upper ones tricuspidate. Flowers purple. This genus appears to be nearly allied to *Rhinánthus*.

1 P. FLORIBU'NDA (Viv. fl. libyc. p. 32.) ⊙. H. Native of Libya, on hills by the sea-side. Hairs on the calyxes and corollas, and other floral parts glandular. Flowers solitary, axillary, spicate, or racemose; pedicels very short.

Bundle-flowered Parentucellia. Pl. ½ to 1 foot.

Cult. For culture and propagation see *Melampỳrum*, p. 626.

VI. TRIPHYSA'RIA (from τρεις τρια, *treis tria*, three; and φυσα, *physa*, a bladder; the 3 segments of the lower lip of the corolla are saccate.) Fish. et Meyer, cat. sem. hort. petrop. 1836. p. 52.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx tubular, 4-cleft. Corolla personate; tube filiform; superior lip undivided, subulate; lower one tripartite; segments saccate. Stamens 4, didynamous, all fertile; anthers linear, mutic, 1-celled. Stigma oblong, 2-lobed. Capsule oblong, 2-celled, many-seeded. Seeds small, blackish, oblong, wingless; testa scrobiculate, closely adhering to the nut.—An annual herb, with the habit of *Oncorýnchus*.

1 T. VERSI'COLOR (Fisch. et Meyer, l. c.) ⊙. H. Native of New California, about Port Bodega. Leaves elongated, dilated at the base, half stem-clasping, pinnately lobed at apex, cut, scattered; lowers ones usually opposite; floral ones scarcely longer than the calyx. Flowers axillary, solitary, sessile. Corolla white, at length rose-coloured; tube filiform, twice as long as the calyx; upper lip straight, subulate, with inflexed margins; lower one large, trifid; segments obovate, each apiculated by a small, erect segment, and furnished with a longitudinal chink in the throat.

Party-coloured-flowered Triphysaria. Pl.?

Cult. For culture and propagation see *Melampỳrum*, p. 626.

Tribe II.

CYMBARIE'Æ (this tribe only contains the genus *Cymbària.*) D. Don, in edinb. phil. journ. vol. 37. July, 1835. p. 112. Embryo rather foliaceous, almost the length of the albumen.

VII. CYMBA'RIA (from κυμβη, *cymbe*, a boat; in reference to the boat-shaped fruit.) Lin. gen. 751. Schreb. gen. no. 1008. Amm. ruth. 1. t. 1. f. 2. Juss. gen. p. 119. ed. Usteri, p. 134. Gærtn. fruct. 1. p. 252. t. 53.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 10-parted, unequal, with linear segments. Corolla with a ventricose tube, and a bilabiate limb: upper lip arched, 2-parted: lower one 3-lobed, obtuse; palate prominent. Stamens 4, didynamous; anthers 2-cleft, prominent. Stigma obtuse. Capsule cordate, 2-valved; placenta central, tetragonal, with the angles membranously winged, therefore the capsule is falsely 4-celled, but 1-celled, ex Lin. Seeds angular, smooth, compressed.—A plant with the habit of *Antirrhìnum*. Stem a little branched; branches opposite, sterile. Leaves opposite. Flowers few, axillary, usually solitary, nearly sessile, large, yellow.

1 C. DAU'RICA (Lin. spec. 861. mant. 417.) leaves lanceolate; calyx 10-toothed; upper lip of corolla 2-parted, reflexed. ♃. H. Native of Dauria, on the mountains, in exposed, stony places.—Amm. ruth. 47. t. 1. f. 2.—Gmel. sib. 3. p. 198. no. 8. Plant hoary. Seeds compressed, with an irregular, membranous edge.

Daurian Cymbaria. Fl. June, July. Clt. 1796. Pl. 1 foot.

2 C.? BORYSTHE'NICA (Pall. ex Spreng. syst. 2. p. 815.) leaves linear; calyx 5-cleft; upper lip of corolla entire, erect. ♃. H. Native of the province of Cherson, between Borysthene and Hypanim.

Borysthene Cymbaria. Pl. 1 foot.?

Cult. For culture and propagation see *Pediculàris*, p. 626.

ORDER CLXXI. OROBA'NCHEÆ (this order contains plants agreeing with *Orobánche* in the characters given below.) Juss. ann. mus. 12. p. 445.—Rich.—Ledeb. fl. alt. 2. p. 450. D. Don, in edinb. phil. journ. vol. 37. p. 113. July, 1835.—Pediculáres, sect. III. Juss. gen. p. 101. ed. Usteri, 113.

Calyx divided, permanent. Corolla tubular, hypogynous, irregular, permanent, imbricate in æstivation. Stamens 4, didynamous, all fertile; anthers usually spurred at the base. Ovarium 1-celled; stigma 2-lobed, or undivided. Capsule 1-celled, 2-valved, many-seeded. Seeds inserted into narrow, parietal placentas, which rise from the margins of the valves; testa very thin, membranous, reticulated by nearly square areolæ. Albumen copious, cartilaginous. Embryo inverted in the top of the albumen, excentric, minute, nearly globose, usually undivided.

Radicle superior, remote from the umbilicus.—Usually parasitical, leafless, rather fleshy, rufescent, scaly herbs. Flowers terminal, solitary, spicate, or racemose.

This is a very natural family, well distinguished from the preceding by their permanent corolla, unilocular ovarium, centrifugal embryo, and peculiar economy, in being for the most part parasitical herbs, destitute of proper leaves, and of the green colour common to other plants. The seeds are attached to the narrow, depressed placentæ, formed by the united edges of the valves. The embryo is placed in the ventral side of the seed, and at the opposite extremity from the hilum, resembling a minute, nearly globular homogeneous mass, and is, therefore, probably devoid of true cotyledons. In all these respects the genera *Obolària* and *Tózzia* seem to agree, but differ in having proper leaves, and in being terrestrial.

Synopsis of the genera.

Tribe I.

Orobanchie'æ. Parasitical, leafless herbs.

1 Oroba'nche. Calyx bractless, somewhat 1-2-parted.

2 Phelipæ'a. Calyx tubular, bibracteate, 4-5-toothed, or 4-5-cleft.

3 Anòplon. Calyx bractless, 5-cleft, sub-bilabiate.

4 Boschnia'kia. All as in *Orobánche*, but the calyx is truncate, and unequally 5-toothed; the capsule opens laterally, the stigma sub-bilabiate, and terminated by a stigmatose margin.

5 Canópholis. Calyx ventricose, 5-parted, bibracteate. Corolla incurved: upper lip entire: lower one bifid.

6 Epiphe'gus. Calyx short, 5-toothed, bractless.

7 Lathræ'a. Calyx bibracteate, campanulate, 4-cleft.

8 Hyoba'nche. Calyx tubular, 7-cleft, unequal, bibracteate.

9 Ale'ctra. Calyx bilabiate, bractless? upper lip 2-cleft; lower one trifid.

10 Ægine'tia. Calyx spathaceous. Capsule many-celled.

11 Ambla'tum. Calyx campanulate, 4-cleft. Both lips of corolla entire.

Tribe II.

Obolarie'æ. Terrestrial, leafy plants.

12 Obola'ria. Calyx 5-cleft, bibracteate. Corolla campanulate.

13 Tózzia. Caylx 5-toothed, bractless.? Corolla ringent, tubular. Capsule 1-seeded by abortion.?

Tribe I.

OROBANCHIE'Æ (this tribe contains plants agreeing with the genus *Orobánche*.) Parasitical, leafless, fleshy, scaly plants.

1 OROBA'NCHE (of Pliny, Οροβανχη of Theophrastus and Dioscorides; from *ορoβος*, *orobos*, a vetch; and *αγχω*, *ancho*, to strangle; because it is supposed to strangle and kill the plants on which it grows.) Tourn. inst. p. 176. t. 81. Lin. gen. no. 779. Schreb. gen. no. 1045. Juss. gen. p. 101. ed. Usteri, p. 113. Gærtn. fruct. 3. p. 42. t. 185. f. 4. Lam. ill. t. 551. Wallr. orob. sect. 1. Ospròleon. Led. fl. alt. 2. p. 450.—Aphýllon, Michel, gen. t. 25.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx bractless, 1-2-parted; sepals distinct, or combined on one side at the base. Corolla tubular, ringent: upper lip 2-lobed: lower one trifid. Stamens 4, didynamous. Stigma capitate, emarginately 2-lobed. Ovarium glandular at the base. Capsule 1-celled, 2-valved; valves dehiscing laterally, but joined at the base and apex. Placentas parietal, 2 in each valve.—Parasitical, fleshy, usually simple, rarely branched, scaly, erect herbs. Flowers sessile, erect, solitary, in the axils of the floral scales. There is a fleshy gland that girds the ovarium. Filaments usually hairy, flat at the base. Anthers glabrous; cells mucronate at the base.

Sect. I. Sepals free, or combined in front at the lower part, open behind.

§ 1. *Upper lip of corolla emarginate, or retuse, never bifid.*

* *Corolla dilated, sub-campanulate, never narrow, or cylindrical.*

1 O. Caryophylla'cea (Smith, in Lin. trans. 4. p. 169. Led. fl. alt. 2. p. 452.) hairy, or pubescent; floral scales lanceolate, equal in length to the flowers; sepals bifid: lobes linear-lanceolate, equal; corolla sub-campanulate, straightish: lower lip a little shorter than the upper: lobes equal, obtuse, denticulately curled; filaments hairy at the base, glandular, as well as the style at the apex; stigma emarginate. ♃. H. Native of Siberia; Italy; and about Lauterine in the Palatinate; also on the Himalaya at Pungee. Wallr. orob. p. 36. Bieb. taur. 2. p. 81. O. màjor, Poll. pal. no. 600. Vill. dauph. 2. p. 407. Falck, topog. beytr. 2. p. 212. Pall. ind. taur. Hablitz, taur. p. 154. Desf. fl. atl. 2. p. 58. Orobánche màjor caryophyllum redolens, Bauh. pinn. p. 87. Tourn. inst. 176. t. 81. Riv. mon. irr. 1. t. 89.—Gmel. sib. 3. p. 214. no. 28, exclusive of all the synonymes. Plant yellowish, or rufescent, as well as the corollas, which are tipped with purple. Upper lip of corolla large, emarginate. Stigma brown, or purplish. The plant has a strong smell of cloves when fresh, hence the specific name. The bulb is said to be scaly.

Clove-scented Broom-Rape. Pl. 1 to 1½ foot.

2 O. crue'nta (Bertol. amœn. ital. p. 89.) pubescent; scales lanceolate, acuminated; spikes loose at bottom and dense at top; floral scales shorter than the flowers; upper lip of corolla emarginate; segments of the lower lip fimbriately curled; inner sides of filaments very hairy, as well as the top of ovarium and style; stigma yellow. ♃. H. Native of Italy. O. caryophyllàta, Viv. ann. bot. 1. p. 175. Plant, as well as flowers, reddish.

Blood-red Broom-Rape. Pl. 1 to 1½ foot.

3 O. ma'jor (Lin. spec. 882, exclusive of the syn. but not of D. C.) hairy; bulb middle sized, scaly; scales lanceolate, not adpressed; sepals bifid; corolla inflated, a little curved: upper lip blunt, entire; lobes of lower lip equal, acute, denticulated; filaments glabrous at bottom, and hairy at top; style hairy, pubescent at top, yellow; stigma 2-lobed. ♃. H. Native of Europe, growing on furze or broom; plentiful in some parts of Britain. Sutton, in Lin. trans. 4. p. 175. Curt. lond. 4. t. 44. Smith, engl. bot. 421. O. barbàta, Brot. fl. lus. 1. p. 183. O. Ulìcis Europæ'i, Vauch.—Petiv. brit. t. 69. f. 10. Plant dusky yellow, or tinged with purple. Corollas of a brownish rust-colour, tinged with purple, yellowish, or purple.

Larger, or Common Broom-Rape. Fl. June, July. Britain. Pl. ½ to 1½ foot.

4 O. ri'gens (Lois. fl. gall. p. 384.) scape glabrous; scales lanceolate, stiff, downy, imbricated; flowers loosely spicate; style and stamens glabrous; lobes of lower lip of corolla acutish; stigma bifid; lobes distant. ♃. H. Native of Corsica; and of Germany. Lois. D. C. fl. fr. 5. p. 392.

Stiff-scaled Broom-Rape. Pl. ½ foot.?

5 O. epíthymum (D. C. fl. fr. 3. p. 490.) scape nearly

equal; scales lanceolate; flowers spreading, scattered, glandularly viscid, remote; calycine segments lanceolate, rarely bifid; superior lip of corolla rounded, crenulated: lower one 3-lobed: lobes bluntly crenated; stigma 2-lobed, reddish. ♃. H. Native of France, on arid mountains, on the roots of *Thymus serpyllum*. O. Thymi-serpýlli, Vauch. mon. t. 6. Plant reddish.

Var. β, *epithymoides* (Duby. bot. gall. 1. p. 349.) scape rather inflated; corolla veiny; upper lip 2-lobed; lobes superincumbent. ♃. H. Native of Provence, near Brignollis, growing on the roots of *Thymus vulgaris*. O. Thymi-vulgaris, Vauch. mon. p. 53.

Thyme Broom-Rape. Pl. 1 foot.

6 O. Gallii (Dub. bot. gall. 1. p. 349.) scape moderately thickened at the base, scaly; scales lanceolate, blackish; calycine segments lanceolate, or irregularly bifid; corolla inflated; upper lip arched, sub-emarginate: lower lip 3-lobed: lobes roundish; filaments inflexed; anthers blackish; stigma 2-lobed, dark red. ♃. H. Native of France, in gravelly places, on the roots of *Galium Mollugo*. O. Gallii Mollúginis, Vauch. l. c. t. 7. Scapes reddish. Flowers purplish.

Galium Broom-Rape. Pl. 1 foot.

7 O. Hederæ (Vauch. mon. p. 56. t. 8.) scape thickened into a sparingly scaly bulb; scales lanceolate, fewer; bracteas attenuated at the apex, reflexed; upper lip of corolla entire: lower lip 3-lobed: lobes rounded; calycine segments nearly entire; lower stamens approximate: superior ones divaricate; stigma emarginate, yellowish. ♃. H. Native of Vascony, parasitical on ivy.

Ivy Broom-Rape. Pl. 1 foot.

8 O. gracilis (Smith, in Lin. trans. 4. p. 172.) pubescent; scape simple; floral scales shorter than the flowers; corolla inflated: lower lip very short, with the segments obcordate, unequal, fringed and curled; stamens and style beset with spreading hairs. ♃. H. Native near Genoa, in hilly pastures at St. Orsese. Corolla size of that of *O. major;* but the upper lip is of a dark or purplish colour, and less fringed and curled. Ovarium smooth. Stamens rather exserted. It differs from *O. minor* in the larger inflated corolla, short lower lip, longer stamens, and hairy style.

Slender Broom-Rape. Pl. 1 to 1½ foot.

9 O. cytisi (Duby, bot. gall. 349.) scape thickened beyond the base; scales ovate-oblong, remote, clothed with scurfy hairs; calycine segments divided into linear segments; corolla ventricose, glandular outside; upper lip short, nearly entire: lower one 3-lobed; stigma deeply divided. ♃. H. Native of Provence, near Mees, in stony places; Eastern Pyrenees, Tolosa, and Vascony. O. fœtida, Duby, bot. gall. p. 349. D. C. fl. fr. 5. p. 392. O. variegata, Wallr. diask. p. 40. O. cýtisi scopárii, Vauch. mon. p. 37. This is the largest of the species. Flowers fulvous.

Cytisus Broom-Rape. Pl. 1½ to 2 feet.

* * *Corolla cylindrical, not campanulate, more or less incurved.*

10 O. ammophila (C. A. Meyer. in Led. fl. ross. alt. ill. t. 889. fl. alt. 2. p. 454.) clothed with white wool; floral scales ovate-lanceolate, equalling the flowers in length; sepals bifid: lobes lanceolate, nearly equal, shorter than the tube of the corolla, which is incurved and cylindrical; lips of corolla nearly equal; lobes of lower lip obtuse, denticulated, nearly equal; filaments and style hairy; stigma sub-bipartite, with very spreading segments. ♃. H. Native of Altaia, in sandy places, at the rivers Irtysch and Bekun, and at the mines of Loktewsk. Sepals free. This is said to differ from *O. cærulea*, in the sepals being less deeply cleft; in the shorter tube of corolla, and in being deeper blue; and in the filaments and style being always hairy.

Sand-loving Broom-Rape. Pl. ½ to 1 foot.

11 O. crinita (Viv. fl. cors. p. 11.) scape furnished with linear, elongated scales at the base; floral scales linear, acuminated, hairy outside, exceeding the flowers; corolla 4-cleft, incurved, subcylindrical; lobes rounded, crenately ciliated; filaments and capsule quite glabrous; stigma 2-lobed, recurved. ♃. H. Native of Corsica, near Bonifacio. Flowers fulvous.? Spike elongated, compact, comose by bracteas at top.

Long-haired Broom-Rape. Pl. ½ to 1 foot.

12 O. sparsiflora (Wallr. sched. crit. 1. p. 310.) pubescent; flowers remote, spicate; floral scales equal in length to the flowers; corolla hairy; upper lip subemarginate; lobes of the lower lip obovate: middle one the largest: stamens ciliated. ♃. H. Native of Middle Germany.

Scattered-flowered Broom-Rape. Pl. ½ to 1 foot.

13 O. cærulescens (Steph. in. Willd. spec. 3. p. 349.) plant pubescent; scape simple; lower scales adpressed: upper ones spreading, and clothed with white villi: floral ones ovate, long-acuminated, length of flowers; spike dense, elongated; calyx bifid, with bipartite, subulate, unequal segments, nearly the length of the tube of the corolla; genitals glabrous; upper lip of corolla emarginate. ♃. H. Native of Siberia, towards the Caspian sea; and of Caucasus, about the river Terek. Bieb. cauc. 2. p. 82. Spike 3 inches long. Corollas bluish. Floral scales and calyxes white from hairs.

Bluish-flowered Broom-Rape. Pl. ½ to 1 foot.

14 O. Medicaginis (Duby, bot. gall. p. 349.) scape hardly inflated at the base; lower scales numerous, lanceolate, blackish: floral ones short, and fewer; calycine segments 2-lobed; corolla elongated, with a constricted throat; lower lip 3-lobed; galea subemarginate; stigma bifid, reflexed, yellowish-red. ♃. H. Native of France, growing from the roots of *Medicago sativa*. O. Medicáginis sativæ, Vaucher, mon. t. 2. Plant yellowish.

Lucern Broom-Rape. Pl. ½ to 1 foot.

15 M. minor (Sutt. in Lin. trans. 4. p. 179. t. 17. f. 1, 2, 3.) hairy; scape thickened at the base, moderately scaly; floral scales lanceolate, pilose; calycine segments sometimes simple and sometimes bifid; corolla arcuately cylindrical; upper lip rounded and crenulated: lower one trifid, with equal, rounded, crenulated lobes; stamens inserted beyond the base of the corolla, beset with glandular hairs below; stigma retuse, ex Sutton; 2-lobed, purplish, with transverse chinks, ex Duby; anthers blackish; style smooth at top. ♃. H. Native of Europe, in fields and pastures, growing from the roots of *Trifolium praténse;* plentiful in some parts of Britain, as in Norfolk, Smith, engl. bot. 422. O. major, Loefl. hisp. no. 35. O. major, β, Haller, helv. ed. 1. p. 610. ed. 2d. no. 209. O. barbata, Lam. dict. 4. p. 621. O. flore minore, Ray. syn. 288. O. ramosa, β, Huds. engl. ed. 2. p. 266. O. trifolii-praténsis, Vauch. mon. t. 5. Plant flesh-coloured. Flowers whitish-yellow, with purple veins, varying to full yellow, finally becoming of a rust-colour or purplish.

Smaller Broom-Rape. Fl. July, Aug. Britain. Pl. ½ to 1 foot.

16 O. elatior (Sutt. in Lin. trans. 4. p. 178. t. 17. f. 4.) clothed with clammy hairs; scape nearly equal; scales lanceolate; flowers remote; calycine segments bifid, with linear lobes; corolla tubular, cylindrical, recurved, veiny; limb plicate or fringed; upper lip emarginate: lower one 3-lobed; stamens beset with hairs below; stigma bifid, obcordate, brownish-yellow; style smooth above. ♃. H. Native of Europe, in woods and fields, growing from the roots of *Centaurea scabiosa;* in England, in clover-fields, thickets, and bushy, hilly places, on a gravelly soil. Smith, engl. bot. 568. Fl. dan. 1334. O.

Centaurèæ-scabiòsæ, Vauch. mon. p. 61. with a figure. *O. màjor*, Sibth. p. 191. Flowers of a pale russet-colour, with darker veins.

Taller Broom-Rape. Fl. July, Aug. Britain. Pl. 1 to 1½ foot.

17 *O.* nudiflòra (Wallr. sched. crit. 1. p. 310.) pubescent; scales narrow, few; spike few-flowered, loose; floral scales exceeding the flowers, which are tubular; lobes of corolla quite entire; middle segment of the lower lip obovate; stamens downy at the base; style glabrous; stigma 2-lobed.? ♃. H. Native of Germany and Denmark. *O. mìnor*, Vahl, fl. dan. t. 1213.

Naked-flowered Broom-Rape. Pl. ½ to 1 foot.

18 *O.* a'lba (Steph. in Willd. spec. 3. p. 350. Rchb. icon. t. 679. and t. 680.) scape simple, beset with glandular hairs at top; scales remote, adpressed, lanceolate; spike elongated, loose; floral scales ovate, acute, clothed with glandular hairs, a little longer than the calyx; calyx bifid, with entire segments; corolla cylindrical: upper lip obcordate, denticulated, as well as the segments of the lower lip; base of filaments and top of style beset with glandular hairs; stigma large, 2-lobed. ♃. H. Native of Siberia, towards the Caspian Sea; and of Caucasus, on the Talusch mountains, at the altitude of from 500 to 800 hexapods. The corollas are generally white; but there are also varieties with dirty purplish, or brownish corollas.

White-flowered Broom-Rape. Pl. ½ foot.

§ 2. *Superior lip of corolla bifid.*

19 *O.* speciòsa (D. C. fl. fr. 3. p. 490.) scape beset with glandular hairs; spike dense; corolla tubular; upper lip 2-lobed: lobes all rounded and crenulated; middle segment of the lower lip larger than the lateral ones; calycine segments undivided; stamens and style glabrous. ♃. H. Native of France, at Telon.

Showy Broom-Rape. Pl. 1 foot.

20 *O.* ru'bra (Smith, engl. bot. t. 1786. fl. 3. p. 148.) clothed with glandular, viscid pubescence; scape simple, densely scaly; calycine segments 2, lanceolate, undivided; floral scales shorter than the flowers; corolla tubular, somewhat tumid; upper lip bifid; lobes all crenated and fringed with short, glandular hairs on the margin; base of stamens, and top of style fringed and glandular. ♃. H. Native of the North of Ireland and Scotland, on basaltic rocks; plentiful at Cave-hill, near Belfast; also on the Giant's Causeway; at Staffa, and near Kirkaldy. Hook. fl. lond. t. 105. Root creeping along the rock. The whole plant is of a rusty-purplish colour. Spike not dense. Flowers with a powerful scent of honeysuckle.

Red-flowered Broom-Rape. Pl. 1 foot.

21 *O.* acau'lis (Roxb. fl. ind. 3. p. 29.) scapeless; flowers crowded into irregular heads, which are sessile on the roots; calyx 1-leaved, opening on the side, or divided into 2 unequal portions; segments of corolla jagged; anthers simple, each inner pair augmented with a large, recurved, oval gland; stigma peltate. ♃. G. Native of the East Indies, parasitical on the roots of the China sugar-cane in the botanic garden at Calcutta. Bracteas triangular, embracing the base of 1 or more pedicels. Corolla purple outside, yellow inside.

Stemless Broom-Rape. Pl. dwarf.

22 *O.* condensa'ta (Mor. elench. sard. fasc. 2d. ex Linnæa, 5. p. 94.) scapes villous; scales lanceolate, acuminated; calyx bipartite, with semibifid segments; upper lip of corolla somewhat 2-lobed; spike elongated, cylindrical, compact; style glabrous; stamens rather pilose at the base. ♃. H. Native of Sardinia, on the roots of *Genísta Córsica*. Said to be nearly allied to *O. speciòsa*, D. C.

Condensed-spiked Broom-Rape. Pl. ½ to 1 foot.?

23 *O.* sórdida (C. A. Meyer, in Led. fl. ross. alt. ill. t. 386. fl. alt. 2. p. 455.) pubescent; floral scales oblong-lanceolate, about half as long as the flowers; calycine segments free, bifid: lobes lanceolate, nearly equal; corolla cylindrical, incurved; lips of equal length: lobes of the lower one oblong, acutish, quite entire, flat, middle lobe the longest; filaments and style rather hairy; stigma 2-lobed. ♃. H. Native of Altaia, in the Soongarian desert, on the Arkaul mountains, not far from lake Noorsaisan, in rocky places. Hairs white. Corolla dirty yellow, or pale brown, glandular outside; lobes of the upper lip truncate or rounded. Style glandular, and sometimes the stamens.

Dirty-flowered Broom-Rape. Fl. May. Pl. 1 foot.

24 *O.* fœ'tida (Poir. itin. 2. p. 195. Desf. fl. atl. 2. p. 59. t. 144. Tenor. fl. nap. 2. p. 63. Viv. fl. libyc. p. 34.) scape simple, hairy, fistular; scales lanceolate: floral scales linear-lanceolate, longer than the corollas; calyx 2-leaved: segments bifid, lanceolate, subulate, unequal; corolla cylindrical; upper lip 2-lobed: lower one 3-lobed: lobes roundish, denticulated; stigma thick, 2-lobed. ♃. H. Native of Barbary, everywhere in fields and cultivated ground; and of Tripoli, on hills. Link. et Hoffm. fl. port. 2. p. 316. t. 62. Bracteas hairy. Corolla dark purple, size of those of *O. màjor*. Stamens inclosed.

Stinking Broom-Rape. Pl. 1 to 2 feet.?

25 *O.* amœ'na (C. A. Meyer, in Led. fl. ross. alt. ill. t. 385. fl. alt. 2. p. 457.) smoothish; floral scales ovate-lanceolate, 3 times shorter than the flowers; calycine segments free, bifid, with linear-lanceolate, nearly equal lobes; corolla cylindrical, incurved; lips of equal length: lobes of the lower lip bluntish, denticulated: middle lobe rather the longest; filaments hairy at the base, but rather glandular at top, as well as the style; stigma 2-lobed. ♃. H. Native along with the preceding, on the Arkaul mountains. The whole plant is clothed with glandular scurf, nearly glabrous, and of a yellowish-brown colour. Corollas of a deep violet-blue colour, with a few glands outside. Lobes of the upper lip nearly orbicular, denticulated. Nearly allied to *O. sórdida* and *O. arenària*, Bieb.

Pleasant Broom-Rape. Pl. ½ foot.

26 *O.* ra'pum (Thuil. par. ed. 2d. p. 317. Duby, bot. gall. 1. p. 348.) scape thickened into an imbricately scaly bulb; scales ovate-oblong, clothed with clammy hairs; calycine segments free, bifid, with nearly equal, linear lobes; corolla inflated; upper lip 2-lobed: lower one 3-lobed; stigma 2-lobed, yellow. ♃. H. Native of France, in sterile and argillaceous soil, from the roots of *Genísta tinctòria*, Wallr. diask. p. 32. *O. màjor*, Lam. ill. t. 551. but not of Lin. *O. genístæ tinctòriæ*, Vauch. mon. t. 1.—Mor. hist. sect. 12. t. 16. f. 2. Plant reddish-yellow.

Var. β, gràcilis; plant much more slender; scales dilated at the base; flowers few, short. ♃. H. Native of France, from the roots of *Genísta sagittàlis*. *O. vulgàris*, Lam. dict. 4. p. 621.? D. C. fl. fr. 3. p. 489. *O. genístæ sagittàlis*, Vauch. mon. Perhaps a species.

Rape Broom-Rape. Pl. 1 foot.

27 *O.* pruinòsa (Laper. abr. suppl. p. 87.) scape fistular, pilose, pruinosely grey, dilated into a middle sized bulb; scales lanceolate: floral ones narrow, shorter than the corolla; calycine segments deeply and narrowly bifid; lips of corolla plicate at the top: superior one bifid: lower one 3-lobed: lobes denticulated; stigma deeply divided, pale purple. ♃. H. Native of the Eastern Pyrenees, on the roots of *Fàba satìva*. *O. fàbæ satìvæ*, Vauch. mon. p. 37. t. 5. Flowers white.

Frosted Broom-Rape. Pl. ½ to 1 foot.

28 *O.* arena'ria (Bieb. fl. cauc. 2. p. 83.) smoothish; scales lanceolate; spike few-flowered; floral scales smaller than the corolla, and are, as well as the calyxes, smooth; caly-

cine segments bifid; lobes of corolla acutish; stamens glabrous. ♃. H. Native of Podolia, Bessarabia, Tauria, and Caucasus. O. crética procèrior non ramosa, caule tenui, flore parvo subcæruleo, Tourn. cor. p. 10. Scapes simple. Corolla blue: upper lip bifid.

Sand Broom-Rape. Pl. 1 foot.?

29 O. sangui'nea (Presl. del prag. p. 176.) pubescent; scape simple, scaly; floral scales about equal in length to the flowers; spike dense; lobes of corolla equal, obtuse, denticulated; stamens quite glabrous. ♃. H. Native of Sicily.

Bloody Broom-Rape. Pl. 1 to 1½ foot.?

30 O. ru'bi (Duby, bot. gall. p. 350.) scape thickened into a scaly bulb, beset with white hairs; scales numerous, blackish; calycine segments bifid; upper lip of corolla bifid: lower one 3-lobed: lobes roundish, erose; stamens adnate above the base; stigma 2-lobed, yellowish. ♃. H. Native of Provence, in cornfields near Luc, parasitical on the roots of *Rùbus fruticòsus*. O. rùbi fruticòsi, Vauch. mon. t. 9. Scapes reddish. Flowers pale yellow.

Bramble Broom-Rape. Pl. 1 foot.?

31 O. Ery'ngii (Duby, bot. gall. p. 350.) scape incurved at the base, scaly; scales numerous, lanceolate, half adherent; calycine segments deeply bifid: lobes linear; upper lip of corolla arched, hardly bifid: lower lip 3-lobed, subplicate; stigma 2-lobed, reddish. ♃. H. Native of the southern provinces of France, parasitical on the roots of *Eryngium campéstre*. O. Eryngii campéstris, Vaucher. mon. p. 58. t. 10. Scapes red, hairy. Flowers reddish white.

Eryngo Broom-Rape. Pl. 1 foot.?

32 O. cóncolor (Duby, bot. gall. p. 350.) scape dilated at the base, scaly, slender; scales numerous, lanceolate, blackish-yellow; flowers numerous; calycine segments hairy, generally bifid; corolla yellow; upper lip somewhat 2-lobed: lower lip 3-lobed, elongated; stamens and ovarium 2-lobed; stigma yellow. ♃. H. Native of Provence, parasitical on the roots of *Scabiòsa columbària*, *Chærophyllum sylvéstre*, and *Méntha arvénsis*. O. scabiosæ Columbàriæ, Vauch. mon. p. 59. t. 11. Plant wholly yellow.

Self-coloured Broom-Rape. Pl. 1 foot.?

33 O. pedunculà'ta (Roxb. fl. ind. 3. p. 29.) smooth; scape simple, furnished with a few tapering, fleshy scales; floral scales triangular; calyx spath-formed, 1-leaved, opening by a single slit on the inner side; corolla with an inflated tube, as long as the calyx; limb 5-parted, nearly equal: segments reniform, finely toothed on the edges; filaments smooth; stigma broad, cordate, peltate. ♃. S. Native of Bengal, parasitical upon the roots of *Andropògon muricàtus*. Peduncles length of stem, 1-flowered. Flowers very large. Corolla with a yellow tube, and a deep violet limb. Calyx filled with a clear clammy liquor. Stamens inclosed. Anthers connected, entangled by a long, horizontal, fleshy appendage, into which the filaments are inserted. Capsule ovate. Perhaps a species of *Æginètia*.

Peduncled Broom-Rape. Pl. ¼ to ½ foot.

Sect. II. Sepals combined in the back part towards the base; not in front, as in the sect. 1.; the front part being free.

34 O. bi'color (C. A. Meyer, in Led. fl. ross. alt. ill. t. 390. fl. alt. 2. p. 458.) plant scurfy; floral scales ovate, acute, about twice as long as the flowers; calycine segments bifid or undivided: lobes lanceolate, nearly equal; corolla cylindrical, incurved; upper lip the longest, 2-lobed: lobes of the lower lip small, nearly orbicular, denticulated, nearly equal; filaments puberulous at the base, but glabrous at top, as well as the style; stigma emarginate. ♃. H. Native of Altaia, in the Soongarian desert, in argillaceous and sandy soil, on the banks of the river Tschuganka, towards the foot of Mount Tschingistan; and of Spain.? O. cérnua, Pall. ind. taur. Lin. spec. 882.? Loefl. itin. 2. p. 229.? Corollas white or pale violet: limb small, deep violet. Stigma yellow.

Two-coloured-flowered Broom-Rape. Pl. ½ to ¾ foot.

35 O. me'dia (Desf. fl. atl. p. 59.) scape simple, hairy, striated, firm; scales adpressed, ovate or ovate-lanceolate; flowers densely spicate; floral scales ovate, concave, length of calyx; calyx 2-leaved: leaflets bifid: lobes narrow, acute; corolla curved, twice as long as the calyx; upper lip 2-lobed: lower one 3-lobed: lobes rounded, nearly equal; stamens inclosed. ♃. H. Native of Barbary, near Cafsa, in sandy places. Corollas size of those of *Phelipæ'a ramòsa*, pale yellow.

Intermediate Broom-Rape. Pl. 1 to 1½ foot.?

† *Species hardly known.*

36 O. purpu'rea (Lin. suppl. 288. syst. 573.) stem simple and branched, villous; flowers racemose; pedicels opposite; corolla quadrifid, campanulate; anthers spurred. ♃. G. Native of the Cape of Good Hope. Plant purplish-red, with large flowers, becoming black on drying.

Purple Broom-Rape. Pl.

37 O. Cape'nsis (Thunb. prod. 97.) stem simple, villous; corolla curved, clavate. ♃. G. Native of the Cape of Good Hope.

Cape Broom-Rape. Pl.

38 O. interru'pta (Pers. ench. 2. p. 181.) stem branched, flexuous; spike of flowers interrupted. ♃. G. Native of the Cape of Good Hope. O. ramòsa, Thunb. prod. 97. but not of Lin.

Interrupted-spiked Broom-Rape. Pl. 1 foot.?

39 O. longiflòra (Pers. ench. 2. p. 181.) stem hairy, branched a little; tube of corolla flaccid, very long. ♃. G. Native of the Cape of Good Hope.

Long-flowered Broom-Rape. Pl.

40 O. Ægypti'aca (Pers. l. c.) many-stemmed; flowers on long peduncles; calyx 5-cleft; anthers bearded at top. ♃. G. Native of Egypt. Filaments glabrous. Perhaps a species of *Phelipæ'a*.

Egyptian Broom-Rape. Pl.

Cult. Singular parasitical plants, none of which are properly cultivatable.

II. PHELIPÆ'A

(so named by Tournefort, after the illustrious family Phelipeaux; great patrons of the natural sciences, and of Tournefort.) Tourn. inst. p. 47. Desf. fl. atl. 2. p. 60. t. 145. Led. fl. alt. 2. p. 459. Orobánche, Lin. and other authors. Gærtn. fruct. 3. p. 43. t. 185. f. 4. Lam. ill. t. 971.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx bibracteate, tubular, 4-5-cleft or 4-5-toothed. Corolla bilabiate; upper lip bifid: lower one trifid. Stigma capitate, 2-lobed. Capsule 1-celled, 2-valved; valves dehiscing at top, but cohering at the base; placentas parietal, 2 in each valve.—Plants with the habit of *Orobánche*; but are readily distinguished by the tubular, bibracteate calyx, and in the capsule dehiscing at top instead of at the side.

Sect. I. Triony'chion (from τρεις τρια, *treis tria*, three; and ονυχιον, *onychion*, a little claw; in reference to there being 3 bracteas to each flower; that is, 2 bracteas to the calyx, and one floral scale.) Ledeb. fl. alt. 2. p. 460. Orobánche, sect. Trionýchion, Wallr. diask. p. 58. Vauch. mon. p. 65. Kópsia, Du-

mont. Calyx 4-5-cleft: lobes elongated, unequal, acuminated. Anthers with glabrous superfices, and villous dehiscing cells. Capsule crowned by the base of the deciduous style.

1 P. lanuginòsa (C. A. Meyer, in Led. fl. ross. alt. ill. t. 377. fl. alt. 2. p. 460.) clothed with white wool; floral scales ovate-lanceolate, longer than the calyxes; lobes of calyx lanceolate, nearly equal; throat of corolla inflated a little; superior lip rather the longest: lobes of lower lip nearly equal, elliptic, obtuse, a little denticulated; filaments and anthers glabrous; style glandular; stigma 2-lobed. ♃. H. Native of Altaia, in grassy places at the rivers Talitza and Katunga, and near Barnaoul; and of Caucasus. Orobánche cæ'sia, Rchb. icon. t. 698. Scape yellowish. Corolla bluish. This is said to be intermediate between *P. comòsa* and *P. cærùlea*, but differs from both in being clothed with white wool, &c.

Woolly Phelipæa. Pl. $\frac{1}{4}$ to $\frac{3}{4}$ foot.

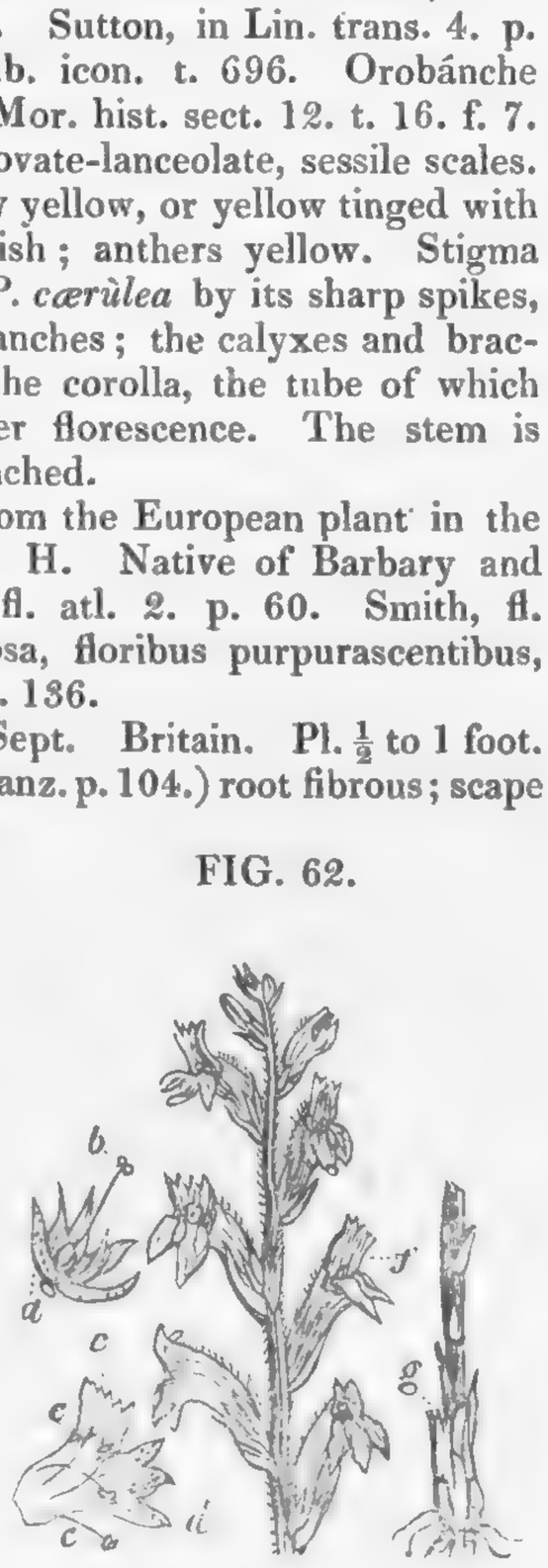
2 P. ramòsa (Meyer, verz. pflanz. p. 104.) root a solid bulb; scape naked, or furnished with a very few scales, hairy, swelling at the root, branched; spikes acute, terminal; bracteas hardly as long as the calyxes; calyx suburceolate, 4-5-cleft, unequal, acuminated; corolla tubularly funnel-shaped, swollen at the base, and yellow: upper part and lips blue, hairy outside: upper lip roundish, bifid: lower lip trifid; segments rounded, obtuse: the middle segment largest, with 2 yellow prominences at the mouth; stamens inclosed, downy at the base; stigma emarginate, white. ♃. H. Native of Europe; as of the South of France, Germany, and Britain; also of Caucasus, Barbary, and the Grecian Islands; in many parts of Britain, from the roots of hemp, in moist, rich fields, particularly in Norfolk and Suffolk, on *Galeópsis Tetràhit*. Orobánche ramòsa, Lin. spec. 882. Smith, engl. bot. 184. Sutton, in Lin. trans. 4. p. 185. Lam. ill. 551. f. 2. Rchb. icon. t. 696. Orobánche cánnabis, Vaucher. mon. t. 16.—Mor. hist. sect. 12. t. 16. f. 7. Root furnished with one or two ovate-lanceolate, sessile scales. Stem and branches brown, or dirty yellow, or yellow tinged with purple. Filaments and style bluish; anthers yellow. Stigma blunt. It is distinguished from *P. cærùlea* by its sharp spikes, the few scales on the stem and branches; the calyxes and bracteas being shorter by half than the corolla, the tube of which becomes globular at bottom after florescence. The stem is sometimes, though seldom, unbranched.

Var. β, violàcea; this differs from the European plant in the corollas being wholly blue. ♃. H. Native of Barbary and the Levant. O. ramòsa, Desf. fl. atl. 2. p. 60. Smith, fl. græc. t. 608. Orobánche ramòsa, floribus purpurascentibus, Bauh. pin. p. 88. Tourn. inst. p. 136.

Branched Phelipæa. Fl. Aug. Sept. Britain. Pl. $\frac{1}{2}$ to 1 foot.

3 P. cæru'lea (Meyer, verz. pflanz. p. 104.) root fibrous; scape simple, hairy; scales ovate-lanceolate, hairy; spikes loose, bluntish; bracteas linear-lanceolate, scarcely equal in length to the calyx; calyx 4-cleft, with the rudiment of a fifth, lanceolate, acuminated, exceeding the capsule; corolla hairy; tube cylindrical below, incurved in the middle: segments of the lower lip equal; filaments naked; stigma 2-lobed, yellowish. ♃. H. Native of Europe, on the borders of fields; as of Switzerland, Austria, Germany, South of France; also of Caucasus; in Britain, but rare, in grassy pastures near the sea; on the borders of fields in Hampshire; near Northreps, Norfolk. Orobánche cærùlea, Vill. dauph. 2. p. 406. Sutton, in Lin. trans. 4. p. 182. Smith, engl. bot. t. 423. Rchb. icon. t. 692. Orobánche purpùrea, Jacq. austr. t. 276. O. læ'vis, Lin. spec. 882. Orobánche purpuráscens, Gmel. syst. p. 954. t. 14. Orobánche ramòsa, β, With. arr. ed. 3d. p. 558. Orobánche Artimíseæ vulgàris, Vauch. mon. t. 14. P. cérnua, Pall. ind. taur.—Buxb. cent. 3. p. 2. t. 1. f. 2.—Gmel. sib. 3. p. 215. t. 46. f. 1. Scape simple, of a yellowish olive colour. Flowers bluish-violet. Stigma capitate.

FIG. 62.



Blue-flowered Phelipæa. Fl. July. Britain. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

4 P. I'ndica; plant branched, hairy; scape with a scale at each ramification only; calyx subunilateral, 5-cleft; spikes dense, clavate; corolla tubular: upper lip 2-lobed: lower lip 3-lobed; anthers woolly, 2-lobed: cells spurred; filaments smooth; stigma 2-lobed. ♃. S. Native of Hindostan, Oude, Nipaul, at the roots of Tobacco. Orobánche I'ndica, Roxb. fl. ind. 3. p. 27. This species is said to be nearly allied to *P. cérnua* and *P. ramòsa;* but differs from both, in the flowers being twice the size, but also blue. Root fibrous.

Indian Phelipæa. Pl. $\frac{1}{2}$ to 1 foot.

5 P. comòsa; scape nearly simple: scales hairy; calyx 4-lobed: lobes linear; corolla funnel-shaped, tubular, wide, 5-cleft: lobes roundish: lower one smaller: anthers at length pilose; stigma 2-lobed, rufescent. ♃. H. Native of the southern provinces of France, parasitical on the roots of many kinds of plants. Orobánche comòsa, Wallr. sched. crit. 1. p. 314. Orobánche vagabúnda, Vauch. mon. t. 15. Scape bluish, Corollas blue.

Comose Phelipæa. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

6 P. longiflòra; pubescent; floral scales ovate, obtuse; calyx 4-5-parted; spikes loose; corolla 3 times as long as the calyx: lower lip elongated; stamens downy. ♃. H. Native of Siberia, at the Volga. Orobánche longiflòra, Trev. in repert. soc. nat. berol. 1813. 2. p. 150. t. 2. f. 10, 11. Said by Bieb. to be a variety of *P. cærùlea.*

Long-flowered Phelipæa. Pl. 1 to $1\frac{1}{2}$ foot. ?

7 P. Ludovicia'na; clothed with powdery pubescence; scape low and simple; flowers and ovate scales subimbricated; calyx unequally and deeply 5-cleft; corolla recurved, 5-cleft; stamens inclosed, smooth. ♃. H. Native of North America, in sandy alluvial soil, around Fort Mandan abundant, but not apparently parasitical. Flowers very numerous and crowded, much longer than the bracteas. Segments of calyx long, linear, and acute. Upper lip of corolla bifid: lower one trifid and plaited, purple. Anthers whitish: lobes acute at the base.

Louisiana Phelipæa. Pl. 3 to 4 inches.

8 P. Califórnica; clothed with viscid down; scape simple; flowers corymbose; scales broad-lanceolate, acute, short, numerous at the base; corolla straight, tubular: upper lip flat, 2-lobed at apex: lower one trifid: segments distant, linear, acute; anthers sagittate, with a villous chink; stigma orbicular, peltate. ♃. H. Native of California, at Port St. Francisco. Orobánche Califórnica, Cham. et Schlecht. in Linnæa, 3. p. 134. Flowers pedicellate. Calyx bibracteate, campanulate, deeply 5-toothed; segments linear-narrow, dilated at the base.

Californian Phelipæa. Pl. $\frac{1}{4}$ foot.

9 P. compa'cta; scape simple, imbricated with scales, floriferous from the base; spike ovate, many-flowered; bracteas ovate; upper lip of corolla bifid: segments ovate, acute. ♃. H. Native on the shores of the Great Syrtus. Orobánche compácta, Viv. fl. libyc. p. 34. t. 15. f. 2. Scape thickened at the base. Floral scales one half the length of the flowers. Calyx 4-leaved; segments ovate, obtuse, sometimes truncate, 3

times shorter than the corolla. Corolla incurved, gradually dilated to the mouth; lobes of upper lip ovate, acute; segments of the lower lip roundish, undulated, nearly equal. Stamens length of tube; filaments smooth; anthers hairy from interwoven pili. Stigma capitately truncate.

Compact-flowered Phelipæa. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

10 P. Cape'nsis; glabrous, a little branched; flowers spicate; bracteas, floral scales, and calyxes obtuse; corolla tubular, incurved; upper lip bifid; calyx 4-5-parted. ♃. G. Native of the Cape of Good Hope. Orobánche squammàta, Thunb. prod. 97.

Cape Phelipæa. Pl. 1 foot.

Sect. II. Hæmodòron (from *αἱμα*, *haima*, blood; and *δωρον*, *doron*, a gift; in allusion to the flowers in most species being red.) Ledeb. fl. alt. 2. p. 461. Cistánthe, Hoffm. et Link, fl. port. vol. 2. Calyx semiquinquefid; lobes equal, obtuse. Anthers woolly all over. Capsule terminated by the permanent style, at length separating lengthwise. Scapes very simple.

11 P. sa'lsa (Meyer, in fl. ross. alt. ill. t. 376. Led. fl. alt. 2. p. 461.) plant rather woolly; floral scales ovate-lanceolate, longer than the calyx; bracteas nearly linear; lobes of calyx nearly orbicular, equal; corolla straightish, tubular, campanulate: lobes nearly equal, semiorbicular, spreading; style glabrous; stigma emarginate. ♃. H. Native of the Kirghisean Steppe, in saltish, argillaceous soil, beyond the Kurtschum, towards the east. Amblàtum Tatáricum, Fisch. in litt. Scape tuberously thickened at the base. Calyx glabrous. Corolla having the scent of violets, glabrous outside; tube white; limb beautiful violet; plicæ of the throat yellow, hairy. Filaments densely woolly at the base, and the whole surfaces of the anthers clothed with white wool.

Salt Phelipæa. Pl. $\frac{1}{2}$ to 1 foot.

12 P. fi'ssa (Meyer, verz. pflanz. p. 104.) plant woolly; floral scales lanceolate, obtuse, longer than the calyxes; upper or posterior segments of calyx linear: lower or anterior one spathformed, and 4-toothed: teeth obtuse; corolla violaceous, straightish, campanulately tubular, with nearly equal, semiorbicular, spreading lobes; filaments bearded at the base; anthers mucronulate, drawn out at top into a connective; style glabrous; stigma undivided. ♃. H. Native of Caucasus, near Baku. Allied to *P. sálsa*.

Cleft-calyxed Phelipæa. Pl. $\frac{1}{2}$ to 1 foot.

13 P. fla'va (Meyer, verz. pflanz. p. 104.) quite glabrous; scales linear-lanceolate: floral ones much longer than the corollas; calyx tubular, with rounded lobes; corolla yellow, incurved, tubularly campanulate, with spreading, nearly equal, ovate lobes; filaments pubescent at the base: anthers mucronulate, drawn out into a connective at top; style very glabrous; stigma subretuse. ♃. H. Native of Caucasus, along with *Convólvulus erinàceus*. Nearly allied to *P. lùtea*. Anthers sometimes resupinate.

Yellow-flowered Phelipæa. Pl. $\frac{1}{2}$ to 1 foot.

14 P. viola'cea (Desf. fl. atl. 2. p. 60. t. 145.) scape fleshy; scales lanceolate, bluntish, scattered, numerous; spike conical; bracteas coloured; calyx semiquinquefid: segments elliptic, obtuse; limb of corolla irregular, 5-cleft: lobes rounded; anthers villous; stigma thick, 2-lobed. ♃. H. Native of Barbary, in a sandy desert near Tozzer; and of Tripoli, on the sea shore. Orobánche Phelipæ'a, Willd. spec. 3. p. 352. Scapes simple, or branched at the base. Corollas size of those of *Antirrhìnum màjus*, violaceous; plicæ in the throat yellow, ex Desf., of two colours; that is, the tube is white, and the limb violet, ex Viv. fl. libyc.

Violaceous-flowered Phelipæa. Pl. $\frac{1}{2}$ to 1 foot.

15 P. lu'tea (Desf. atl. 2. p. 61. t. 146.) scape fleshy, furrowed; corolla arched, narrowed at the base. ♃. H. Native of Barbary, in humid, sandy places on the shores of the river Elhammah, near Mascar; and of Portugal. Orobánche tinctòria, Forsk. desc. p. 112. Vahl, symb. 2. p. 70. Phelipæ'a Lusitánica flore luteo, Tourn. cor. 47. Lathræ'a Phelipæ'a, Lin. spec. 844. Very nearly allied to the preceding; but differs in the corolla being yellow, in the tube being narrower at the base, and in the limb being widened below.

Yellow-flowered Phelipæa. Pl. $\frac{1}{2}$ to 1 foot.

16 P.? subacau'lis (Benth. scroph. ind. p. 55.) stem very short, thick, scaly; peduncles 3-4 on each stem, shorter than the scales, 1-flowered; calyx 6-7 lines long, tubular, inflated a little at the base, irregularly 4-5-toothed at apex; corolla $2\frac{1}{2}$ inches long: tube slender at the base, but widened at length into an ample dilated throat: limb short, and broadly somewhat bilabiate, 5-lobed; stamens 4, glabrous; anthers glabrous; cells spurred; stigma capitate;? capsule not seen. ♃. S. Native of the Indian Peninsula. In the Madras herbarium along with *Æginètia abbreviàta*.

Almost-stemless Phelipæa. Pl.?

Cult. Plants not cultivatable.

III. ANO'PLON (from α priv. and *ὁπλον*, *hoplon*, a shield; in reference to the scapes being without scales.) Wallr. diask. p. 78. Meyer, verz. pflanz. p. 103. Phelipæ'a species, Desf. Spreng. Orobánche species of authors.

Lin. syst. *Didynàmia*, *Angiospérmia*. Flowers hermaphrodite, bractless. Calyx campanulate, 5-cleft, sub-bilabiate; upper lip of corolla bifid: lower one trifid. Stigma capitate, quite entire, or sub-emarginate. Capsule 1-celled, 2-valved; valves dehiscing at top, combined at the base; placentas parietal, 2 to each valve.—Plants with the habit of *Orobánche*.

1 A. Tournefórtii; scape simple, villous, 1-flowered, naked, but involved in scale-like sheaths at the base, which rise from the root; lobes of corolla spreading, circinate. ♃. H. Native of Armenia. Phelipæ'a Tournefórtii, Desf. ann. mus. 10. p. 298. t. 21. Phelipæ'a orientàlis flore coccineo, Tourn. cor. p. 47. Calycine segments ovate-lanceolate, unequal. Corolla large, scarlet, with 2 large, bearded, black plicæ in the throat. Style recurved. Stigma capitate, entire.

Tournefort's Anoplon. Pl. $\frac{1}{2}$ foot.

2 A. Bieberstèinii (Meyer, verz. pflanz. p. 104.) scape simple, 1-flowered, remotely scaly; lobes of corolla equal, orbicular, spreading. ♃. H. Native of Tauria and Caucasus, in alpine regions, at the elevation of 800 to 1200 hexapods; also of Siberia, towards the Caspian sea. Phelipæ'a foliàta, Spreng. syst. 2. p. 818. Orobánche coccínea, Bieb. casp. p. 58. pl. rar. ross. 2. t. 56. Phelipæ'a coccínea, Pers. ench. 2. p. 181. Lathræ'a Phelipæ'a, Guild. itin. 1. p. 422. Calyx unequally 5-parted. Corolla inflated, 5-cleft, sub-bilabiate, scarlet.

Bieberstein's Anoplon. Pl. $\frac{1}{2}$ foot.

3 A. fasciula'tum; stem short and simple; peduncles many, naked, nearly terminal, and about the length of the stem; scales few, ovate, and concave, pubescent; lobes of corolla very short, rounded, and naked on the margins. ♃. H. Native in sandy alluvial soils around Fort Mandan. Orobánche fasciculàta, Nutt. gen. amer. 2. p. 59. Phelipæ'a fasciculàta, Spreng. syst. 2. p. 818. Stem clothed with powdery pubescence, terminating in 6 or more naked, filiform peduncles. Calyx campanulate, semiquinquefid; segments sublanceolate, acute. Corolla curved, tubular, pale purple: segments short: lower lip producing a grooved palate. Stamens smooth. Lobes of anthers parallel.

Fascicled Anoplon. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

4 A. biflòrum; stem very short, usually obsolete, mostly 2-flowered; peduncles scape-formed, naked; scales smooth, concave; lobes of corolla oblong-oval, with a pubescent, coloured margin. ♃. H. Native in shady woods throughout the Atlantic States, Nutt.; Carolina to Virginia, Pursh. Orobánche uniflòra, Lin. spec. 882. Pursh. fl. amer. sept. 2. 431. Orobánche biflòra, Nutt. gen. amer. 2. p. 59. Phelipæ'a biflòra, Spreng. syst. 2. p. 818. Calyx and corolla as in the preceding; but the lobes of the corolla are deeper, the whole yellowish white, the segments bordered with an azure blue line; plicæ in the throat yellow, as in the preceding. Stamens smooth. Anthers pubescent on the margins of the cells. Stigma bilamellate. Plant of a tan-colour.

Two-flowered Anoplon. Pl. $\frac{1}{4}$ foot.

Cult. Plants not cultivatable.

IV. BOSCHNIA'KIA (in memory of —— Boschniak, a Russian botanist.) Meyer, mss. ex Bongard, in mem. acad. imp. st. petersb. 2. p. 157. Orobánche species, Cham. et Schlecht.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx unequally 5-toothed, bractless. Corolla bilabiate; tube short; upper lip arched, stretched out, bifid: lower lip short, somewhat 3-lobed. Stamens exserted; cells of anthers mutic at the base. Style tubular at top, sub-bilabiate, terminated by a stigmatose margin. Capsule 1-celled, dehiscing laterally, with a solitary, parietal placentæ to each valve.—A plant with the habit *Orobánche*, from which genus it is principally distinguished by the capsule dehiscing laterally, by the style being tubular at top, and somewhat bilabiate, terminated by a stigmatose margin, and by the placentas in both valves being solitary and very distant.

1 B. gla'bra (Meyer, mss. ex Bongard, l. c.) ♃. H. Native of Siberia, at the Lena; Kamtschatka; Chamisso's Island; Island of Sitka, &c. Orobánche Róssica, Cham. et Schlecht, in Linnæa, 3. p. 132.—Gmel. sib. 3. p. 216. t. 46. f. 2. Tuber naked, usually with many scapes rising from it. Spikes dense. Floral scales, calyxes, and corollas ciliated. Plant reddish. Anthers glabrous. The scales of the scape are shorter, and less pergamaceous than those of *Canópholis Americànus*.

Glabrous Boschniakia. Pl. $\frac{1}{2}$ to 1 foot.

Cult. Plant uncultivatable.

V. CANO'PHOLIS (from *κανων, kanon*, a rule; and *φολις, pholis*, a scale; the scales are imbricated in 4 rows.) Wallr. diask. p. 78. Orobánche species, Lin.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx ventricose, 5-parted, unequal, bibracteate. Corolla incurved, bilabiate: upper lip entire: lower lip 2-parted, erect. Stamens exserted. Stigma capitate. Capsule 1-celled.—A parasitical plant, with the habit of *Orobánche*. Scapes simple. Corollas nearly white.

1 C. America'nus (Wallr. l. c.) ♃. H. Native from Carolina to Pennsylvania, often growing in vast clusters at the roots of trees, in moist shady forests. Orobánche Americàna, Lin. syst. 573. mant. p. 88. Pursh. fl. amer. sept. 2. p. 431. Plant of a brownish yellow colour, glabrous. Scapes simple. Scales oval-lanceolate, imbricate. Spike dense, imbricate, glabrous; bracteas equal in length to the tube of the corolla.

American Canopholis. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

Cult. An uncultivatable plant.

VI. EPIPHE'GUS (from *επι, epi*, upon; and *φηγος, phegos*, beech; the plant is parasitical on the roots of beech.) Nutt. gen. amer. 2. p. 60. under Epifàgus. Orobánche species of Lin.

Lin. syst. *Didynàmia, Angiospérmia.* Flowers polygamous. Calyx short, 5-toothed. Corolla of the infertile flower ringent, compressed, 4-cleft: lower lip flat; fertile flower minute, 4-toothed, deciduous. Capsule truncate, oblique, imperfectly 2-valved, opening only on one side.—A rather fleshy, herbaceous plant, parasitical only on the roots of beech. Stem virgately branched; branches simple, every where distantly floriferous. Scales small, and remote, commencing from the extremity of the root; upper parts of the branches producing perfect flowers, but abortive fruit; lower imperfectly formed flowers fructiferous. Capsule coriaceous and small, the character of *Melampy'rum*, but truncated, and at length extending by moisture in the form of a cup.

1 E. America'nus (Nutt. l. c.) ♃. H. Native of every part of North America, equally indigenous. Orobánche Virginiàna, Lin. spec. 882.—Mor. hist. 3. p. 502. sect. 12. t. 16. f. 9. ? Root tuberous, fleshy, scaly. Upper lip of corolla emarginate: lower one 3-toothed, white, with dark, but bright purple stripes; plicæ in the throat wanting. Stamens partly exserted, smooth. Anthers pubescent.

American Beech Drops. Pl. 1 to $1\frac{1}{2}$ foot.

Cult. Plant not cultivatable.

VII. LATHRÆ'A (from *λαθραιος, lathraios*, clandestine, which is from *λαθρα, lathra*, clam.) Lin. gen. no. 743. Schreb. gen. no. 1000. Gærtn. fruct. 1. p. 242. t. 52. Lam. ill. t. 551. f. 1. Juss. gen. 102. ed. Usteri, p. 114. Clandestìna, Tourn. inst. 952. Squammària, Scop.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, 4-cleft. Corolla tubular, bilabiate: upper lip concave, galeate: lower one trifid, reflexed. Stamens 4, didynamous, hidden by the upper lip. Anthers connected. Ovarium glandular at the base. Stigma 2-lobed. Capsule covered by the calyx, acuminated, 1-celled, elastically 2-valved; placentas parietal, 2 to each valve. Seeds few, globose.—Succulent, leafless, scaly herbs, parasitical on the roots of trees. Flowers solitary, or spicate, and unilateral.

1 L. clandesti'na (Lin. spec. 843.) stem branched almost under the earth; flowers erect, solitary. ♃. H. Native of Europe, in shady places, parasitical on the roots of trees, as of France, Pyrenees, and Italy. D. C. fl. fr. 3. p. 491. Lam. ill. 551. f. 1. Clandestìna rectiflòra, Lam. Clandestìna flore subcæruleo, Tourn. inst. 952. Orobánche montàna, Rudb. elys. 2. p. 233. f. 14. Dentària aphýllos, Ray, hist. 1230.—Mor. hist. 3. p. 503. sect. 12. t. 16. f. 15. The stem bears a corymb under ground, so that solitary flowers only appear above ground on each branch. Flowers large, blue. This is probably a very distinct genus from the following.

Clandestine Toothwort. Pl. parasitical.

2 L. squamma'ria (Lin. spec. 844.) stem quite simple; flowers spicate, unilateral, disposed in 2 rows; corollas pendulous. ♃. H. Native of most parts of Europe, in woods, parasitical on the roots of trees, as elms, hazels, beech, generally almost covered by the fallen leaves; plentiful in some parts of Britain; it has also been discovered on the Himalaya by Royle. Gærtn. fruct. 1. p. 242. t. 52. Smith, engl. bot. t. 50. Fl. dan. 136. Clandestìna penduliflòra, Lam.—Blackw. t. 430. Squammària Orobánche, Scop. carn. no. 760.—Riv. mon. irr. t. 89. f. 2. Amblàtum, Dod. pempt. 553. f. 1. Root articulated, branched, and surrounded by white scales. Stem naked, except perhaps furnished with one or two oval scales. Bracteas or floral scales

roundish-oval, large, reddish on one side of each pedicel. Calyx hairy, whitish; segments equal, bluntish. Corolla pale purple, or flesh-coloured: lower lip white: upper one short, and rather truncate. The English name Toothwort is derived from the resemblance of the scaly roots to the human fore-teeth, and hence it was fancied formerly to be good for the tooth-ache.

Scaly-rooted Toothwort. Fl. April. Britain. Pl. ½ to 1 foot.

Cult. Uncultivatable plants.

VIII. HYOBA'NCHE (from ὑς ὑος, *hys hyos*, a pig; and αγχω, *ancho*, to strangle; the plant is said to be hurtful to pigs.) Lin. gen. ed. Schreb. no. 1046. Juss. gen. p. 101. ed. Usteri, p. 112.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 7-parted; segments linear. Corolla tubular: lower lip wanting: superior one arched, emarginate. Stamens 4, didynamous, inserted at the bottom of the corolla; anthers ovate, nutant. Stigma emarginate. Capsule 2-celled, ? many-seeded.—A parasitical herb, with the habit of *Orobánche*. Scapes simple, thick, scaly. Spike fleshy, dense, thick; floral scales imbricate, villous.

1 H. sangui'nea (Lin. syst. 574. mant. 253.) ♃. G. Native of the Cape of Good Hope, parasitical on the roots of shrubs.—Petiv. gaz. t. 37. f. 4. Spike villous. The whole plant is blood red. Flowers purple. Plant of a blood red colour.

Bloody Hyobanche. Pl. ½ foot.

Cult. An uncultivatable plant.

IX. ALE'CTRA (derivation unknown to us.) Thunb. nov. gen. p. 81. Schreb. gen. no. 1066. Pers. ench. 2. p. 182.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx bilabiate: upper lip 2-cleft: lower one 3-cleft. Corolla tubular, widened upwards; limb 5-parted; segments broad ovate, obtuse. Stamens 4, didynamous, inclosed; filaments bearded; anthers twin. Stigma a little thicker than the style, striated on both sides. Capsule ovate, obtuse, twin, 2-celled, 2-valved. Seeds solitary in the cells, ovate.—Plant with the habit of *Orobánche*, and grows black on drying.

1 A. Cape'nsis (Thunb. nov. gen. p. 82.) ⊙. G. Native of the Cape of Good Hope, in grassy places near rivers. Stem or scape simple. Scales ovate, obtuse, villous, erect, becoming gradually larger as they ascend the stem. Spike terminal, leafy, or scaly, flowering by degrees. Corollas yellow, streaked with purple.

Cape Alectra. Fl. Nov. Dec. Pl. ½ to 1 foot.

Cult. An uncultivatable plant.

X. ÆGINE'TIA (named in memory of Paul Æginette, a physician, who flourished in the seventh century.) Roxb. fl. ind. 3. p. 30. cor. 1. p. 63. t. 91. Wall. pl. rar. asiat. 3. p. 13. t. 319. Orobánche species, Lin.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx spath-formed, one-leaved. Corolla campanulate, 5-parted, nearly equal; tube erect at bottom, but pitcher-formed above, and bent. Stamens 4, didynamous; anthers twin, united by pairs. Stigma capitate. Capsule 1-celled, ovate large, containing various convolute, parietal placentas, and numerous very small seeds.—Small, rush-like, naked, annual plants, with smooth, naked, intricately interwoven, fleshy roots. Scapes with a few scales, except at the base, which is involved in a small sheath.

1 Æ. I'ndica (Roxb. cor. 1. p. 63. t. 91.) scape elongated, nearly simple, naked, 1-flowered; limb of corolla shortly 4-cleft. ♃. S. Native of Nipaul, Silhet, Circars, Taong Dong, Tavoy, Wall. Deyra Dhoun, Kidarkonta, Kheree Pass, Royle. Orobánche Æginètia, Lin. spec. p. 883.—Rheed. mal. 11. p. 97. t. 47. Corolla curved, purple. Calyx yellowish.

Indian Æginetia. Pl.

2 Æ. abbrevia'ta (Hamilt. mss. ex Benth. scroph. ind. p. 55.) stem very short, branched, scaly; corolla large; limb bilabiate: lower lip amply 3-lobed. ♃. G. Native of the Indian Peninsula, Silhet, Rangoon, Prome. Wall. cat. no. 3965.

Short-stemmed Æginetia. Pl.

Cult. Uncultivatable plants.

XI. AMBLA'TUM (meaning unknown to us.) Tourn. cor. 48. Lathræ'a species, Lin. Orobánche species.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, 4-cleft. Corolla tubular, bilabiate, both lips entire: upper one galeate. Stamens 4, didynamous; anthers connected. Stigma truncate. Ovarium glandular at the base. Capsule 1-celled, 2-valved; placentas parietal, 2 in each valve.—An herb with the habit of *Lathræ'a*, or *Orobánche*.

1 A. Tournefórtii; ♃. H. Native of the Levant. Lathræ'a Amblàtum, Lin. spec. 844. Amblàtum orientale flore purpurascente, Tour. cor. p. 48.

Tourneforts' Amblatum. Pl. ½ to 1 foot. ?

Cult. An uncultivatable plant.

Tribe II.

OBOLARIE'Æ (this tribe contains plants agreeing with *Obolària* in being terrestrial, not parasitical.) D. Don, in edinb. phil. journ. vol. 37. p. 113. July, 1835.

XII. OBOLA'RIA (from *obolus*, a small coin; in allusion to the bracteas being round, like a piece of money.) Lin. gen. no. 778. Schreb. gen. no. 1044. Juss. gen. 101. ed. Usteri. p. 113. Nutt. gen. amer. 1. p. 103.

Lin. syst. *Didynàmia, Angiospérmia*, or *Tetrándria, Monogynia.* Calyx none, or in the form of two bracteas. Corolla campanulate, 4-cleft; segments entire (the margins sometimes crenulately torn). Stamens 4, equal, or nearly so, proceeding from the clefts of the corolla. Stigma emarginate. Capsule ovate, 1-celled, 2-valved, many-seeded. Seeds minute.—A very small vernal plant, with a simple stem, and opposite leaves. Flowers terminal, sessile, and marcescent, collected by pairs, or by threes, towards the summit of the stem. Stigma minutely bifid.

1 O. virgi'nica (Lin. spec. 881. Nutt. gen. 1. p. 103.) ♃. ? H. Native of Pennsylvania, in the neighbourhood of Philadelphia rare; and near West Chester; abundant in the shady forests of Lake Erie.—Mor. hist. 3. p. 504. sect. 12. t. 16. f. 33.—Pluk. alm. 209. f. 6. Plant about 3-4 inches high, with a small, branching root. Leaves thick, green, almost fleshy, frequently purplish on the under side. Flowers bluish-white, or pale red, supported by foliaceous bracteas.

Virginian Obolaria. Pl. 3-4 inches.

Cult. For culture and propagation see *Pediculàris*, p. 626.

XIII. TO'ZZIA (so named by Micheli, in honour of Bruno Tozzi, Abbot of Vallambrosa, F.R.S., Micheli's companion in his botanical excursions, in one of which he found this plant.) Micheli, gen. p. 20. t. 16. Lin. gen. no. 745. Schreb. gen. no. 1002. Juss. gen. 97. ed. Usteri, p. 109. Lam. ill. t. 522.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx campanulate, sub-bilabiate, 4-toothed, 5-toothed. ? Corolla tubular; limb bilabiate, nearly equal: upper lip 2-lobed: lower one 3-lobed. Stamens 4, didynamous; cells of anthers awned at the base. Stigma capitate. Ovarium 2-celled; cells 2-seeded; ovula fixed their whole length, free at bottom. Capsule spherical, 2-valved, 1-seeded by abortion.—An erect herb, having the stem scaly at the base, as in *Orobánche*. Leaves opposite. Flowers solitary, axillary, pedicellate.

1 T. alpi'na (Lin. spec. 844.) stem weak; flowers axillary, disposed into an interrupted, leafy spike. ♃. H. Native of the Alps of Jura, and the Pyrenees, Switzerland, Austria, Italy, in rough, moist places. D. C. fl. fr. 3. p. 487. Lam. ill. t. 522. Jacq. austr. 2. t. 165.—Mentz. pug. t. 9. f. 3, 4.—Mor. hist. 3. sect. 12. t. 16.—Col. ecphr. 2. p. 49. t. 50. Root formed of many scales (fig. 63. b.) Stem tetragonal, branched. The whole habit succulent and tender. Leaves roundish, bluntly notched, pale. Corollas yellow; the 3 lower segments spotted of a deeper yellow (fig. 63.)

FIG. 63.

Alpine Tozzia. Pl.

Cult. For culture and propagation see *Pediculàris*, p. 626.

Order CLXXII. CHELO'NEÆ (this order contains plants agreeing with *Chelòne* in the characters given below.) D. Don, in edinb. phil. journ. vol. 19. no. 37. July, 1835. Genera of Scrophularíneæ of authors.

Calyx 5-parted, permanent. Corolla tubular, hypogynous, irregular, deciduous; limb 5-lobed. Stamens 4, didynamous, fertile, with the rudiment of a fifth; anthers 2-celled, mutic; cells confluent at apex. Stigma undivided. Capsule 2-celled, many-seeded. Seeds erect, angular, or compressed, with membranous edges. Albumen fleshy. Embryo erect, foliaceous.—Herbs or under shrubs natives of North America. Leaves opposite. Inflorescence panicled, or spicate. This order approaches *Bignoniàceæ* and *Pedalíneæ*, but is readily distinguished from both in its many-parted calyx, undivided stigma, and erect, albuminose seeds. All the plants contained in this order are extremely showy.—This group is well entitled to be retained apart from *Scrophularíneæ*, on account of the greater degree of developement of the embryo, its compressed, winged seeds, and of the presence of a rudimentary stamen, all of which characters bring it near to *Pedalíneæ* and *Bignoniàceæ*, from which it is distinguished by its albuminous seeds.

Synopsis of the genera.

1 Pentste'mon. Seed angular.

2 Chelòne. Seed surrounded by a membranous margin.

I. PENTSTE'MON (from πεντε, *pente*, five; and στημων, *stemon*, a stamen; in reference to the 4 fertile stamens, and the one sterile.) Micheli, gen. 14. and in act. nat. cur. 8. append. 214. Schreb. gen. no. 1758. p. 808. Ait. hort. kew. 3. p. 511. Nutt. gen. amer. 2. p. 51. Chelòne, Spreng.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx 5-parted, with a distant, solitary bractea. Corolla ventricose, bilabiate. Stamens didynamous, with the rudiment of the fifth, which is usually filiform and bearded on the upper side; anthers separate, usually glabrous. Capsule ovate, 2-celled, 2-valved, many-seeded. Seeds angular.—Herbs or under shrubs, natives of North America. Leaves opposite, smooth, acuminated, entire, or serrated. Flowers paniculately racemose, purple, blue, rose-coloured, white, or pale yellow, rarely scarlet. The corolla is usually bilabiate, oblong, and tubular: the upper lip shorter, 2-lobed, and coarctate; the orifice generally pubescent; in several species the corolla appears campanulate, and with the border almost equally 5-lobed; in these the sterile filament is less conspicuous. The anthers in some species are woolly or hairy.

Sect. I. Ve'ræ (this section contains the true species of the genus.) Anthers glabrous.

§ 1. Campanula'tæ. Corolla sub-campanulate: limb almost equally 5-lobed.

1 P. crista'tum (Fras. cat. 1813. Nutt. gen. amer. 2. p. 52.) pubescent; radical leaves lanceolate, denticulated: cauline ones sessile, linear-oblong, sub-lanceolate; peduncles axillary and terminal, 1-3-flowered, very short; calyx rather hairy: segments linear lanceolate, acuminated; sterile filament subexserted, very conspicuously and crestedly bearded, as well as the orifice of the lower lip. ♃. H. Native of America, on arid, naked, argillaceous hills, from the confluence of the Teeton river and the Missouri to the mountains. P. erianthèra, Pursh, fl. amer. sept. 2. p. 737. Chelòne cristàta, Spreng. syst. 2. p. 813. Corolla large and violaceous, ventricose; border 5-lobed, spreading.

Crested Pentstemon. Fl. Aug. Sept. Clt. 1811. Pl. ½ to 1 foot.

2 P. cæru'leum (Nutt. gen. amer. 2. p. 52.) plant smooth, and glaucous; radical leaves sub-linear: cauline ones sub-lanceolate-linear, all entire and sessile, minutely pubescent on the margin; segments of the calyx lanceolate, acute; peduncles many-flowered; sterile filament short and bearded above. ♃. H. Native on the plains of the Missouri, near Fort Mandan, and the Indian towns. P. angustifòlium, Fraser, cat. 1813. Pursh, fl. amer. sept. 2. p. 738. Chelòne cærùlea, Spreng. Corollas sub-campanulate, azure blue.

Blue-flowered Pentstemon. Fl. July, Sept. Clt. 1811. Pl. 1½ foot.

3 P. a'lbidum (Nutt. gen. amer. 2. p. 53.) dwarf; leaves ovate-lanceolate, sub-serrulated, smooth, and sessile; flowers partly fascicled, axillary, and terminal; sterile filament slender, and interruptedly bearded; corolla internally smooth and partly tubular, with an almost equally 5-cleft, spreading limb; calyx downy, with linear-lanceolate segments. ♃. H. Native on the plains of the Missouri, common from the confluence of the river Platte to the mountains. P. teretiflòra, Fraser, cat. 1813. Stems rather angular. Leaves approximate. Flowers usually white.

Whitish-flowered Pentstemon. Fl. June, Sept. Clt. 1823. Pl. ½ to ¾ foot.

4 P. grandiflòrum (Fras. cat. 1813. Nutt. gen. amer. 2. p. 52.) smooth and glaucous; leaves entire: radical ones suboval: cauline stem-clasping, roundish-oval, with an abrupt point; flowers large, mostly solitary and axillary; corolla campanulate, with a 5-lobed, spreading limb; sterile filament partly pubescent at the summit. ♃. H. Native of America, on the plains of the Missouri; common from the confluence of the river Platte to the mountains; also near the prairie du chien Mississippi. P. Bradbùrii, Pursh, 2. p. 738. Chelòne Bradbùrii, Spreng. A beautiful species. Flowers variously tinged, as large as those of *Digitàlis purpùrea*, which they not unaptly resemble.

Great-flowered Pentstemon. Fl. July, Sept. Clt. 1811. Pl. 2 to 3 feet.

5 P. speciòsum (Dougl. in bot. reg. t. 1270.) glaucous, gla-

brous; leaves quite entire: radical ones spatulate: cauline ones lanceolate, sub-undulated, sessile; flowers verticillately panicled; lobes of corolla nearly equal; sterile filament quite glabrous. ♃. H. Native of North-West America, on the banks of the Spokan river. Douglas, D. Don, in Sweet, fl. gard. n. s. t. 259. Calycine segments equal, sub-imbricate. Flowers very showy, in axillary, many-flowered cymes, the whole forming a pyramidal panicle. Corolla sky blue, varying to red, about an inch long.

Showy Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 2 to 3 feet.

6 P. ACUMINA'TUM (Dougl. in bot. reg. t. 1285.) ascending, glabrous, and very glaucous; radical leaves ovate-oblong, on long petioles, quite entire, rather coriaceous: cauline leaves and bracteas cordate, acuminated, sessile, stem-clasping; fascicles of flowers on short peduncles; calycine segments acuminated, quite glabrous; corolla with a funnel-shaped tube, and an inflated throat; segments of the limb broad, retuse. ♃. H. Native of North-West America, in barren, sandy plains on the Columbia river. Corollas purple, bordered with lively blue, rivalling those of *P. speciòsum*. Radical leaves tufted. Sterile filament shorter than the tube of the corolla, pilose, and hooked at top.

Acuminated-leaved Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 1 to 1½ foot.

7 P. PU'MILUM (Nutt. in journ. acad. nat. sc. phil. vol. 7. p. 46.) puberulous, rather tufted; leaves lanceolate-linear, acute, entire; stems very short, few-flowered; flowers rather large, glabrous; calycine segments lanceolate, acuminated; sterile filament bearded at top. ♃. H. Native near the sources of the Columbia river, on the borders of the little Goddin river. Root large. Stem not more than 3-4 inches high. Flowers large.

Dwarf Pentstemon. Pl. ¼ to ½ foot.

8 P. COBÆ'A (Nutt. journ. acad. nat. sc. phil. 7. p. 182.) clothed with glandular pubescence; leaves sharply serrulated, shining: radical ones lanceolate, petiolate: cauline ones ovate: ultimate ones half stem-clasping; throat of corolla inflated, naked; calycine segments ovate; sterile filament bearded. ♃. H. Native of North America, in the sterile and denudated portions of the prairies of Red River, in calcareous soil; and of the interior of Texas. D. Don, in Sweet, fl. gard. n. s. t. 348. Hook. bot. mag. t. 3465. Peduncles 3-5-flowered, the whole forming a terminal panicle. Leaves broadish, and thick. Calyx clothed with viscid down. Corolla large, pale purple, marked more or less with red streaks.

Cobæa-flowered Pentstemon. Fl. May, Sept. Clt. 1835. Pl. 2 to 3 feet.

9 P. DIGITA'LIS (Nutt. in amer. phil. trans. n. s. vol. 5. p. 181.) quite glabrous; cauline leaves lanceolate, acuminated, repandly denticulated; calyx clammy, with acuminated reflexed segments; corolla large, subcampanulate; sterile filament bearded at top. ♃. H. Native of the Arkansas, in wet woods and prairies common. Sweet, fl. gard. t. 120. Said to be allied to *P. campanulàtum*. Leaves broad. Panicle naked. Ultimate branches and calyxes clothed with viscid down. Corolla pure white, and downy; the tube exserted; orifice inflated, subcampanulate, and terete; the upper lip a little shorter than the lower, and coarctate: the lower one 3-lobed and dilated.

Foxglove-flowered Pentstemon. Fl. June, Sept. Clt. 1824. Pl. 1½ to 2 feet.

§ 2. *Flowers appearing as if they were verticillate. Corolla bilabiate.*

10 P. TUBIFLÒRUM (Nutt. in amer. phil. trans. n. s. vol. 5. p. 181.) leaves ovate, connate, denticulated, glabrous; stem tall, nearly naked; calyx and corolla clothed with clammy down; calycine segments ovate; corolla tube-formed: limb villous inside; sterile filament bearded. ♃. H. Native of the Arkansas, in wettish prairies from Fort Smith to Red river. Radical leaves elliptic-oblong, entire, and smooth: cauline ones sinuated towards the base of the stem: lower ones oblong-ovate. The cauline leaves are so small and remote as to give the stem the appearance of being naked. Corollas pure white; the whole orifice and tube villous. This is a very beautiful species, with the flowers rather small and crowded, as if it were in verticillate clusters.

Tube-flowered Pentstemon. Pl. 2 to 3 feet.

11 P. OVA'TUM (Dougl. in. bot. mag. 2903.) flowers, stems, and peduncles, clothed with glandular hairs; leaves ovate-cordate, stem-clasping, glabrous, coarsely toothed: lower ones on long petioles; peduncles axillary, subcorymbose: upper ones short, and appearing as if they were verticillate; corolla tubular; sterile filament bearded at top, and unidentate at the base. ♃. H. Native of North-west America, among limestone rocks on the high mountains about the grand rapids of the Columbia. D. Don, in Sweet, fl. gard. n. s. t. 211. Stem tetragonal upwards. Radical leaves on long petioles. Calyx glandular. Corollas of a brilliant purple blue, glandular externally.

Ovate-leaved Pentstemon. Fl. June, Sept. Clt. 1826. Pl. 4 feet.

12 P. PRÓCERUM (Dougl. mss. Graham, in edinb. phil. journ. july, 1829. Hook. bot. mag. 2954.) stem erect, nearly simple; leaves lanceolate, quite entire: lower ones petiolate: superior ones sessile, subconnate; flowers verticillately spicate; whorles distant; segments membranaceously jagged; sterile filament toothless, bearded on the upper side at the top. ♃. H. Native of North-west America, and the Rocky Mountains. Douglas, Drummond, and Dr. Richardson. Plant glabrous. Flowers in crowded, opposite racemes, from the upper and smaller leaves, and standing so close to the stem that they seem verticillate. Corolla small, of a rich veined purple, glabrous.

Tall Pentstemon. Fl. July, Sept. Clt. 1827. Pl. 1 to 2 feet.

13 P. CONFE'RTUM (Dougl. in. bot. reg. 1260.) leaves quite entire, glabrous: radical ones spatulate, acuminated, on long petioles: superior one sessile, ovate, acuminated; peduncles axillary, short, bearing each a cyme of crowded flowers, which appear verticillate; upper floral leaves reduced to jagged or serrated bracteas; calycine segments acute, mucronate, jagged or serrated; corolla a little longer than the calyx; sterile filament bearded. ♃. H. Native of North-west America, in open places of mountainous pine forests, in dry sandy soils between the Salmon river and the Kettle falls on the Columbia river; also in the valleys of the Rocky Mountains. Stem ascending. Cauline leaves and bracteas under the peduncles, somewhat stem-clasping. Corolla tubular, subventricose, pale cream-coloured, glabrous.

Crowded-flowered Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 1 to 2 feet.

14 P. MICRA'NTHUM (Nutt. in journ. acad. nat. sc. phil. vol. 7. p. 45.) smooth; leaves linear-lanceolate, acute, half stem-clasping, quite entire; flowers small, glomerate; interruptedly and spicately panicled; corolla rather tubular, bearded inside; sterile filament minute, hardly bearded; calycine segments lanceolate, acute. ♃. H. Native of North America, among the Rocky Mountains, in the valleys near the sources of the Columbia. Stems slender. Flowers purple, very small, collected into about 3-4 clusters. Corolla tubular, a little curved, with an almost regular, 5-lobed border.

Small-flowered Pentstemon. Pl. 1 to 1½ foot.

15 P. PRUINÒSUM (Dougl. in bot. reg. t. 1280.) leaves grey: radical ones petiolate, entire, or toothed: cauline leaves tooth-

ed, sessile; superior bracteas entire; flowers verticillate; calyxes and bracteas villous; corolla glabrous, twice as long as the calyx; segments of the limb roundish, entire. ♃. H. Native of North-west America, near the Priest's Rapid, on the Columbia river. Plant pruinose. Radical leaves tufted, downy. Peduncles many-flowered, short. Corollas blue, rivalling in brilliancy those of *P. speciòsum.*

Pruinose Pentstemon. Fl. June, Sept. Clt. 1827. Pl. ½ to 1½ foot.

§ 3. *Corolla bilabiate. Upper lip of corolla compressed; the lower plaited.*

16 P. GLAU'CUM (Graham, in edinb. phil. journ. 1829. p. 348. Lindl. bot. reg. 1286.) stem smoothish; leaves all glabrous: radical ones lanceolate, petiolate, quite entire, or denticulated: cauline leaves and bracteas ovate-lanceolate, sessile, stem-clasping; panicle thyrsoid; corollas inflated, and are, as well as the calyxes, clothed with glandular down outside; sterile filament stretched out, bearded. ♃. H. Native of Arctic America. P. gràcile, Hook. bot. mag. 2945, description, but not the figure. Corollas bluish-purple, with a pale or whitish throat.

Glaucous Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 1 foot.

17 P. ATTENUA'TUM (Dougl. in bot. reg. 1295.) stem erect, pilose at top; radical leaves elliptic, acute, petiolate: superior ones ovate-oblong, stem-clasping, sessile, all quite glabrous and quite entire; panicle strict, and are, as well as the calyxes and corollas, downy; capsule glabrous; sterile filament bearded. ♃. H. Native of North-West America, on the mountains of Lewis and Clark's river. Leaves dark green: radical ones sometimes cuneated and cuspidate. Corollas cream-coloured.

Attenuated-leaved Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 1½ to 2 feet.

18 P. DEU'STUM (Dougl. in. bot. reg. 1318.) stem almost simple, ascending, glabrous; leaves deeply toothed: radical ones ovate-oblong: those near them spatulate; cauline leaves oblong, acute, sessile: upper ones almost quite entire; calyxes glabrous; limb of corolla flat, with retuse segments: upper ones the smallest. ♃. H. Native of North-west America, on scorched rocky plains in the interior. Peduncles axillary, many-flowered, the whole forming a panicle. Radical leaves on long petioles: upper cauline leaves half stem-clasping, all coarsely and unequally toothed. Corollas cream-coloured. Calyxes and corollas glabrous.

Burned Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 1 foot.

19 P. DIFFU'SUM (Dougl. in bot. reg. t. 1132.) stem branched; leaves ovate-oblong, glabrous, unequally serrated; peduncles axillary, many-flowered, the whole forming a terminal panicle; calyx turbinate, with jagged segments; sterile filament length of tube, bearded. ♃. H. Native of North-west America, in the district around the mouth of the Columbia river. Root creeping. Stems decumbent, radicant, branched, purple. Leaves evergreen. Inflorescence downy. Corolla purple, an inch long; upper lip retuse.

Diffuse Pentstemon. Fl. June, Oct. Clt. 1827. Pl. 1½ to 2 feet.

20 P. STATICIFÒLIUM (Lindl. bot. reg. 1779.) stems ascending, pubescent; radical leaves oblong-lanceolate, narrowed to the base, entire, glabrous; cauline leaves sessile, cordate-ovate, toothed, pubescent; cymes nearly sessile, tomentose; corolla ventricose, pubescent. ♃. H. Native of California. Radical leaves 7 inches long. Corolla violet, an inch long. The cymes being sessile, the flowers appear somewhat verticillate.

Statice-leaved Pentstemon. Fl. June, Oct. Clt. 1834. Pl. 2 feet.

21 P. CORDIFÒLIUM (Benth. in scroph. ind. p. 7.) stem pruinose; leaves on short petioles, broad, ovate, obtuse, quite entire, cordate at the base, bullate, nerved beneath; panicle loose; corollas tubular, deeply bilabiate; upper lip emarginate: lower one trifid; sterile filament bearded. ♃. H. Native of California, Douglas.

Heart-leaved Pentstemon. Pl. ?

22 P. TRIPHY'LLUM (Dougl. in bot. reg. 1245.) humble; leaves 3-4 in a whorl, glabrous, bluntly cut: lower ones oblong: floral ones entire, linear-lanceolate, usually alternate; peduncles 2-3-flowered, and are, as well as the calyxes, clothed with cobwebbed down; segments of corolla oblong, obtuse: those of the lower lip equal; sterile filament bearded. ♃. H. Native of North-west America, on the blue mountains, in the district watered by the river Columbia; and of Northern California. Stem branched. Flowers sparingly panicled. Calycine segments ovate, acute. Corolla ventricose at the base, pale red.

Three-leaved Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 1 to 1½ foot.

23 P. GRA'CILE (Nutt. gen. amer. 2. p. 52.) stem smooth and slender; leaves smooth, linear, acute, half stem-clasping, sharply serrulated; panicle simple, few-flowered; sterile filament bearded longitudinally; corolla smooth inside; segments of the calyx linear-oblong. ♃. H. Native of North America, from the Arikarees to Fort Mandan, in depressed soils. Hook. bot. mag. 2945. figure, but not the description. Corolla small, tubular, blue, ex bot. mag.; pale purple, ex Nutt. Radical leaves lanceolate-ovate, entire: cauline ones pungently serrulated.

Slender Pentstemon. Fl. June, Sept. Clt. 1824. Pl. 1 foot.

24 P. PUBE'SCENS (Ait. hort. kew. 2. p. 360. Sims, bot. mag. 1424.) stem pubescent; leaves repandly serrulated, lanceolate-oblong, sessile, stem-clasping; flowers in panicles; the sterile filament bearded from the summit below the middle. ♃. H. Native of North America, in the Southern States, as in Carolina and Georgia. Chelòne Pentstèmon, Lin. spec. 850. Asarìna erécta, Mill. dict. no. 2. fig. t. 252.—Mor. hist. 3. p. 417. sect. 11. t. 21. f. 2. Corollas pale purple.

Downy Pentstemon. Fl. June, Sept. Clt. 1758. Pl. 2 feet.

25 P. HIRSU'TUM (Willd. spec. 3. p. 227.) stem and leaves hairy; leaves acuminated, repandly serrulated; sterile filament long, very villous at top; orifice of the lower lip of corolla pubescent. ♃. H. Native of Virginia. P. pubéscens, β, angustifòlia, Martyn and Mill. no. 2. Chelòne hirsùta, Lin. spec. 849. Mill. dict. no. 3.—Mor. hist. 3. p. 417. sect. 11. t. 21. f. 3.—Gron. virg. 71-93. 2, 3. Flowers pale purple. Perhaps only a variety of *P. pubéscens.*

Hairy Pentstemon. Fl. Aug. Sept. Clt. 1758. Pl. 1 foot.

26 P. LÆVIGA'TUM (Ait. hort. kew. 2. p. 361. Sims, bot. mag. 1425.) glabrous; lower leaves quite entire, petiolate: the rest repandly serrulated, sessile, or half stem-clasping, lanceolate; sterile filament bearded at top; orifice of the lower lip of corolla pubescent. ♃. H. Native of North America. Chelòne Penstèmon, J. F. Mill. icon. 4. Arduin, spec. 1. p. 14. t. 5.—Mor. hist. 2. p. 479. sect. 5. t. 8. f. 6. Flowers panicled. Corollas purple.

Smooth Pentstemon. Fl. June, Sept. Clt. 1776. Pl. 1 to 2 feet.

§ 4. MEXICA'NÆ. Sometimes herbs, but usually undershrubs. Leaves lanceolate, sharply serrated. Stamens exserted. Superior filaments flat at the base, probably in all. Corollas tubular: lower lip usually bearded. Peduncles few-flowered, disposed in a terminal panicle.

27 P. PULCHE'LLUM (Lindl. bot. reg. 1138.) stems herbaceous, pubescent; leaves sessile, ovate-lanceolate, serrulated, gla-

brous; peduncles 1-2-flowered, longer than the bracteas, the whole forming a secund raceme; calyx downy, with lanceolate segments; corolla ventricose, rather pilose, glandless; palate villous; sterile filament bearded; stamens length of tube of corolla. ♃. F. Native of Mexico, between Toluca and Tianquillo, at the altitude of 1500 hexapods; and of Cuba, near the Havana. P. élegans, G. Don, in Loud. hort. brit. p. 243. Chelòne élegans, H. B. et Kunth, nov. gen. 2. p. 364. Superior leaves half stem-clasping. Corollas lilac, downy; palate spotted. This species differs from *P. campanulàtum*, in the corolla being paler, and destitute of glands.

Pretty Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 1½ foot.

28 P. RÒSEUM (G. Don, in Loud. hort. brit. p. 243.) herbaceous; leaves sessile, glabrous, ovate-lanceolate, sharply serrulated, acuminated; superior leaves broader; peduncles generally 3-flowered; superior filaments flat at the base; corollas rather hairy; lower lip of corolla bearded; sterile filament bearded at top. ♃. F. Native of Mexico. P. angustifòlium, Lindl. bot. reg. 1122. but not of Kunth. Chelòne ròsea, Cerv. mss. Sweet, fl. gard. 230. Inflorescence rather glandular. Panicle thick, many-flowered. Corolla tubular, somewhat ventricose, of a bright rose-colour, glandular, like the top of the plant.

Rosy-flowered Pentstemon. Fl. June, Sept. Clt. 1825. Pl. 1½ foot.

29 P. KU'NTHII (G. Don, in Loud. hort. brit. p. 243.) stem and leaves quite glabrous; leaves linear, sharply serrulated, spreadingly recurved; peduncles 1-2-flowered, hairy, disposed in a simple hairy panicle; calycine segments linear-lanceolate, hairy; corolla downy; lower lip densely bearded at the base; sterile filament bearded at apex. ♃. F. Native of Mexico, near Moran and Omitla, at the altitude of 1320 hexapods. Chelòne angustifòlia, H. B. et Kunth, nov. gen. amer. 2. p. 365. Leaves sessile, somewhat stem-clasping. Corolla purple. Stamens hardly exserted.

Kunth's Pentstemon. Fl. July, Sept. Clt. 1825. Pl. 2 to 4 feet.

30 P. CAMPANULA'TUM (Willd. spec. 3. p. 228.) stem and leaves glabrous, linear-lanceolate, sharply serrated; peduncles secund, disposed in a terminal panicle; calycine segments lanceolate; corollas bearded; sterile filament bearded at top. ♃. H. Native of Mexico, near Santa Rosa de La Sierra, and Los Joares, at the altitude of 1300 hexapods. Jacq. schœnbr. 3. t. 362. Sims, bot. mag. 1878. Chelòne campanulàta, Cav. icon. 1. p. 18. t. 29. Chelòne campanuloìdes, Andr. bot. rep. t. 40. Stem downy at top. Leaves glabrous. Calyx downy. Throat of corolla bearded. Corollas pale purple.

Campanulate-flowered Pentstemon. Fl. March, Oct. Clt. 1794. Pl. 1½ to 2 feet.

31 P. ATROPURPU'REUM (G. Don, in Loud. hort. brit. p. 243.) shrubby; stem rather flexuous, shining, beset with glandular pili at top; leaves sessile, sharply serrulated, glabrous: lower ones lanceolate, attenuated at both ends: superior ones ovate, acuminated, stem-clasping; peduncles axillary, usually 3-flowered; calyxes and corollas clothed with glandular pubescence; corolla bearded; sterile filaments bearded at top. ♃. H. Native of Mexico. Chelòne atropurpùrea, Sweet. fl. gard. t. 235. Flowers dark purple, the whole forming a panicle.

Dark-purple-flowered Pentstemon. Fl. July, Sept. Clt. 1825. Pl. 2 to 3 feet.

32 P. GENTIANOI'DES; stem downy at top; leaves lanceolate, quite entire, glabrous; panicle composed of 1-2-3-flowered peduncles; calycine segments ovate; corollas beardless; sterile filament glabrous. ♃. H. Native of Mexico, on Mount Toluco, at the altitude of 1750 hexapods. Chelòne gentianoìdes, H. B. et Kunth, nov. gen. amer. 2. p. 363. t. 172. Stem and branches downy. Leaves 4 inches long, and 6-8 lines broad. Corolla violaceous, downy outside; tube short; throat large; limb bilabiate; superior lip 2-lobed: lower one trifid, beardless. Anthers glabrous. Stamens inclosed.

Gentian-like Pentstemon. Fl. July, Sept. Clt. 1825. Pl. 3 to 4 feet.

SECT. II. ERIANTHE'RA (from *εριον, erion*, wool; and *ανθηρα, anthera*, an anther; the anthers are ciliated or downy, not glabrous, as in the last section.

33 P. HETEROPHY'LLUM (Lindl. bot. reg. 1899.) leaves glaucescent, quite entire: lower ones linear-lanceolate: superior ones linear; raceme twiggy; sepals ovate, acuminated; corolla ventricose, beardless; sterile stamen glabrous; anthers sagittate, fringed at top. ♃. H. Native of California, Douglas. Leaves hardly ever serrulated. Peduncles 1-2-flowered, bibracteate above the middle. Corolla bilabiate; sterile filament sub-emarginate.

Variable-leaved Pentstemon. Fl. June, Sept. Clt. 1834. Pl. 1½ to 2 feet.

34 P. GLA'BRUM (Pursh, fl. amer. sept. 2. p. 738.) very smooth; leaves sessile, ovate-lanceolate, entire, having the margins partly undulated; peduncles many-flowered, secund; segments of calyx roundish-oval, acuminated; corolla subcampanulate; sterile filament slightly bearded under the retuse apex; anthers pubescent. ♃. H. Native of North America, in arid soils near the confluence of the Shian river, and towards the sources of the Columbia river. Curt. bot. mag. 1672. P. erianthèra, Nutt. gen. amer. 2. p. 52. but not of Pursh. Flowers numerous, purple.

Glabrous Pentstemon. Fl. July, Sept. Clt. 1811. Pl. 1½ foot.

35 P. GLANDULÒSUM (Dougl. in bot. reg. 1262.) plant clothed with glandular pubescence; radical leaves ovate, coarsely toothed: cauline ones stem-clasping, acute, almost quite entire; peduncles many-flowered; calyx loose, with ovate segments; corolla ventricose; anthers ciliated; sterile filament glabrous. ♃. H. Native of North America, on the banks of the Kooskooskee river, 6300 feet above the level of the sea. Radical leaves on long petioles: cauline ones cordate-ovate. Peduncles forming a racemose panicle. Corolla large, pale rose-coloured, striped with purple inside. Anthers white. Capsule glabrous, equal in length to the calyx.

Glandular Pentstemon. Fl. June, July. Clt. 1827. Pl. 2 to 2½ feet.

36 P. VENU'STUM (Dougl. in bot. reg. 1309.) stem suffruticose, erect, glabrous; leaves sessile, ovate-lanceolate, acuminated, denticulated, glabrous; peduncles many-flowered, the whole forming a panicle; calyx glabrous; corolla ventricose, ciliated; anthers pilose; sterile filament bearded at top. ♄. H. Native of North-west America, in dry channels of rivers, among the mountains. Very nearly allied to *P. diffùsum*; but differs in the stem being more erect; in the leaves being sessile, longer, straighter; in the corolla being of a more obscure colour; in the calyx being glabrous; and in the anthers being pilose.

Graceful Pentstemon. Fl. June, Sept. Clt. 1827. Pl. 2 feet.

37 P. RICHARDSÒNII (Dougl. in bot. reg. 1121.) herbaceous; leaves sessile, pinnatifid; peduncles few-flowered; calyx clothed with glandular pubescence: with ovate-acute segments; corolla ventricose; anthers ciliated; sterile filament bearded with a few hairs at apex. ♃. H. Native of North-west America, on dry rocks in the vicinity of the Columbia. Hook. bot. mag.

3391. Plant a little branched, minutely downy. Calycine segments oblong-lanceolate. Corolla purple, nearly glabrous outside. Valves of anthers ciliated towards the apex.

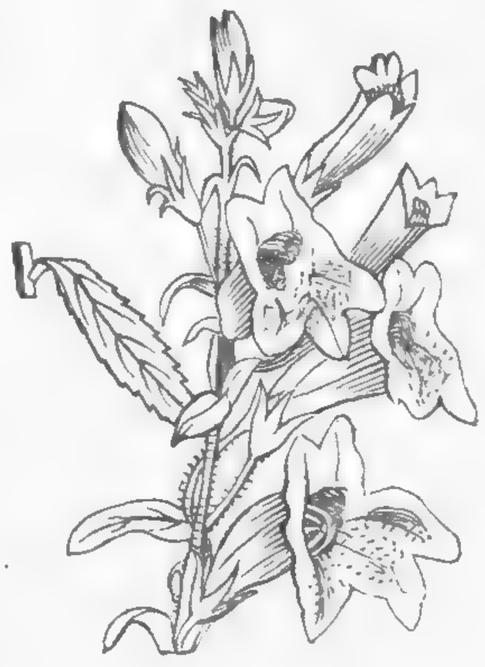
Richardson's Pentstemon. Fl. June, Sept. Clt. 1825. Pl. $1\frac{1}{2}$ foot.

38 P. DISSE'CTUM (Ell. car. 2. p. 129.) leaves opposite, sessile, compoundly dissected: the segments linear, and generally blunt; flowers in panicles. ♃. H. Native of Georgia, Louisville. Stem slightly pubescent. Corolla purple; segments of the upper lip larger than those of the lower, and more blunt. Stamens inclosed; anthers downy, or hairy. ?

Dissected-leaved Pentstemon. Pl. 2 feet.

39 P. SCOULE'RI (Dougl. in bot. reg. 1277.) suffruticose; leaves obovate-lanceolate, serrulated: upper ones quite entire; peduncles 1-flowered, racemose; calyx downy, with acuminated segments; corolla ventricose; anthers woolly. ♃. H. Native of North-west America, on the Kettle falls of the Columbia. Branchlets pilose. Corolla purple, nearly 2 inches long; palae open. Mr. Douglas considered this a species of *Chelòne* from the woolly anthers; but it has the angular seeds of *Pentstèmon*. (fig. 64.)

FIG. 64.



Scouler's Pentstemon. Fl. May, July. Clt. 1827. Shrub 2 to 3 feet.

SECT. III. GENTIANOI'DES (from *gentiana*, gentian; and *idea*, *like;* habit of species.) Sterile filament glabrous. Anthers glabrous. Leaves narrow, entire, glaucous: radical ones crowded. Flowers panicled.

40 P. HUMBÓLDTII; stems simple, downy; leaves linear, quite entire, glabrous; peduncles 2-flowered, disposed in a panicle; calycine segments roundish-ovate, acute; corollas beardless; sterile filament glabrous. ♃. H. Native of Mexico, in mountain places between Puerto de Varientos and Santa Rosa, at the altitude of 1350 hexapods. Chelòne imbérbis, H. B. et Kunth, nov. gen. amer. 2. p. 363. Leaves bluntish, 2-3 inches long, and $1\frac{1}{2}$ to 2 lines broad. Calyx downy. Corollas similar to those of *P. barbàtum*, but smaller and beardless. Stamens exserted.

Humboldt's Pentstemon. Pl. 1 to $1\frac{1}{2}$ foot.

41 P. BARBA'TUM (Nutt. gen. amer. 2. p. 51.) glaucous, glabrous; stems branched; leaves connate, sessile, linear-lanceolate, quite entire, very long, channelled: radical ones crowded, spatulate; peduncles axillary, opposite, 2-flowered: the whole forming a panicle; limb of calyx scarious; corolla bearded on the lower lip with yellow hairs. ♃. H. Native of Mexico. Chelòne barbàta, Cav. 3. p. 22. t. 242. Ker. bot. reg. t. 116. Chelòne ruelloìdes, Andr. bot. reg. t. 34. Corollas showy, scarlet outside, and white inside, drooping. Sterile filament glabrous.

Bearded-flowered Pentstemon. Fl. June, Sept. Clt. 1794. Pl. 4 to 5 feet.

42 P. CENTRANTHIFÒLIUM (Benth. scroph. ind. p. 7.) glabrous, glaucous; leaves ovate-lanceolate, quite entire, cordately stem-clasping at the base; peduncles axillary, many-flowered, disposed in an elongated, terminal panicle; corolla tubular, pendulous, glabrous; throat naked; limb almost equally 5-parted; sterile filament beardless. ♃. H. Native of California. Corolla scarlet. Chelòne centranthifòlia, Benth. in hort. trans. ser. 2d. vol. 1. p. 481. Lindl. bot. reg. t. 1737.

Centranthus-leaved Pentstemon. Fl. July, Nov. Clt. 1832. Pl. 3 to 7 feet.

Cult. The species of *Pentstèmon* are amongst the most showy border flowers we possess in our gardens. They grow best in light rich soil, and are readily increased by divisions and cuttings. They are rather tender, being usually killed by severe frosts or damp in winter, if allowed to remain in the open air; it is therefore safest to keep a few plants of each species in pots, so that they may be readily sheltered by placing them under a frame in winter.

II. CHELO'NE (from χελωνη, *chelone*, a tortoise; the back of the upper lip of the corolla is compared to a tortoise.) Dill. gen. p. 11. Lin. gen. no. 748. Schreb. gen. no. 1005. Juss. gen. 137. ed. Usteri, p. 153. Gærtn. fruct. 1. p. 256. t. 54.—Anónymos, Gron. virg. 71, 72. Act. par. 1706. t. 3. p. 87. Pentstèmon species of authors.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx 5-parted, tribracteate. Corolla ringent, ventricose: upper lip emarginate: lower one trifid, sterile. Stamens didynamous, with a sterile filament, which is shorter than the rest; anthers woolly. Capsule 2-celled, 2-valved. Seeds surrounded by a membranous margin. —Herbaceous plants, with opposite leaves; flowers imbricately spiked, terminal. Lower lip of corolla internally bearded. Capsule oval.

1 C. GLA'BRA (Lin. spec. 849.) leaves lanceolate-oblong, acuminated, serrated, nearly sessile, glabrous. ♃. H. Native of the United States.—Trew, ehrh. t. 83. C. glàbra, var. álba, Pursh, fl. amer. sept. 2. p. 427. Corollas white.

Var. β, *lanceolàta* (Nutt. gen. amer. 2. p. 51.) leaves lanceolate, conspicuously acuminated, serrated, sessile, downy beneath; bracteas scarcely dilated; segments of calyx oblong. ♃. H. Probably a distinct species according to Nuttal.

Glabrous Chelone. Fl. Aug. Oct. Clt. 1730. Pl. 2 to 3 feet.

2 C. OBLI'QUA (Lin. syst. 553.) leaves petiolate, oblique, lanceolate. ♃. H. Native of North America, in the Southern States. Ker. bot. reg. 175. A. glàbra, β, Lin. spec. 849. C. glàbra, β, purpùrea, Michx. fl. bor. amer. 2. p. 24. C. purpùrea, Mill. dict. no. 2. fig. t. 93. Digitàlis mariàna, Ray, suppl. 397. Plenk. mant. t. 348. f. 4. Corollas purple.

Oblique Chelone. Fl. Aug. Oct. Clt. 1752. Pl. 2 to 4 feet.

3 C. LYÒNI (Pursh, fl. amer. sept. 2. p. 737.) glabrous, branched; leaves petiolate, cordate-ovate, serrated; spikes terminal, with the flowers clustered. ♃. H. Native of North Carolina, near Wilmington; and of Georgia. C. màjor, Sims, bot. mag. 1864. Flowers purple. (fig. 65.)

FIG. 65.

Lyon's Chelone. Fl. July, Sept. Clt. 1812. Pl. 3 to 4 feet.

4 C. LATIFÒLIA (Muhl, cat. ex Ell. car. 2. p. 127.) glabrous; leaves wide-ovate, or oval, serrated, abruptly acuminated, tapering at the base, petiolate; sterile filament bearded near the summit. ♃. H. Native of Carolina. Chelòne Pentstèmon, Walt. car. p. 172. Corollas pale purple.

Broad-leaved Chelone. Pl. 1 to 2 feet.

5 C. NEMORÒSA (Dougl. in bot. reg. 1211.) branched, glabrous; leaves ovate, acuminated, serrated: superior ones stem-clasping, cordate; peduncles 3-flowered, downy; calycine segments and bracteas subulate, and are, as well as the corolla, rather downy. ♃. H. Native of North-west America, in mountain woods, near springs and rivulets. Corolla ventricose, of a rosy purple colour; anthers woolly. Habit of a species of *Pentstèmon*.

Grove Chelone. Fl. July, Sept. Clt. 1827. Pl. 1 foot.

Cult. The species of *Chelòne* are extremely handsome border flowers; they grow in any common garden soil, but prefer peat, and are readily increased by dividing at the root.

ORDER CLXXIII. SIBTHORPIA'CEÆ (this order contains plants agreeing with *Sibthórpia* in the characters given below.) D. Don, in edinb. phil. journ. vol. 19. no. 37. July, 1835.—Scrophularíneæ genera of authors.

Calyx 4-8-parted, permanent. Corolla rotate, 4-8-cleft, regular, deciduous, imbricate in æstivation. Stamens 4-8, equal, alternating with the lobes of the corolla; anthers 2-celled; cells parallel. Style one; stigma capitate, undivided. Capsule 2-celled, 2-valved, many-seeded; placenta large, spongy, globose. Seeds erect; testa membranous; albumen copious, dense, fleshy. Embryo terete, erect, inclosed. Radicle long, cylindrical, obtuse, contrary to the umbilicus, centripetal.—Herbs, with alternate undivided leaves, and axillary, solitary, pedunculate flowers. This small family is intermediate between *Scrophularíneæ* and *Primulàceæ;* and is distinguished from the first by the regular symmetrical flowers, and globose placenta; and from the last, in the stamens being alternate with the lobes of the corolla, not opposite them, and in the 2-celled capsule.

Synopsis of the genera.

1 SIBTHÓRPIA. Corolla rotate, 5-cleft. Stamens 4-5.

2 DISA'NDRA. Corolla rotate, 6-8-cleft. Stamens 7.

3 CAPRA'RIA. Corolla campanulate, 5-parted. Stamens 4, subdidynamous.

4 XUARE'ZIA. Corolla campanulate, 5-parted. Stamens 5, equal.

5 LEUCÓSPORA. Corolla tubular, hardly campanulate, 4-cleft: upper lobe emarginate. Stamens 4, subdidynamous. Capsule at length 1-celled.

6 SCOPA'RIA. Corolla rotate, 4-cleft. Stamens 4, equal.

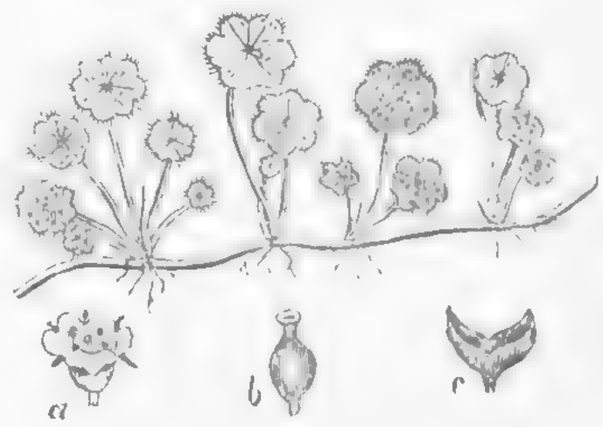
7 ROMANZÒVIA. Corolla salver-shaped, 5-cleft. Stamens 5, equal.

I. SIBTHO'RPIA (so named after Humphry Sibthorp, M.D., formerly professor of botany at Oxford, successor to Dillenius. His son, Professor John Sibthorp, who travelled in Greece, collected all the treasures now in the course of publication in that splendid work entitled "Flora Græca," and author of "Flora Oxoniensis.") Lin. gen. 775. Schreb. gen. no. 1038. Gærtn. fruct. 55. Juss. gen. 99. ed. Usteri, p. 111. Lam. ill. t. 535. f. 3. H. B. et Kunth, nov. gen. amer. 2. p. 390.

LIN. SYST. *Tetra-Pentándria, Monogýnia.* Calyx 5-parted. Corolla sub-rotate, 5-lobed. Stamens 4-5, nearly equal. Stigma capitate. Capsule sub-orbicular, compressed, dehiscing at top.—Small, creeping, rooting, tufted herbs, with small, alternate, reniform leaves, and axillary, solitary, pedicellate, inconspicuous flowers.

1 S. EUROPÆ'A (Lin. spec. p. 880.) plant hairy, creeping; leaves on long petioles, reniform, 7-9-lobed; flowers tetrandrous, somewhat didynamous. ♃. H. Native of the South of Europe, as of Portugal, Spain, West of France, &c., in shady places about springs; in England, as in Devonshire and Cornwall plentiful; and about Longledale in Westmoreland. Smith, engl. bot. 649. S. prostràta, Salisb. icon. 11. t. 6.—Plukn. phyt. t. 7. f. 6.—Petiv. brit. t. 6. f. 11. Calyx hispid. Corolla pale yellow, with a purplish tinge on the 3 upper segments. Seeds plano-convex, or sub-angular, brown. (fig. 66.)

FIG. 66.



European Sibthorpia. Fl. June, Sept. Britain. Pl. creeping.

2 S. PICHINCHE'NSIS (H. B. et Kunth, nov. gen. amer. 2. p. 390. t. 176.) plant hispid, creeping; leaves on long petioles, reniform, 7-9-lobed: lobes obtuse; flowers pentandrous. ♃. F. Native on the burning mount of Pichinca, in rugged places between the plains of Verdecuchu and Chorro de Cantuna, at the altitude of 1800 hexapods. Flowers purple. Seeds very minute. Habit of *S. Europæ'a.*

Pichincha Sibthorpia. Pl. creeping.

3 S. RETU'SA (H. B. et Kunth, l. c. p. 391. t. 177.) plant hispid, creeping; leaves on long petioles, reniform, many-lobed: lobes retuse; flowers pentandrous. ♃. F. Native of New Spain, near Tiangillo, at the altitude of 1500 hexapods. Leaves twice or three times the size of those of *S. Europæ'a.* Flowers double the size of those of *S. Pichinchénsis,* purplish violet.

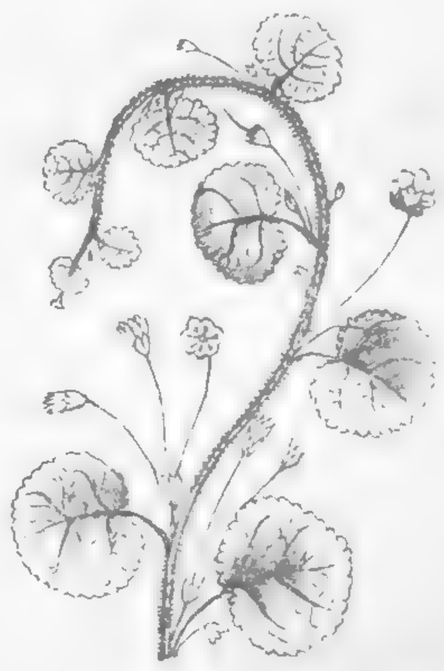
Retuse-lobed Sibthorpia. Pl. creeping.

Cult. Sibthórpia is a genus of singular plants, but of no beauty; they are, therefore, only grown in botanic gardens, or those of the curious. They succeed best in peat soil and moist situations, and are readily increased by division. *S. Pichinchénsis* and *S. retùsa* require protection from frost in winter.

II. DISA'NDRA (from δις, *dis,* twice; and ανηρ ανδρος, *aner andros,* a male; in reference to the stamens being sometimes 4 and sometimes 8, therefore often double the common number 4.) Lin. syst. 352. Schreb. gen. no. 627. Juss. gen. 99. ed. Usteri. p. 111. Lam. ill. t. 275. f. 2. Sibthórpia species, Lin.

LIN. SYST. *Pénta-Octándria, Monogýnia.* Calyx 5-8-parted. Corolla rotate, 5-8-lobed. Stamens 5-8. Stigma simple. Capsule ovate. Seeds ovate.—Herbs with the habit of *Sibthórpia.* The number of floral parts are variable, but usually 7.

FIG. 67.



1 D. PROSTRA'TA (Lin. syst. 352.) prostrate, pubescent; leaves reniform, crenated; pedicels twin. ♃. G. Native of Madeira. Curt. bot. mag. 218. Sibthórpia peregrìna, Lin. spec. p. 880. amœn. 3. p. 20.—

Plukn. phyt. 257. f. 5. Leaves on long petioles, resembling those of Ground-ivy. Pedicels usually twin, but sometimes solitary and by threes. Corollas yellow. (fig. 67.)

Prostrate Disandra. Fl. May, Aug. Clt. 1771. Pl. pros.

2 D. Africa'na (Lin. syst. ed. Reich. p. 137.) prostrate, pubescent; leaves orbicular, crenated; pedicels solitary. ♃. G. Native of the North of Africa. Sibthórpia Africàna, Lin. spec. 880. amœn. 3. p. 22.—Shaw. afr. f. 149.

African Disandra. Pl. prostrate.

Cult. A light rich soil is the best for the species of *Disàndra*, and they are readily increased by division.

III. CAPRA'RIA (from *caper*, a goat; goat-weed.) Lin. gen. no. 768. Schreb. gen. no. 1030. Gærtn. fruct. 1. p. 250. t. 53. Juss. gen. p. 118. ed. Usteri. p. 133. Lam. ill. t. 534. f. 2. H. B. et Kunth, nov. gen. 2. p. 354.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, equal. Corolla campanulate, with a short tube, and a 5-cleft, nearly equal limb. Stamens 4, nearly equal, inclosed. Stigma capitate, 2-lobed, ex Bonpl. Capsule ovate, compressed; valves bifid.—Annual herbs, with alternate leaves, and axillary pedicellate flowers.

1 C. biflòra (Lin. spec. 875.) branches pilose; leaves oblong, serrated, narrowed and quite entire at the base, ciliated, smoothish; pedicels twin, elongated, capillary, pilose. ⊙.? S. Native of the warmer parts of America, common. Jacq. amer. 182. t. 115. pict. 90. t. 174. Swartz. obs. 239. Lam. ill. 534. f. 2. C. Curassávica, Herm. par. t. 110.—Comm. hort. 1. p. 79. t. 40.—Plukn. alm. 237. t. 98. f. 4. Feuill. per. 1. p. 764. t. 48. Corollas white. Pedicels solitary, or twin, rarely by threes.

Two-flowered Goatweed. Fl. July, Aug. Clt. 1752. Pl. 2 to 4 feet.

2 C. hirsu'ta (H. B. et Kunth, nov. gen. amer. 2. p. 355.) branches hairy; leaves oblong, serrated, cuneated at the base, and quite entire, hairy; pedicels twin, short, hairy. ⊙.? S. Native of Mexico, between La Venta del Exido and Acapulco, at the altitude of 200 hexapods, and elsewhere. Corolla white; lower segments marked by a pilose red spot. Very like the preceding, but the flowers are smaller, pedicels shorter, &c.

Hairy Goatweed. Pl. 1 to 2 feet.

3 C. semi-serra'ta (Vahl, eclog. 2. p. 47.) branches hairy; leaves lanceolate, serrated from the top to the middle; peduncles 1-4-flowered, solitary.? ⊙.? S. Native of the Island of St. Martha. Leaves 2-3 inches long, quite entire at the base. Calycine segments subulate. Corolla with a villous throat, and linear, oblong segments. Stigma capitate. Capsule oblong. Placenta linear, free.

Half-serrated-leaved Goatweed. Pl. 1 to 2 feet.

4 C. saxifragifòlia (Cham. et Schlecht, in Linnæa, 5. p. 105.) plant branched, hairy; leaves spatulately obovate, cuneated, doubly and deeply serrated, rather pilose; peduncles almost solitary, short, hairy. ⊙.? S. Native of Mexico, near Vera Cruz. Said to be allied to *C. hirsùta*.

Saxifrage-leaved Capraria. Pl. 1 to 2 feet.?

† *A species hardly known.*

5 C.? hu'milis (Ait. hort. kew. 2. p. 354.) pubescent; leaves opposite, or 3 in a whorl, ovate serrated, petiolate; peduncles axillary, shorter than the petioles. ⊙. S. Native of the East Indies.

Dwarf Capraria. Fl. July, Aug. Clt. 1781. Pl. ½ to 1 foot.

Cult. The seeds of the species of *Caprària* require to be reared on a hot bed in spring, and when the plants are of sufficient size, they require to be planted in separate pots, and placed in the greenhouse or stove; and some of them may be set out in the open ground in a warm, sheltered situation.

IV. XUARE'ZIA (named after Caspar Xuarez, a Spanish botanist, who has written a work on the plants of Italy.) Ruiz. et Pav. prod. p. 24. t. 4. fl. per. 2. p. 123. f. a. Pers. ench. 1. p. 176. H. B. et Kunth, nov. gen. 2. p 355.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-parted. Corolla sub-campanulate, with a very short tube, and a 5-parted, equal limb. Stamens 5, equal. Stigma bilamellate. Capsule oblong, obtuse, rather compressed; valves bifid; placenta central, at length free.—A shrub with alternate, entire leaves; and axillary, twin, white, pedicellate flowers.

1 X. biflòra (Ruiz. et Pav. l. c.) ♄. G. Native of Peru and the neighbouring parts of South America. Caprària Peruviàna, Feuill. per. 2. p. 764. t. 48. Shrub much branched, glabrous. Leaves lanceolate, remotely serrated, narrowed into the petioles, and quite entire at the base. Corolla small, whitish yellow, campanulately rotate. Called Tea in Peru.

Two-flowered Xuarezia. Shrub 4 to 6 feet.

Cult. A light rich soil will suit this plant, and cuttings are readily rooted.

V. LEUCO'SPORA (from λευκος, *leucos*, white; and σπορα, *spora*, a seed; seeds white.) Nutt. journ. acad. nat. sc. phil. 7. p. 87. Caprària multífida, Michx.

Lin. syst. *Tetrándria, Monogýnia.* Calyx 5-parted. Corolla tubular, hardly campanulate, obtuse, 4-cleft: upper segment emarginate. Stamens 4, nearly equal. Capsule 1-celled, at length 4-valved, many-seeded.—An annual, erect, viscid herb. Leaves 3 in a whorl, trifid. Flowers solitary, axillary. Said by Nuttall to be nearly allied to *Gratìola*.

1 L. multi'fida (Nutt. l. c.) ⊙. H. Native of North America, on the banks of the large western streams; Ohio, Mississippi, Missouri, and Arkansas. Caprària multifida, Michx. fl. bor. amer. 2. p. 22. t. 23. Leaves lyrate, partly twice trifid; the segments linear, oblong, and blunt. Capsule ovate; placenta central, narrow, and almost columnar. Seeds white, diaphanous. Flowers pale red, and very fugaceous.

Multifid-leaved Leucospora. Pl. ½ foot.

Cult. For culture and propagation see *Caprària*, p. 642.

VI. SCOPA'RIA (from *scopa*, a broom; to which use it is adapted.) Lin. gen. no. 143. Schreb. gen. 187. Gærtn. fruct. 1. p. 251. t. 53. Juss. gen. p. 118. ed. Usteri. p. 132. R. Br. prod. p. 443. H. B. et Kunth, nov. gen. amer. 2. p. 354. Cham. et Schlecht, in Linnæa, 2. p. 603.

Lin. syst. *Tetrándria, Monogýnia.* Calyx 4-5-parted, equal; segments usually 3-nerved. Corolla rotate, 4-cleft, regular; throat girded by a crown of hairs. Stamens 4, equal. Stigma obtuse. Capsule 2-valved, with a septicidal dehiscence; valves semi-bifid; placenta central, large, bipartible, at length free.—Glabrous herbs or under shrubs. Leaves dotted, opposite, or 3 in a whorl. Peduncles axillary, 1-flowered. Calyx bractless. Corollas small, white.

§ 1. *Calyx 4-cleft.*

1 S. du'lcis (Lin. spec. 168.) leaves ovate-lanceolate, deeply serrated, tapering into the petioles. ⊙. S. Native of every part within the tropics, common, particularly near the sea.—Plukn. phyt. t. 215. f. 1.—Herm. par. 241. f. 241.—Sloan. jam. 1. p. 195. t. 108. f. 2.—Tupeicavi, Pis. bras. 246. Corollas small, white; the segments have bearded threads on their

edges. The French call the plant *Balai doux*, or *Sweet Besom;* the Spaniards *Escobilla menuda*, or *Little Besom*. An infusion of it is used for disorders of the breast. According to Browne it may be considered as an excellent vulnerary. Leaves and branches usually 3 in a whorl.

Var. β, procúmbens; leaves in fours; flowers nearly sessile. ⊙. S. Native of New Spain. S. procúmbens, Lin. spec. 168. Stems procumbent. Leaves narrower.

Var. γ, arbòrea; leaves lanceolate, alternate, quite entire; corymbs compound, trichotomous. ♄. G. Native of the Cape of Good Hope. S. arbòrea, Lin. syst. 157. Thunb. prod. 29. Willd. spec. 1. p. 653. This is surely a species *Freylínia*.

Sweet Scoparia. Fl. June, Sept. Clt. 1730. Pl. 1 to 3 feet.

§ 2. *Calyx 5-cleft.*

2 S. fla'va (Cham. et Schlecht, in Linnæa, 2. p. 603.) leaves lanceolate, tapering into the petioles, toothed; peduncles glabrous; calycine segments acute, with pellucid edges. ♃. F. Native of Brazil, in the province of Cisplatin, Sello. Microcarpæ'a Montevidénsis, Spreng. syst. 1. p. 42. Corollas pale yellow. Leaves and branches 4 in a whorl.

Yellow-flowered Scoparia. Pl. ½ to 1½ foot.

3 S. erica'cea (Cham. et Schlecht, l. c. p. 604.) shrubby; leaves linear, quite entire; peduncles pubescent; calycine segments acute, with pellucid margins. ♄. G. Native of the South of Brazil, Sello. Shrub much branched, glabrous. Leaves opposite, on tetragonal branches; 3 in a whorl, on hexagonal branches; and 4 in a whorl, on polygonal branches.

Heath-like Scoparia. Shrub 1 to 2 feet.

4 S. plebe'ia (Cham. et Schlecht, l. c. p. 605.) leaves nearly linear, a little toothed; peduncles glabrous; calycine segments acute, a little ciliated. ⊙. S. Native of the South of Brazil, Sello. Branches hexagonal. Leaves 3 in a whorl.

Plebeian Scoparia. Pl. 1 to 1½ foot.

5 S. elli'ptica (Cham. et Schlecht, in Linnæa, 8. p. 21.) angles of branches winged a little; peduncles, calyxes, nerves, and margins of leaves pilose; leaves elliptic, coarsely serrated in front; calycine segments acute, with pellucid edges, and finely ciliated towards the apex. ⊙. S. Native of Brazil, Sello. Primary stems and branches tetragonal; branchlets pentagonal, or hexagonal. Leaves nearly sessile, opposite, or 3 in a whorl. Corolla exceeding the calyx a little, longer than those of *S. dùlcis*.

Elliptic-leaved Scoparia. Pl. 1 to 1½ foot. ?

6 S. multi'fida (Cham. et Schlecht, l. c. 8. p. 22.) leaves linear, pinnatifid; peduncles glabrous; calycine segments unequal, acutish, with pellucid edges; corolla twice the length of the calyx. ♄. S. Native of Brazil, Sello. Leaves opposite, or 3-4 in a whorl.

Multifid-leaved Scoparia. Shrub ½ to 1 foot.

Cult. For culture and propagation of annual species see *Caprària*, p. 642. and of the shrubby species see *Xuarèzia*, p. 642.

VII. ROMANZO'FFIA (named in honour of Count Romanzoff, at whose expence the voyage of Kotzebue round the world was undertaken.) Cham. hor. phys. berol. p. 71. t. 14. Linnæa, 1. p. 547. 2. p. 607.

Lin. syst. *Pentándria, Monogýnia.* Calyx 5-cleft, permanent. Corolla salver-shaped, deciduous. Stamens 5, inserted in the bottom of the tube of the corolla. Stigma capitate, simple. Capsule ovate, obtuse, 2-valved, many-seeded; dissepiment contrary to the valves. Seeds obovate, angular.—Fleshy, pilose herbs, with alternate leaves. Root præmorse, fibrous. Stems many, usually simple. Radical leaves roundish-reniform, cordate, many-lobed, or crenated; cauline leaves few, similar to the radical ones. Flowers white, bractless, marked with veins, racemose; raceme secund, revolute at top.

1 R. Unalasche'nsis (Cham. l. c.) radical leaves on long petioles, reniformly-cordate, many-lobed, or crenated, pilose; petioles channelled, pilose; stem usually simple, tufted, few-leaved; flowers racemose. ♃. H. Native of the Island of Unalascha, in valleys, growing in the fissures of rocks. Saxífraga nùtans, D. Don, in Lin. trans. 13. no. 2. Saxífraga secúnda, Willd. herb. no. 8408. Calycine segments lanceolate, bluntish. Lobes of corolla equal, roundish. Filaments capillary; anthers 2-celled, incumbent. Placentas 4, linear, 2 in each cell, adnate longitudinally to the dissepiment along the axis. Seeds numerous, minute, angular, scrobiculate. Albumen cartilaginous. Embryo in the axis of the seed, cylindrical, erect.

Unalascha Romanzoffia. Pl. ¼ to ½ foot.

2 R. Sitche'nsis (Bongard, mem. acad. imp. st. petersb. 2. p. 156.) radical leaves on long petioles, roundish-reniform, coarsely-toothed, glabrous, rarely furnished with a few hairs; petioles glabrous, or pilose dilated; stems tufted, simple, or dichotomous, furnished with 1-2 leaves, similar to the radical ones; flowers racemose. ♃. H. Native of the Island of Sitcha. Plant a span high. Petioles dilated at the base, 2-4 inches long. Calycine segments lanceolate. Corollas largish, 5-cleft, rarely 4-cleft. Stamens 4-5, alternating with the lobes of the corolla. Stigma 2-lobed.

Sitcha Romanzoffia. Pl. ½ to ¾ foot.

Cult. Should any of these plants ever be introduced to our gardens, we would recommend their being grown in pots in a mixture of peat soil and sand.

Order CLXXIV. GESNERIA'CEÆ (this order agrees with *Gesnéria* in the characters given below.) Gesnèreæ, Richard. et Juss. in ann. mus. 5. p. 427. H. B. et Kunth, nov. gen. amer. 2. p. 392. Mart. nov. gen. 3. p. 68. Cyrtandràceæ, Jack. in Lin. trans. 14. p. 23. Didymocárpeæ, D. Don, prod. fl. nep. p. 122.

Calyx 5-cleft. Corolla oblique; tube drawn out behind and in front above, or tubular at the base; limb 5-cleft, sub-bilabiate. Stamens 4, didynamous, with usually the rudiment of a fifth, alternating with the divisions of the corolla: the upper one or more of them abortive. Anthers distinct, cohering by pairs, or altogether. Ovarium 1-celled; placentas 2, parietal, bilamellate. Fruit capsular or baccate, silique-formed, or round. Seeds numerous, hanging by long funicles, or erect. Albumen copious or wanting. Embryo straight, slender.—Herbs or shrubs, usually tuberescent at the base. Leaves opposite or verticillate, rarely alternate, thickish, entire. Inflorescence cymose, rarely racemose. Down or hairs simple. Cymes axillary or racemose, from the flowers being axillary and solitary. Corollas beautiful, of various colouring, scarlet, violet, blue, lilac, rose-coloured, green, cream-coloured, and white; of one colour or spotted, or marked with other colours. Roots usually tuberous. Stems erect, decumbent or parasitical, and climbing on trees. Leaves entire or quite entire, thickish, green above, but often purple or reddish beneath. Leaves emollient.

Synopsis of the genera.

Tribe I.

Gesnerie'æ. Calyx usually adhering to the ovarium at the

base; the ovarium is therefore half inferior. Seeds albuminous.

Subtribe I.

Gloxinie'æ. Calyx adnate to the ovarium. Corolla half inferior, perigynous.

1 Trevera'nia. Ring round the ovarium entire. Corolla oblique; limb spreading.

2 Gesne'ria. Glands around the ovarium free. Corolla straightish, tubular, furnished with 5 gibbosities at the base.

3 Gloxi'nia. Glands as in *Gesnèria*. Corolla very oblique, campanulately ringent, with only one gibbosity at the base.

Subtribe II.

Conradie'æ. Calyx adnate to the ovarium. Corolla superior. Leaves alternate or scattered.

4 Rytidoca'rpum. Epigynous ring thick and sinuated. Leaves stipulate.

5 Conra'dia. Ring or glands scarcely present.

Subtribe III.

Beslerie'æ. Calyx free. Corolla inferior.

6 Sarmie'nta. Fruit baccate. Ring hypogynous. Stamens 4, 2 hind ones perfect: front ones abortive.

7 Besle'ria. Fruit baccate. Ring hypogynous. Stamens 4, all perfect, with a chaff-formed rudiment of a fifth.

8 Hypocy'rta. Fruit baccate. Glands hypogynous. Anthers connected. Corolla tubular, ventricose in front.

9 Colu'mnea. Fruit baccate. Glands hypogynous. Anthers connected. Corolla tubular, ringent: hind lip arched.

10 Mitra'ria. Fruit baccate. Glands hypogynous. Anthers free. Bracteas mitre-formed.

11 Drymònia. Fruit capsular. Rudiment of a fifth stamen wanting. Corolla very oblique, campanulately ringent; throat ample.

12 Klu'gia. Fruit capsular. Rudiment of a fifth stamen wanting. Stigma capitately truncate. Corolla tubular, ringent.

13 Tapi'na. Fruit capsular. Rudiment of a fifth stamen present. Corolla very oblique, campanulately ringent, with a constricted throat.

14 Nemata'nthus. All as in *Tupìna;* except that the corolla is campanulate, and its limb nearly equal and spreading.

15 Allople'ctus. Fruit capsular. Rudiment of a fifth stamen present. Corolla straightish, club-shaped or funnel-shaped. Stigma capitately funnel-shaped.

16 Epi'scia. All as in *Alloplèctus;* except that the corolla is tubularly funnel-shaped, and the stigma 2-lobed.

Tribe II.

Cystandra'ceæ. Ovarium wholly superior. Seeds exalbuminous.

Subtribe I.

Trichospòreæ. Capsule silique-formed, terete. Seeds pendulous, expanded at both ends, or only at the apex or base into a setaceous or membranous wing.

17 Tromsdórffia. Calyx tubular, somewhat 5-cleft. Stamens 4, 2 of which are sometimes sterile, inclosed. Stigma sub-bilamellate. Seeds furnished with a membranous wing at the base.

18 Æschyna'nthus. Calyx ventricose, tubular, 5-cleft. Stamens 4, fertile, exserted, with the rudiment of a fifth, inclosed. Stigma somewhat funnel-shaped. Seeds drawn out into a bristle-formed tail at both ends.

19 Lysionòtis. Calyx deeply 5-cleft, or 5-parted. Stigma capitate. Anthers, capsule, and seeds as in *Æschynánthus.*

20 Agalmy'la. Calyx 5-parted. Stamens 5, 2 or 4 of which are fertile, and exserted. Stigma bilamellate. Capsule and seeds as in *Æschynánthus.*

Subtribe II.

Didymoca'rpeæ. Capsule silique-formed. Seeds pendulous, minute, naked.

21 Streptoca'rpus. Calyx 5-cleft. Corolla tubularly funnel-shaped; limb 5-lobed, nearly equal, oblique. Stamens 4, 2 front ones fertile; and the other 2 tubercle-formed and sterile. Valves of capsule twisted. Stigma 2-lobed. Seeds minute, naked.

22 Didymoca'rpus. Calyx campanulate, bluntly 5-toothed, or 5-lobed. Corolla tubular; limb spreading. Stamens 4, rarely 5, inclosed, 2 or 4 of which are antheriferous. Cells of anthers divaricate. Stigma obtuse, or simple. Seeds subulate, or roundish.

23 Chira'ta. Calyx 5-cleft, inflated, 5-angled. Corolla funnel-shaped; limb bilabiate. Stamens 5, inclosed, 2 lower ones fertile; anthers reniform, 1-celled. Stigma funnel-shaped, 2-lobed. Seeds subulate, acute at both ends.

Subtribe III.

Cyrta'ndreæ. Fruit baccate. Seeds pendulous, naked.

24 Cyrta'ndra. Calyx tubular, 5-cleft. Stamens 5, 3 of them sterile. Cells of anthers parallel. Stigma capitate, sometimes emarginate. Berry a little longer than the calyx.

25 Whi'tia. Calyx small, 5-parted. Stamens as in *Cyrtándra*, but exserted; cells of anthers unequal in insertion. Stigma somewhat funnel-shaped. Berry much longer than the calyx.

26 Rhynchote'cum. Calyx 5-cleft. Stamens 4, fertile, inclosed; anthers 1-celled. Stigma obtuse. Berry globose, inclosed.

27 Loxo'nia. Calyx tubular, 5-cleft. Stamens 4, fertile, inclosed; anthers sagittate. Stigma bilamellate. Berry oblong, nclosed.

28 Centro'nia. Calyx spathaceous, cleft. Stamens 4, fertile, inclosed; anthers 1-celled, spurred at the base. Stigma capitate. Berry longer than the calyx.

29 Uta'nia. Calyx 5-cleft. Stamens 5, fertile, exserted; anthers incumbent, bifid at base. Stigma capitate. Berry ovate, longer than the calyx.

30 Fie'ldia. Calyx 5-parted, inclosed in a spath-formed bractea, which is cleft on one side. Corolla tubularly ventricose; limb equal, 5-lobed, sub-bilabiate. Stamens 5, 4 fertile exserted, and sterile one inclosed. Stigma bilamellate. Berry spongy, longer than the calyx. ?

Subtribe IV.

Loxotie'æ. Capsule 2-valved, or circumcised. Seeds erect, naked.

§ 1. *Capsule 2-valved.*

31 Loxòtis. Calyx tubular, 5-cleft. Corolla tubular; limb short, bilabiate. Stamens 2, fertile; sterile ones none, or very minute. Capsule 2-valved.

32 Glossa'nthus. Calyx tubular, 5-cleft. Corolla tubular; limb bilabiate: upper lip very short: lower one large, convex. ? Stamens 4, fertile. Capsule 2-valved.

33 Platyste'mma. Calyx ovate, 5-cleft. Corolla rotately bilabiate, 5-cleft, without any tube. Stamens 4, very short, equal; anther 1-celled. Stigma capitate, entire. Ovarium roundish-ovate, 2-celled.

34 Ouri'sia. Calyx 5-parted. Corolla funnel-shaped; limb 5-cleft, equal. Stamens 4, fertile. Stigma capitate, emarginate. Placentas globose, adnate to the dissepiment.

§ 2. *Fruit capsular, circumcised.*

35 Stauranthe'ra. Calyx subrotately campanulate, 5-plicate, somewhat 10-cleft. Corolla with a very short tube, ample, oblique, somewhat 5-cleft at top. Stamens fertile, 4; anthers heart-shaped, cohering in a cruciate manner. Capsule circumcised.

36 Aiki'nia. Calyx tubular, 5-cleft. Corolla bilabiate, spreading. Stamens 4, 2 lower ones sterile. Capsule girded by the calyx, 1-celled, circumcised.

† *A genus doubtful whether belonging to Gesneriàceæ or Bignoniàceæ.*

37 Amphicòme. Calyx tubular, 5-toothed. Corolla tubular, ventricose near the base: limb 5-lobed, ciliated. Stamens 4, didynamous, with the rudiment of a fifth. Stigma bilamellate. Capsule silique-formed. Seeds winged at both ends, and bearded.

Tribe I.

GESNERIE'Æ (this tribe contains plants agreeing with *Gesnèria* in the characters given below.) Calyx usually adhering to the ovarium at the base; the ovarium is, therefore, half inferior. Seeds albuminous.

Subtribe I.

GLOXINIE'Æ (this subtribe contains plants agreeing with the genus *Gloxínia* in the characters given below.) Calyx adnate to the ovarium. Corolla half inferior, perigynous.

I. TREVERA'NIA (named in honour of Lud. Christ. Treveranus, M.D., professor of botany in the university of Bonn, on the Rhine.) Willd. enum. 2. p. 638. Mart. nov. gen. bras. 3. p. 56.—Cyrílla, Lher.—Achimènes species, P. Browne.—Achimènes, Pers.—Colúmnea species, Lam.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx adnate to the ovarium; limb 5-parted, nearly equal. Corolla funnel-shaped; tube rather oblique, gibbous behind at the base; limb nearly equal, spreading, 5-lobed. Stamens didynamous, with the rudiment of a fifth; anthers connected. Ovarium girded by a ring. Capsule dry, 1-celled, or half 2-celled; placentas 2, parietal. Seeds many, scobiform.—Branched, pubescent, perennial herbs, furnished with scaly ament-formed stolons under ground, and sometimes from the axils of the leaves. Leaves opposite, or 3 in a whorl, serrated. Flowers axillary, solitary, or few and aggregate.

1 T. pulche'lla (Willd. enum. 2. p. 638.) plant tomentosely hairy; leaves 3 in a whorl, ovate, acuminated at both ends, serrated, with minute leaves in the axils; peduncles solitary, axillary. ♃. S. Native of Jamaica, among the mountains in steep places. Cyrílla pulchélla, Lher. stirp. 1. p. 147. t. 71. Curt. bot. mag. 374. Buchnèra coccínea, Scop. insubr. 2. p. 10. t. 5. Colúmnea erécta, Lam. dict. 2. p. 66. Achimènes mìnor, P. Browne, jam. 271. t. 38. Achimènes coccínea, Pers. ench. 2. p. 165. Gesnèria pulchélla, Swartz. prod. p. 90. Corollas scarlet. Genitals inclosed. Capsule somewhat 2-celled.

Neat Treverania. Fl. Aug. Sept. Clt. 1778. Pl. 1 to 1½ foot.

2 T. grandiflòra (Schiede, in Linnæa, 8. p. 247.) beset with spreading hairs; leaves opposite, equal, ovate, acute, oblique at the base, coarsely serrated. ♃. S. Native of Mexico, on shady places near the Hacienda de La Laguna. Leaves green above, and reddish beneath, very like those of elm; the largest ones 1½ to 2 inches long. Corollas large, of a violet purple colour. Genitals inclosed. Lobes of corolla roundish, quite entire.

Great-flowered Treverania. Pl. 1 foot.

3 T. heterophy'lla (Mart. nov. gen. bras. 3. p. 56.) plant sparingly pilose; leaves opposite, the one smaller than the other, cordate ovate, acuminated, coarsely serrated. ♃. S. Native of Mexico, Karwinski. Largest leaves 1-3 inches long. Flowers solitary, or twin. Corolla scarlet; lobes roundish, ciliated. Genitals inclosed.

Variable-leaved Treverania. Pl. ½ to 1 foot.

Cult. The species of this genus are exceedingly beautiful when in flower, like most of the other genera of the present order. A mixture of sand, loam, and peat is the best soil for them. As soon as the plants are done flowering they should not have any water given to them until the roots begin again to vegetate, when they should be taken out of the pots and divided. Five or six strong roots are sufficient for a sixty size pot. After this has been done, they require moisture and warmth to make them grow strong, and flower in perfection.

II. GESNE'RIA (a name given by Plumier in honour of Conrad Gesner, of Zurich, the famous botanist and natural historian.) Lin. gen. no. 749. Gærtn. fruct. 2. p. 472. t. 177. Juss. gen. 165. ed. Usteri. p. 184. H. B. et Kunth, nov. gen. 3. p. 392. Mart. nov. gen. bras. 3. p. 27.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx adnate to the ovarium; limb nearly equally 5-lobed, free. Corolla semisuperior, tubular, with 5 gibbosities at the base; limb sub-bilabiate; upper lip drawn out, emarginately 2-lobed: lower lip 3-lobed. Stamens didynamous, with the rudiment of a fifth

behind; anthers at first cohering into a round head. Glands 5, or fewer around the ovarium. Capsule dry in the calyx, 1-celled, incompletely 2-valved; placentas 2, parietal, many-seeded. Seeds scobiform.—Perennial plants, furnished with solid fleshy tubers of various forms; but in most of the species these tubers are nearly globose or placentiform, which send forth the stems every year. The plants are beset with compound, articulated hairs, and often with glandular, clammy pili. Stems simple, or branched, woody, or annual, terete, rarely angular. Leaves opposite, or verticillate, on short petioles, entire, toothed, or serrated, thickish, clothed with soft villi, which is often silky, but paler and more densely villous beneath. Buds naked. Leaves complicate. Flowers disposed in opposite cymes, constituting a terminal thyrse; the peduncles furnished with floral leaves, or bracteas at the base: rarely disposed in racemes or spikes. Corollas scarlet, or purple, rarely green, of one colour, or spotted with others, usually pubescent. This beautiful genus is diffused throughout the tropical parts of America, particularly in the fissures of moist rocks, and in shady, moist places.

* *Peduncles radical.*

1 G. tuberòsa (Mart. nov. gen. bras. 3. p. 29. t. 212.) stem rhizomatoid, horizontal, marked by the cicatrices of the fallen leaves; leaves opposite, broad-ovate, toothed, cordate at the base, clothed with soft pubescence, but hairy on the nerve and veins beneath; peduncles from the base of the rhizomatose roots; limb of corolla erectish, nearly equal; hypogynous glands twin behind. ♃. S. Native of Brazil, in the mine provinces near Villa Rica, in the fissures of rocks. Tuber nearly globose, 1 to 1½ inch in diameter. Peduncles radical, erect, numerous. Corollas tubular, erect, scarlet.

Tuberous-rooted Gesneria. Pl. ½ foot.

** *Cymes terminal, umbellate.*

2 G. rupi'cola (Mart. nov. gen. bras. 3. p. 30. t. 213.) the whole plant villously pubescent; stem a span high, leafless at top; leaves opposite, on short petioles, broad ovate, or obovate, purplish beneath, crenated; cymes terminal; limb of corolla erectish, nearly equal; hypogynous glands 5. ♃. S. Native of Brazil, in the mine provinces, in high, exposed places. Tuber size of a filbert or walnut. Superior part of stem scape-formed. Floral leaves 2, sessile, under the cyme. Corollas tubular, scarlet.

Rock Gesneria. Pl. ½ to ¾ foot.

3 G. cane'scens (Mart. l. c. p. 36.) clothed with hoary villi; stem erect; leaves opposite, and 4 in a whorl, broad-ovate, acutish at both ends, a little toothed; cymes terminal, few-flowered; corolla clavately cylindrical: limb short, nearly equal; hypogynous glands 2, behind. ♃. S. Native of Brazil, in shady rocky places in the province of St. Paul, and on Serra do Mar. Stem purplish. Leaves 1 to 1½ inch long. Cyme of 3-6-8 flowers. Floral leaves under the cyme sometimes 4. Corolla scarlet, an inch long. Hypogynous glands linear-oblong, truncate.

Canescent Gesneria. Pl. ¾ to 1 foot.

4 G. Dougla'sii (Lindl. in bot. reg. t. 1110. Mart. nov. gen. bras. 3. p. 33.) clothed with fine pubescence; stem erect; leaves falsely verticillate, 4-5-6, rarely opposite, ovate, acute, crenately toothed; cyme terminal, simple, or compound; limb of corolla nearly equal; hypogynous glands twin behind. ♃. H. Native of Brazil, in woods near Rio Janeiro, and in the tract of mountains of Serra do Mar, in various places. G. maculàta, Mart. nov. gen. bras. t. 215. G. verticillàta, Hook. bot. mag. t. 2776. Tuber nearly globose, 1½ to 2 inches in diameter. Stems solitary, or numerous from the same tuber. Corollas 1½ inches long, drooping, rose-coloured, irregularly marked with longitudinal, blood-coloured, or brownish blood-coloured stripes and spots.

Douglas's Gesneria. Fl. Aug. Sept. Clt. 1826. Pl. 2 to 3 feet.

*** *Peduncles axillary, 2, or many-flowered, cymose.*

5 G. latifòlia (Mart. in Otto, et Link, verh. bot. gart. 5. p. 218. t. 1. nov. gen. bras. p. 34.) plant tomentosely villous; stem erect; leaves opposite, broad, or orbicularly-ovate, obtuse, or elliptic, coarsely toothed; cymes axillary, crowded upwards into a terminal thyrse; corolla cylindrical, with an equal tube; limb short, erect, nearly equal; hypogynous glands 2, behind. ♃. S. Native of Brazil, in the provinces of St. Paul, and Minas Geraes, in shady, rocky places. Tuber large, a span in diameter, placenta-formed. Stems simple, numerous from the same root. Leaves 4-7 inches long. Cymes 5-12-flowered. Corolla an inch long, beautiful scarlet, villous outside; tube broadly bigibbous from the base downwards.

Broad-leaved Gesneria. Pl. 1½ to 2 feet.

6 G. aggrega'ta (Ker. bot. reg. t. 329.) clothed with subviscid villi; stem erect, branched; leaves opposite, rarely 3 in a whorl, oblong-ovate, acutish at both ends, villous, especially on the veins beneath, crenated; peduncles axillary, 2-4-6-flowered, verticillate, 2 to 8, length of corolla, which is coarsely bigibbous behind, clavately cylindrical: limb nearly equal, erect; hypogynous glands 4-5. ♃. S. Native of Brazil, in woods about Rio Janeiro, and elsewhere. G. pendulìna, Lindl. bot. reg. t. 1032. This species agrees in some points with the *G. latifòlia*, particularly in the form of the corolla. Corolla before florescence often tricoloured; that is, scarlet at the base, yellow in the middle, and greenish at top; tube broadly bigibbous from the base downwards. The 2 hind hypogynous glands are often combined in one.

Aggregate-flowered Gesneria. Fl. July, Aug. Clt. 1816. Pl. 2 feet.

7 G. Deppea'na (Cham. et Schlecht, in Linnæa, 5. p. 110.) tomentum on the superior surfaces of the leaves soft, not strigosely scabrous; that on the lower surfaces yellowish white, not fuscescent; the crenæ, tomentum of stems, and peduncles spreading, not reflexed; anthers exserted; segments of calyx narrower, more acute, triangular, and the leaves more elongated than in *G. elongàta*, H. B. et Kunth. ♃. S. Native of Mexico, in the woods of Jalapa; and at the Hacienda de La Laguna. G. vetulìna, Willd. herb. no. 11253. Nearly allied to *G. aggregàta*, Ker. but differs in the broad, ovate, acuminated, acute calyxes, and the smaller corollas, which are also scarlet.

Deppe's Gesneria. Pl.

8 G. bulbòsa (Ker. bot. reg. t. 343.) villous; stem erect; leaves opposite, broad-ovate, cordate, acutish, serrately crenated; cymes many-flowered, spreading from the axils of the leaves, and disposed upwards into a terminal thyrse; superior lip of corolla very long; hypogynous glands 2, behind. ♃. S. Native of Brazil, in shady rocky places at Villa Rica; also on the mountains of Serra dos Orgaos, at the altitude of 2500 to 3000 feet. Leaves very like those of *G. latifòlia*; but is distinguished by the figure of the corolla. It is very variable in the size of the corolla; and the cymes are sometimes all crowded into a terminal thyrse, and sometimes others are axillary. Corollas scarlet.

Bulbous-rooted Gesneria. Fl. May, July. Clt. 1816. Pl. 2 feet.

9 G. Sellòwii (Mart. l. c.) stem pilose, branched; leaves

opposite, on short petioles, cordate-ovate, acute, serrated, hairy above, and hoary from tomentum beneath; cymes many-flowered, lateral, disposed into a long thyrse; corollas clavately cylindrical; limb short, nearly equal; hypogynous glands 4. ♃. S. Native of Brazil, in the province of Rio Grande do Sul, on Mount Butucaray, Sello. Leaves 5 inches long, and nearly 3 broad. Cymes opposite.

Sello's Gesneria. Pl. 2 to 3 feet.

10 G. móllis (H. B. et Kunth, nov. gen. amer. 2. p. 395. t. 191.) branches pilose; leaves opposite, obliquely ovate-oblong, acuminated, rounded at the base, sub-cordate, serrately crenated, densely and pilosely pubescent above, silvery and pilose beneath; peduncles axillary, 3-flowered; corolla tubular, inflated at top, pubescent; limb 5-cleft, nearly equal, spreading; hypogynous glands unknown. ♃. S. Native of New Granada. Leaves on short petioles, 3 inches long, and 1½ inch broad. Corolla scarlet; limb spotted.

Soft Gesneria. Pl. ?

11 G. macrosta'chya (Lindl. bot. reg. t. 1202.) clothed with hoary down; stem simple; leaves opposite, on short petioles, cordate ovate, crenated, wrinkled; cymes from the axils of the bracteas or upper leaves, many-flowered, the whole forming a long, leafless, terminal, compound raceme; corolla tubular, tomentose: limb nearly equal, short; hypogynous glands twin behind. ♃. S. Native of Rio Janeiro. Root tuberous, like the rest. Corolla scarlet; limb spotted.

Long-spiked Gesneria. Fl. Aug. Clt. 1825. Pl. 2 feet.

12 G. longiflòra (H. B. et Kunth, l. c. p. 396.) branches clothed with woolly hairs; leaves opposite, obliquely ovate, acute, narrowed into the short petioles at the base, crenated, finely pilose above, and pubescent beneath; peduncles axillary, 2-flowered; corolla tubular, woolly: limb nearly equal, 5-cleft, spreading; hypogynous glands unknown. ♃. S. Native of New Granada. Leaves 4-5 inches long, and 2½ broad. Corolla purplish, ventricose at top; limb spotted.

Long-flowered Gesneria. Pl. ?

13 G. elonga'ta (H. B. et Kunth, l. c. p. 396. t. 192.) branches tetragonal, clothed with woolly hairs; leaves opposite, oblong acuminated, acute at the base, somewhat crenated, scabrous from strigæ above, and clothed with fuscescent, woolly tomentum beneath; peduncles axillary, 4-flowered, elongated; corolla tubular, ventricose at top, hairy; limb 5-cleft, nearly equal; hypogynous glands unknown. ♃. S. Native of Quito. Leaves 4 inches long; veins purplish beneath. Corolla scarlet: throat contracted; limb spreading, spotted.

Elongated-peduncled Gesneria. Shrub. ?

14 G. corymbòsa (Swartz, prod. p. 89. fl. ind. occ. 2. p. 1022.) shrubby, subdivided; leaves opposite, ovate, acute, serrated, scarious, rough, clothed with hoary tomentum beneath, on short petioles; peduncles terminal and axillary, many-flowered, corymbose; corolla cylindrical, incurved: 2 upper segments of the limb concave: the 3 lower ones longer, with crenated edges. ♄. S. Native of the South of Jamaica, in rocky chalky places on the banks of rivers. Leaves 2 inches long. Corollas scarlet.

Corymbose-flowered Gesneria. Fl. June, Aug. Clt. 1822. Pl. 2 feet.

15 G. lasia'ntha (Zucc. abhandl. acad. wiss. 1829, 1830. p. 305. t. 13.) stem shrubby, branched, hairy; leaves petiolate, decussate, ovate-lanceolate, acuminated, serrulated, clothed with silky hairs; peduncles 4-flowered; tube of corolla equal at the base, with 5 gibbosities; hypogynous glands 5, minute. ♄. S. Native of Mexico. Corolla downy. Nearly allied to *G. Deppeàna*, Schlecht. et Cham. in Linnæa, 5. p. 110.

Woolly-flowered Gesneria. Shrub 2 to 3 feet.

* * * * *Flowers verticillate, spicate, or racemose.*

16 G. sce'ptrum (Mart. nov. gen. bras. 3. p. 32. t. 214.) villous; leaves on short petioles, opposite, or 3 in a whorl, from subcordate at the base to oblong, bluntly serrated; whorls of flowers almost leafless at top, disposed in an elongated thyrse; pedicels about the length of the corolla; upper lip of corolla drawn out; hypogynous glands 4 or 5. ♃. S. Native of Brazil, in the province of St. Paul, at Mogy das Cruce, along the banks of the Sapucahy river. Tuber large, depressed, globose. Leaves 2-3 inches long, villous. Stems simple.

Var. α, rùbra (Mart. l. c.) leaves with more parallel margins, lanceolate-oblong, acute, 3-5 inches long; peduncles loose and longer; corollas red, or scarlet.

Var. γ, flávida (Mart. l. c.) leaves broader, broad ovate-oblong, 4-6 inches long; peduncles loose and longer; corolla pale yellow.

Var. γ, ígnea (Mart. l. c.) leaves smaller, 1½ to 2 inches long, obtuse, rarely crenated, more densely pubescent beneath and canescent; peduncles shorter, strict; corollas pale fire coloured, reddish towards the edge of the limb.

Sceptre Gesneria. Pl. 3 to 4 feet.

17 G. chelonioi'des (H. B. et Kunth, nov. gen. 2. p. 392.) stem nearly simple, hairy; leaves opposite, on short petioles, oblong, acutish, obtuse at the base, coarsely crenated, hairy on both surfaces, canescent beneath; flowers spicate, opposite, solitary or twin; corolla tubular, hairy, gibbous above at the base: throat wide; hypogynous glands 5. ♃. S. Native of New Granada, in shady places in the valleys of Gualguase and Smitha, between Popayan and Almaguer, at the altitude of 580 to 700 hexapods. Leaves 3 inches long. Flowers pedicellate. Limb of corolla bilabiate: lobes all rounded. Corolla pale red. Ovarium only adhering to the calyx at the base.

Chelone-like Gesneria. Pl. 3 to 4 feet.

18 G. ela'tior (H. B. et Kunth, nov. gen. 2. p. 393.) stem simple? pilose; leaves 3 in a whorl, nearly sessile, lanceolate, obtuse at both ends, crenated, pilose, but more densely so beneath; spikes terminal, verticillate; whorles 3-flowered, remote; corolla clavately cylindrical, villous; hypogynous glands 5. ♃. H. Native of New Andalusia, in shady places on Mount Tumiriquiri, at the altitude of 600 hexapods. Leaves on short petioles, canescent beneath, 2½ inches long, and 7 lines broad. Flowers pedicellate, drooping. Corolla tubular, inflated at top, red.

Taller Gesneria. Pl. 3 to 4 feet.

19 G. sylva'tica (H. B. et Kunth, l. c.) stem simple, pilose; leaves 3 or 4 in a whorl, lanceolate-oblong, acuminated, quite entire, strigosely pilose on both surfaces, but especially beneath; spike terminal, verticillate; whorles 2-4-flowered: lower ones distant; corolla tubularly ventricose; limb 5-lobed, reflexed; hypogynous glands unknown. ♃. S. Native of the province of Bracomoros, between Jaen and the river Amazon, at the altitude of 230 hexapods. Leaves canescent beneath, 1½ inch long, and ½ an inch broad. Flowers pedicellate. Corolla 8 lines long, scarlet, pilose outside.

Wood Gesneria. Pl. 2 to 3 feet.

20 G. spica'ta (H. B. et Kunth, l. c. t. 188.) stem suffruticose, simple, pilose; leaves 3 in a whorl, on short petioles, lanceolate-oblong, acuminated, crenated, densely pilose above, and clothed with woolly tomentum beneath; spike terminal, verticillate; whorles 10-flowered, approximate; corolla tubular, incurved, hairy: limb 5-cleft: the 2 upper segments rather the largest; hypogynous glands 5. ♄. S. Native of New Granada, in boggy places near Ibague, at the foot of Mount Quindiu; also near the Hacienda de La Laguna, in Mexico, at the

altitude of 1730 hexapods. Leaves 5 inches long, and 1½ inch broad. Flowers pedicellate. Corolla scarlet. The Mexican plant usually has 4 leaves in a whorl, very scabrous above. The hairs of the stem are sometimes adpressed, of a fulvescent colour, not purplish. Corollas purplish.

Spicate-flowered Gesneria. Clt. 1831. Pl. 3 to 4 feet.

21 G. allagophy'lla (Mart. l. c.) stem erect, pilose, usually trigonal; leaves villous, nearly sessile, 3 in a whorl, or opposite, or scattered, linear-oblong or spatulate, obtuse, crenated; flowers sessile, in whorls, disposed in a long terminal spike; tube of corolla cylindrical, pilose; limb equal, spreading, glabrous; hypogynous glands 2, behind. ♃. S. Native of Brazil, in the mine provinces, in various places. Lindl. bot. reg. t. 1767. Tuber large, often a span in diameter, placentiform. Superior leaves more approximate than the others. Floral leaves ovate, acutish, serrated. Lower whorles of flowers 2-3 inches distant, but more approximate upwards; sometimes the peduncles are scattered, and therefore constituting a long spike. Corolla scarlet, pilose.

Changeable-leaved Gesneria. Fl. May, July. Clt. 1835. Pl. 2½ to 3 feet.

* * * * * *Peduncles axillary, 1-flowred, solitary, or aggregate.*

22 G. prasina'ta (Ker. bot. reg. t. 428. Mart. l. c. p. 37.) villous; stem erect; leaves opposite or 3 in a whorl, ovate or ovate-oblong, serrated; peduncles axillary, shorter than the corolla, which is campanulate, villous outside, with a nearly equal limb; hypogynous glands 5. ♃. S. Native of Brazil, in fields at Villa Rica, and elsewhere, in the mine provinces. Codonóphora grandiflòra, Lindl. in bot. reg. under no. 1112. Corollas scarlet? larger than those of *G. allagophýlla*, campanulate.

Green Gesneria. Fl. May, July. Clt. 1818. Pl. 1½ to 2 feet.

23 G. ru'tila (Lindl. bot. reg. 1158. Mart. l. c. p. 34.) villous; stem erect; leaves opposite, oblong-lanceolate, acutish at both ends, coarsely crenated; peduncles axillary, shorter than the corolla; superior lip of corolla drawn out; hypogynous glands 2, behind. ♃. S. Native of Brazil, in shady woods, in a moist soil, and in the fissures of rocks near Rio Janeiro, and in the tract of the mountains called Serra dos Orgaos, in various places. This species differs from *G. scéptrum* in the smaller stature, slenderer, usually purplish, stem, opposite, narrower, more or less attenuated leaves, shorter, interfoliaceous peduncles, which are not disposed into a terminal thyrse; and in the corolla, which is always scarlet, of a deeper colour towards the margins, more constricted towards the base, and more ventricose towards the mouth, and in the hypogynous glands being only 2.

Var. β, *atrosanguínea* (Bot. reg. 1279.) Corolla deep scarlet.

Brilliant Gesneria. Fl. Aug. Sept. Clt. 1825. Pl. 1 to 2 feet.

24 G. ulmifòlia (H. B. et Kunth, nov. gen. 2. p. 394.) shrubby? branches subtetragonal, and pilose; leaves opposite, ovate, acute, obliquely cordate at the base, crenated, blistered and scabrous above, reticulated and clothed with hairy pubescence beneath; peduncles axillary, 1-flowered, by threes or fours; corolla tubular, inflated at top, pilose outside; limb quinquefid; 2 superior lobes the largest; ovarium girded by a yellow ring. ♄. S. Native of Quito, between Chillo and Sangolgui, at the altitude of 1350 hexapods. Leaves petiolate, 32-33 lines long. Flowers erect. Corolla scarlet, 4 times longer than the calyx. This belongs to a different genus, if the ovarium is really surrounded by a ring instead of glands.

Elm-leaved Gesneria. Shrub.?

25 G. hirsu'ta (H. B. et Kunth, l. c. p. 394. t. 189) shrubby; branches very hairy; leaves opposite, oblong-ovate, acuminated, rounded at the base, tomentosely pilose above, and clothed with woolly tomentum beneath: peduncles axillary, 1-flowered, twin; corolla tubular, incurved, hairy outside; hypogynous glands hairy. ♄. S. Native of the province of Cumana, near the monastery of Caripe, at the altitude of 460 hexapods. Leaves on short petioles, about 3 inches long, having the veins and margins purplish beneath. Flowers drooping. Corolla 3 times longer than the calyx, ventricose at top, purple: limb of 5 roundish spreading, spotted lobes.

Hairy Gesneria. Fl. June, Aug. Clt. 1826. Shrub.

26 G. Honde'nsis (H. B. et Kunth, l. c. p. 395. t. 190.) stem nearly terete, clothed with silky white wool; leaves opposite, somewhat obliquely ovate-oblong, acuminated, acute at the base, crenulated, very scabrous above, and clothed with white wool beneath; peduncles axillary, 1-flowered, by twos and threes; corolla tubular, ventricose at top, hairy outside; limb nearly equal; hypogynous glands 5, truncate, sub-bidentate. ♃. S. Native of New Granada, in rocky places near the town of Honda, at the altitude of 150 hexapods. Leaves petiolate, 4½ inches long. Corolla yellowish green, beset with scarlet hairs: limb spotted with purple.

Honda Gesneria. Pl. 1 to 3 feet.

27 G. Suttòni (Booth, in bot. reg. 1637.) stem terete, tomentose; leaves ovate-cordate, crenated, tomentose; peduncles axillary, solitary, 1-flowered; upper lip of corolla oblong, undulated: lower one small, revolute. ♃. S. Native of Rio Janeiro, near the bay of Bomviaga. Root tuberous. Leaves opposite, green above, and hoary beneath. Corolla large, scarlet, downy, swelling at the base.

Sutton's Gesneria. Fl. July, Aug. Clt. 1833. Pl. 2 feet.

28 G. tubiflòra (Cav. icon. 6. p. 61. t. 584.) stem tetragonal, tomentose; leaves ovate, acuminated, crenulated, tomentose; peduncles 1-flowered, axillary, by twos or threes; corolla tomentose, tubularly ventricose, straight; throat contracted: limb small, equal, of 5 diverging crenatures or teeth. ♃. S. Native of Panama. Leaves hoary beneath. Peduncles unequal, longer than the petioles. Calyx tomentose, adherent, with lanceolate segments. Corolla an inch long, scarlet. Hypogynous glands 5, obtuse. Capsule ovate. Perhaps a distinct genus.

Tube-flowered Gesneria. Pl. 1½ to 2 feet.

29 G. verticilla'ta (Cav. icon. 6. p. 62. t. 585. f. 1.) stem tetragonal, villous; leaves ovate, crenulated, villous, nearly sessile, hispid above, and clothed with hoary tomentum beneath; peduncles 1-flowered, numerous, axillary, villous, and appearing as if they were verticillate; corolla villous, tubularly urceolate: throat contracted: limb equal, of 5 short, rounded, spreading crenatures or teeth. ♃. S. Native of New Granada, between Guaranda and Chimborazo. Leaves opposite, hardly an inch long. Corolla scarlet, 3 lines long.

Whorled-flowered Gesneria. Pl. 1 foot.

N.B. What is Gesnèria acaúlis, Lin.?

Cult. All the species of this genus are very showy while in flower; they are, therefore, great favourites with collectors. A light rich soil, or a mixture of loam, peat, and sand, answers them best. Most of the species are readily propagated by cuttings, and by the tubers of the root. The roots while in a dormant state should have no water given to them.

III. GLOXI'NIA (so named by L'Heritier, in memory of Benj. Petr. Gloxin, of Colmar, author of "Observationes Botanicæ." Argent. 1785. 4to.) Lher. stirp. 149. Ait. hort. kew. 2. p. 331. Mart. nov. gen. bras. 3. p. 262. Martýnia

spec. Lin.—Paliàva, Velloz. in Vand. script. t. 7. f. 17. Sinníngia, Nees.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx adnate to the ovarium, to the middle: limb 5-parted, free. Corolla semisuperior, oblique, funnel-shaped, or campanulately subringent, gibbous behind at the base; tube ventricose: limb spreading: upper lip 2-lobed: lower one 3-lobed. Stamens 4, didynamous, with the rudiment of a fifth behind. Glands 5, perigynous. Capsule 1-celled, 2-valved; placentas 2, parietal, 2-lobed. Seeds numerous, oblong. Root a thick unequal tuber.—Plants sometimes stemless, therefore the flowers and leaves rise immediately from the root; sometimes with simple, terete, soft stems. Leaves opposite, petiolate, thick, for the most part crenated or serrated. Gemmation naked. Flowers large, axillary, solitary, or many, aggregate, drooping, violaceous, greenish-yellow, or white, of one colour, or obscurely spotted, and striped with other colours. Native of tropical America, on the east coast, in wet shady places of woods, and on humid rocks, and sometimes at the roots of trees.

Sect. I. Eugloxi'nia. (This section is supposed to contain the true species of the genus.) Calyx terete. Corollas violaceous, bluish or white.

1 G. gra'cilis (Mart. nov. gen. bras. 3. p. 64. t. 226.) caulescent; stems elongated, rather pilose, as well as the leaves; leaves oblong, attenuated at both ends, acute, serrated; flowers axillary, solitary or twin; calyx terete, with long, acuminated segments; corolla downy. ♃. S. Native of the province of Rio Janeiro, in humid places, upon stones at Mount Corcovado, and near Tejuco. Tuber size of a small apple, nearly globose. Leaves distant, 3-4 inches long, pale, and rather reddish beneath. Corolla an inch and a half long, blue or pale violet, very like those of *G. caulèscens* and *G. speciòsa.*

Slender Gloxinia. Pl. 2 to 4 feet.

2 G. caule'scens (Lindl. bot. reg. 1127.) caulescent; leaves oval, crenated, obtuse, tomentose, with revolute edges; peduncles solitary, axillary, elongated; corolla downy: segments nearly equal: middle one cordate-ovate, all undulated; calyx oblique, with acuminated segments, exactly like that of *G. speciòsa.* ♃. S. Native of Pernambuco. Corolla large, a little arched, drooping, bluish purple.

Caulescent Gloxinia. Fl. July, Aug. Clt. 1826. Pl. ½ to 1 foot.

3 G. macrophy'lla (Nees et Mart. in nov. act. bonn. 11. p. 66.) nearly stemless; leaves ovate, clothed with soft pubescence, sessile, shorter than the flowers, crenated, obtuse; flowers crowded, nutant; calyx large, 5-cleft, with triangular acuminated segments. ♃. S. Native of Brazil, on the road to Felisbert. Leaves 8 inches long, and 5½ inches broad. Corolla blue, like those of *G. speciòsa*, but smaller. This species is similar to *G. speciòsa*, but differs in the flowers being in nearly sessile glomerules; and in the leaves being much larger, and in the flowers being smaller.

Long-leaved Gloxinia. Pl. ½ to ¾ foot.

4 G. speciòsa (Ker. bot. reg. 213.) stemless, hispid or hairy; leaves oval, crenated; peduncles from the axils of the leaves, villous, longer than them; calyx 5-cleft, with ovate, acuminated segments. ♃. H. Native of Brazil. Sims, bot. mag. 1937. Lodd. bot. cab. 28. Stem very short. Leaves 7 inches long, when full grown. Corolla large, bluish purple; with rounded segments.

Var. β, álba; flowers white.

Showy Gloxinia. Fl. June, Nov. Clt. 1815. Pl. ¼ to ½ foot.

5 G. macula'ta (Lher. stirp. t. 149.) caulescent; stems simple, spotted; radical leaves cordate, obtuse, doubly toothed, shining above, and reddish beneath; cauline leaves petiolate, roundish-ovate, simply toothed; peduncles axillary, 1-flowered, solitary; calyx glabrous, with oblong obtuse segments; corolla downy. ♃. S. Native of America, about Carthagena. Sims, bot. mag. 1191. Martýnia perénnis, Lin. spec. 862. Mill. dict. no. 2. Med. bot. beot. 1783. p. 238.—Martýnia foliis serratis, Lin. hort. cliff. p. 322. t. 18.—Ehret. pict. t. 9. f. 2. Root scaly, like that of *Dentària.* Corolla purplish-blue.

Spotted-stemmed Gloxinia. Fl. July, Oct. Clt. 1739. Pl. 1 foot.

6 G. hirsu'ta (Lindl. bot. reg. t. 1004. Hook. bot. mag. 2690.) stemless, very hairy; leaves ovate-roundish, wrinkled, hispid, rather cordate at the base; scapes or peduncles aggregate, 1-flowered; calyx tubular below, with lanceolate segments; corolla funnel-shaped: tube narrow: limb spreading, with obtuse or retuse unequal lobes. ♃. S. Native of Brazil. Leaves lying flat on the ground. Corolla pale blue, downy, striped with darker veins; the interior of the tube yellow, with darker spots.

Hairy Gloxinia. Fl. June, Aug. Clt. 1824. Pl. ¼ foot.

Sect. II. Sinni'ngia (W. Sinning, gardener to the University of Bonne, on the Rhine.) Mart. nov. gen. bras. 3. p. 64. Sinníngia, Nees, in ann. scienc. nat. 6. p. 297. t. 12. The whole of the calyx, or only the bottom of it, angular or winged. Flowers white, yellowish green, or pale yellow.

7 G. Schóttii (Mikan. del. bras. p. 4.) leaves glabrous, cordate, ovate, serrated, ciliated; calyx turbinate, twice as long as the ovarium. ♃. S. Native of Rio Janeiro. Sinníngia Hellèri, Nees, l. c. Lindl. bot. reg. 997. Corolla pale yellow or greenish yellow.

Schott's Gloxinia. Fl. June, July. Clt. 1820. Pl. 1 foot.

8 G. gutta'ta (Mart. l. c.) leaves oblong-lanceolate, attenuated at the base, pubescent, lucid, serrated; corollas spotted; calyx cylindrically campanulate, 3 times as long as the ovarium. ♃. S. Native of Brazil. Sinníngia guttàta, Lindl. bot. reg. t. 1112. Corolla downy, pale, almost white, spotted inside with livid purple.

Spotted-flowered Gloxinia. Fl. July. Clt. 1826. Shrub 1½ foot.

9 G. veluti'na (Mart. l. c.) leaves oblong, subcordate, velvety; calyx cylindrically campanulate, 3 times as long as the ovarium. ♃. S. Native of Brazil. Sinníngia velutìna, Lindl. bot. reg. under no. 1112. Corolla pale yellow.

Velvety Gloxinia. Fl. July. Clt. 1826. Pl. 1½ foot.

10 G. villòsa (Mart. l. c.) stem and leaves villous; calyxes 5-parted, length of ovarium; flowers aggregate. ♃. S. Native of Brazil. Sinníngia villòsa, Lindl. bot. reg. 1134. Larger than other species of this section. Corolla pale yellowish green.

Villous Gloxinia. Fl. July. Clt. 1826. Pl. 1½ foot.

11 G. du'bia; calyx tubular, 5-angled, foliaceously winged, with a 5-cleft mouth; corolla with an inflated sub-bilabiate limb; rudiment of fifth filament inserted above the base of the corolla; hypogynous glands 5, alternating with the filaments; fruit capsular, rather fleshy. ♄. S. Native of Mexico. Gesneriàceæ, Genus nova, Nees, in Linnæa, 1. p. 305.

Doubtful Gloxinia. Shrub.

Cult. Gloxínia is a genus of splendid plants, and great favourites with gardeners. A light rich soil, or a mixture of sand, loam, and peat, suits them well. *G. maculàta* is increased by dividing at the root; and it should be kept free from suck-

ers, and only a single stem in a pot, or it will not grow strong enough to flower. The rest of the species flower freely, and strike readily from cuttings. The leaves of *G. speciòsa*, and probably of most others, if taken off close to the stem, and planted, will strike root, and make each a plant.

Subtribe II.

Conradie'æ (this section agrees with *Conràdia* in the character given below.) Calyx adnate to the ovarium. Corolla superior. Leaves alternate or scattered, not opposite, as in the last section.

IV. RYTIDOPHY'LLUM (from *ῥυτις ῥυτιδος, rytis rytidos*, a wrinkle; and *φυλλον, phyllon*, a leaf; leaves blistered.) Mart. nov. gen. bras. 3. p. 38.—Gesnèria species, Lin. and Swartz.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx wholly adnate to the ovarium; limb 5-toothed or 5-cleft. Corolla superior, campanulate, constricted in the middle; limb 5-lobed. Stamens 4, didynamous, with the rudiment of a fifth behind; anthers free or anisogeneous, and cohering. Disk epigynous, thick, annular, sinuous. Capsule dry, combined with the somewhat 5-ribbed calyx; top flat, 2-valved; placentas 2, parietal, many-seeded.—Small trees and shrubs, with fibrous roots. Branches alternate and scattered, hairy. Leaves stipulate, on short petioles, scattered, very hairy beneath; the parenchyma in the upper surface elevated into small blisters, each bearing a hair at apex. Flowers cymose, on peduncles which rise from the axils of the superior leaves, green, of one colour, or spotted with blood-colour, or wholly blood-coloured.

1 R. tomentòsum (Mart. l. c. p. 39.) branches hairy; stipulas roundish, revolute, crenated, tomentose; leaves oblong, acuminated, narrowed at both ends, serrated, reticulated, and clothed with hoary pubescence beneath, and papillosely rough above; corymbs axillary, on long peduncles; calyx villous, with a 5-parted equal limb. ♄. S. Native of tropical America, on the banks of rivers and rivulets. Gesnèria tomentòsa, Lin. spec. 851. Mill. dict. no. 1. Jacq. amer. 179. t. 175. f. 64. pict. 89. t. 261. f. 2. Sims. bot. mag. 1023. Codonóphora lanceolàta, Lindl.—Sloane, hist. 1. p. 162. t. 104. f. 2. Corollas spotted with yellow and dark purple. What is Gesnèria tomentòsa, H. B. et Kunth, nov. gen. 2. p. 396, which is described as a herbaceous plant, with a fusiform root, a simple procumbent stem, and opposite leaves.

Tomentose Rytidophyllum. Clt. 1759. Shrub 2 to 4 feet.

2 R. gra'nde (Mart. l. c.) branches hairy; leaves broad-lanceolate, very long, denticulated, hairy, scabrous above, petiolate; peduncles long, terminal and axillary, dichotomous; pedicels usually 3-flowered; segments of calyx acute, equal. ♄. S. Native of Jamaica, on the mountains. Gesnèria grándis, Swartz. prod. 89. fl. ind. occ. 2. p. 1018. Leaves scabrous and white beneath. Flowers large, greenish-yellow. Corolla irregular, dilated at the base; limb ventricose towards the top; upper lip large, arched, bifid.

Great Rytidophyllum. Shrub 6 to 15 feet.

3 R. Berteroa'num (Mart. l. c.) branches densely hairy; stipulas subulate; leaves lanceolate, acuminated at both ends, doubly toothed, scabrous from hairs beneath, and papillosely rough above; calyx villous, with setaceously elongated segments. ♄. S. Native of the island of St. Domingo, on rocks. Gesnèria scàbra, Spreng. syst. 2. p. 838. but not of Swartz.

Bertero's Rytidophyllum. Shrub.

Cult. This is a beautiful genus, like the rest of the present order. A light rich earth, vegetable mould, or a mixture of loam, sand, and peat, is good soil for the species; and cuttings strike root readily in heat.

V. CONRA'DIA (named after Conrad Gesner, see *Gesnèria.*) Mart. nov. gen. bras. 3. p. 38. Gesnèria species, Plum. and Swartz.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx wholly adnate to the ovarium; limb 5-cleft or 5-toothed, free. Corolla superior, tubular or campanulate; limb somewhat equally 5-cleft. Stamens 4, didynamous, with the rudiment of a fifth behind; anthers usually cohering into a round head. Glands or disk wanting. Capsule dry, clothed with a 5 or 10-ribbed calyx, flat on the top, 2-valved; placentas 2, parietal, many-seeded. Seeds scobiform.—Shrubs, rarely herbs, with fibrous roots. Branches alternate or scattered. Leaves petiolate, alternate, or scattered, towards the tops of the branches, rough from stiffish white hairs, particularly on the nerves and veins, rarely glabrous, usually toothed. Flowers disposed in few-flowered cymes, on peduncles which rise from the axils of the upper leaves, red or green, spotted with blood-colour, white or pale.

Sect. I. Synanthe'ra (from *συν, syn*, together; and *ανθηρα, anthera*, an anther.) Stamens inclosed. Anthers all connected into a round head.

1 C. hu'milis (Mart. l. c.) leaves lanceolate, serrated, sessile; peduncles dichotomous, 3-7-flowered, very long; calyx campanulate, 5-toothed; corolla campanulate, irregular. ♄. S. Native of Tropical America, and the West Indies. G. hùmilis, Lin. spec. 850. G. hùmilis flore flavescente, Plum. gen. 27. icon. 133. f. 2. Corolla yellowish green, with dark spots within.

Humble Conradia. Shrub 2 feet.

2 C. craniola'ria (Mart. l. c.) leaves cuneate-obovate, acute, sub-runcinate, toothed, glabrous above, and hairy beneath; calyx downy, with linear lanceolate, reflexed segments; corolla campanulate; limb nearly regular. ♄. S. Native of Hispaniola, among broken rocks on the mountains. Gesnèra craniolària, Swartz, prod. 89. fl. ind. occ. 2. p. 1015. Craniolària fruticòsa, Lin. spec. 861.—Plum. gen. 27. icon. t. 137. Leaves 4-6 inches long. Corolla green outside, hairy, and dark purple. Margins of the segments of the lower lip of corolla laciniately jagged.

Craniolaria-like Conradia. Shrub 3 to 4 feet.

3 C. sca'bra (Mart. l. c.) leaves ovate-lanceolate, serrated, scabrous; calyx scabrous, with ovate, acute, blood-coloured segments; corolla incurved, cylindrical: limb nearly equal. ♄. S. Native of Jamaica, on calcareous rocks. Gesnèria scàbra, Swartz, prod. 89. fl. ind. occ. 2. p. 1020. Leaves petiolate, scabrous above, wrinkled, hispid, and hoary beneath. Corolla small, blood red.

Scabrous Conradia. Shrub 2 to 4 feet.

Sect. II. Dittanthe'ra (from *διττος, dittos*, twin; and *ανθηρα, anthera*, an anther.) Stamens exserted; anthers connected by pairs.

4 C. ventricòsa (Mart. l. c.) leaves elliptic, acuminated, crenated, glabrous; peduncles usually 4-flowered; calycine segments subulate, elongated; corolla cylindrical, incurved: segments of the lower lip crenately ciliated. ♄. S. Native of Jamaica, Martinique. Gesnèria ventricòsa, Swartz, prod. p. 90. fl. ind. occ. 2. p. 1028. Pentaràphia longiflòra, Lindl. Leaves

6-8 inches long. Flowers large, scarlet. Capsule turbinately-obovate.

Ventricose-flowered Conradia. Fl. June, July. Clt. 1823. Shrub 6 to 8 feet.

5 C. exse'rta (Mart. l. c.) leaves oblong-lanceolate, crenated, glabrous; peduncles 3-flowered; calycine segments long, acute, reflexed; corolla with the tube dilated at the base, and contracted in the middle, gibbose behind, and ventricose in front. ♄. S. Native of Jamaica, on the top of the mountains. Gesnèria exsérta, Swartz, prod. p. 89. fl. ind. occ. p. 1024. Leaves petiolate, pale beneath. Corolla large, yellow, an inch long.

Exserted-stamened Conradia. Shrub 8 to 10 feet.

6 C. calyci'na (Mart. l. c.) leaves ovate-lanceolate, acuminated, serrately crenated, glabrous; peduncles 3-flowered; calyx inflated, campanulate, 5-toothed: teeth ovate, acute, erect; corolla like that of *C. exsérta;* genitals exserted; capsule cylindrical. ♄. S. Native of Jamaica, in mountain woods. Gesnèria calycìna, Swartz, prod. p. 90. fl. ind. occ. 2. p. 1026. Sinníngia calycìna, Hort. ex Loud. hort. brit. p. 241. Leaves petiolate, 4-6 inches long.

Large-calyxed Conradia. Fl. July, Aug. Clt. 1824. Shrub 6 feet.

Sect. III. Chorisanthe'ra (from χωριζω, *chorizo*, to separate; and ανθηρα, *anthera*, an anther; anthers separate, not combined.) Stamens a little exserted; anthers distinct. Fruit like those of the other species.

7 C. pu'mila (Mart. l. c.) stemless; leaves cuneate-obovate, crenated, nearly sessile, rather hairy; peduncles usually 2-flowered, shorter than the leaves; calycine segments ovate-lanceolate, acute: lower ones large, reflexed; corolla with a funnel-shaped tube, dilated and sub-campanulate above: limb nearly regular, with crenately ciliated segments: upper 2 erect. ♃. S. Native of Jamaica. Leaves rather scabrous. Corolla whitish, covered with blood-coloured hairs.

Dwarf Conradia. Pl. ¼ foot.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

Subtribe III.

BESLERIE'Æ (the genera contained in this subtribe agree with *Beslèria.*) Calyx free. Corolla inferior.

VI. SARMIE'NTA (named after Mart. Sarmiento, a Spanish botanist.) Ruiz. et Pav. fl. per. 1. p. 8. t. 7. f. b. Mart. nov. gen. bras. 3. p. 66. t. 219. f. 2. Urceolària, Feuill. per. 3. p. 69. t. 43.

Lin. syst. *Diándria, Monogýnia.* Calyx inferior: limb 5-parted, nearly equal. Corolla urceolate: limb 5-lobed, nearly equal. Two hind stamens perfect, with the rudiments of three sterile ones, the hind one of these subulate and smaller. Ring hypogynous. Capsule 1-celled, circumcised, ex Ruiz. et Pav.; placentas 2, parietal, many-seeded.—A branched, loose, scandent, parasitical herb, with strong, wiry roots. Leaves opposite, thickish, hairy, dotted. Flowers on long peduncles, scarlet, bibracteate.

1 S. re'pens (Ruiz. et Pav. l. c.) ♃. ◡. S. Native of Peru, in woods. Urceolària scándens, Feuill. per. 3. p. 69. t. 43.

Creeping Sarmienta. Pl. climbing.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

VII. BESLE'RIA (so named by Plumier after Basil Besler, an apothecary of Nuremberg, editor, with the assistance of Jungermann, of a large work, entitled "Hortus Eystettensis, 1613." The garden belonged to Conrada Gemmingen, a bishop, and the plates were engraved at his expense.) Plum. gen. 5. in part. Lin. gen. no. 755. in part. Schreb. gen. no. 1012. Jacq. amer. 187. in part. Juss. gen. p. 121. in part. H. B. et Kunth, nov. gen. amer. 2. p. 397. in part. Gærtn. fruct. 1. p. 24. t. 52. Mart. nov. gen. bras. 3. p. 43.—Eríphia, Browne, jam. 270.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx coloured, 5-cleft, free; segments quite entire. Corolla campanulately-ringent: upper lip 2-lobed: lower one 3-lobed. Stamens 4, didynamous, rising above the base of the tube, with a chaff-formed rudiment of a fifth behind. Hypogynous ring, without any gland. Berry globose, 1-celled. Seeds very minute, numerous, attached to two parietal, 2-lobed placentas.—Erect, branched shrubs. Stems sub-tetragonal. Leaves opposite, petiolate, thickish; nerves and veins very prominent beneath. Peduncles axillary, few-flowered. Down and hairs on the plants simple. All inhabitants of Tropical America, in shady, moist places.

1 B. umbròsa (Mart. l. c. p. 44. t. 218.) leaves oblong, acuminated, attenuated at the base, or cordate, quite entire, ciliated in the young state, and with the nerve and veins strigillosely pubescent beneath; peduncles axillary, solitary, usually 3-flowered, exceeding the petioles. ♄. S. Native of Brazil, in shady woods, at fountains near Mandiocca, and elsewhere in the tract of the mountains called Serra dos Orgaos, at the altitude of 500 feet. Leaves 3-5 lines long. Corollas white, glabrous.

Shaded Besleria. Shrub 3 to 5 feet.

2 B. lu'tea (Lin. spec. 863. Swartz, obs. 231.) leaves broad-oblong, acuminated, contracted behind, coarsely-toothed in front, glabrous; peduncles axillary, 1-flowered, about equal in length to the petioles. ♄. S. Native of Jamaica, in humid places; Guiana and Para.—Plum. gen. 29. p. 36. t. 49. f. 1. Eríphia, &c. Browne, jam. p. 271. Corolla yellow.

Yellow-flowered Besleria. Fl. July, Aug. Clt. 1739. Shrub 3 to 5 feet.

3 B. lu'teo-vìrens (Nees, et Mart. nov. act. bonn. 11. p. 49. Mart. nov. gen. bras. 3. p. 45.) leaves oblong-lanceolate, acuminated, cuneated at the base, serrated, especially in front, rather pilose; cymes axillary, many-flowered, contracted, equal in length to the petioles. ♄. S. Native of Brazil, in boggy parts of woods near St. Petro de Alcantara, in the district of Ilheos. Corolla greenish-yellow.

Greenish-yellow-flowered Besleria. Shrub.

4 B. e'legans (H. B. et Kunth, nov. gen. amer. 2. p. 397.) leaves somewhat obliquely elliptic-oblong, acuminated, quite entire, glabrous; peduncles axillary, generally twin, and usually 3-flowered, shorter than the petioles. ♄. S. Native of New Granada, on the Andes of Quindiu, between Quebrada de Tucheacto and the river San Rafall, at the altitude of 1350 hexapods. Branches terete, twisted, hairy while young. Leaves 7 inches long, and 3 broad. Calyx glabrous. Corolla scarlet, glabrous.

Elegant Besleria. Shrub.

5 B. solanoi'des (H. B. et Kunth, l. c.) leaves lanceolate-oblong, acuminated, narrowed at the base, remotely and obsoletely denticulated, glabrous; peduncles axillary, usually by threes, 1-flowered, about equal in length to the petioles. ♄. S. Native of the valley of San Lorenzo, on the banks of the river Pansitara, between the city of Popayan and Almaguer, at the altitude of 1050 hexapods. Stems wrinkled, glabrous. Leaves opposite. ? Peduncles solitary, twin, or by threes. Corolla orange-coloured, glabrous. Said to be nearly allied to the preceding.

Solanum-like Besleria. Shrub 3 to 6 feet.

6 B. INCARNA'TA (Aubl. guian. 2. p. 635. t. 256.) leaves oblong, crenated, tomentose on both surfaces; peduncles axillary, solitary, 1-flowered; genitals exserted. ♃. S. Native of Guiana. Plant erect, herbaceous, tomentose. Stem tetragonal. Corollas purplish; tube long, ventricose: lobes of limb reflexed, roundish, unequal, fringed.

Flesh-coloured-flowered Besleria. Fl. ? Clt. 1820. Pl. 2 feet.

7 B. ? VIOLA'CEA (Aubl. guian. 2. p. 637. t. 254.) leaves ovate, acute, quite entire; peduncles racemosely panicled, terminal; stem scandent. ♄. S. Native of Guiana, in woods. Leaves glabrous, stiff. Flowers purple, size of those of *Lilac*. Calyx ventricose, 5-toothed, purple. Corolla with a curved tube and spreading limb. Berry purple, edible.

Var. β, *cærùlea* (Aubl. guian. 2. p. 631.) berries blue.

Violet-berried Besleria. Shrub climbing.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

VIII. HYPOCY'RTA (from ὑπο, *hypo*, under; and κυρτος, *cyrtos*, gibbous; the under part of the tube of the corolla exhibits a conspicuous gibbosity.) Mart. nov. gen. bras. 3. p. 48.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx free, deeply 5-parted. Corolla inferior, tubular, gibbous behind at the base, but, with the tube, ventricose in front: limb 5-lobed, or 5-toothed, nearly equal. Stamens 4, didynamous, with the rudiment of a fifth behind, which rises from the base of the tube; anthers cohering by pairs. Hypogynous ring bearing a gland behind. Berry globose, juicy, coloured, 1-celled. Seeds many, fixed to 2 2-lobed, parietal placentas (f. 68. f.)—Glabrous, or hairy shrubs, inordinately branched, extending and radicant, rarely erect. Leaves opposite, thickish, paler beneath, and shining, and often reddish. Flowers axillary, solitary, or aggregate, of a beautiful colour, such as scarlet, white, cream-coloured, and rose-coloured.—Some of the species grow upon old trees, or in humid places throughout tropical Brazil.

Sect. I. Codona'nthe (from κωδων, *kodon*, a bell; and ανθος, *anthos*, a flower; in reference to the campanulate tube of corolla.) Mart. nov. gen. bras. 3. p. 49. Tube of corolla sub-campanulate, a little more ventricose on the lower side; limb broadish.

1 H. GRA'CILIS (Mart. nov. gen. bras. 3. p. 50. t. 220.) glabrous; branches inordinate, ascending, rooting every where, loose, epidermis shining; leaves on short petioles, ovate, with sub-undulately-toothed edges; peduncles axillary, solitary, or twin; corollas sub-campanulately tubular: lobes rounded, spreading. ♄. S. Native of Brazil, in various places among stones, in humid places from Rio Janeiro to Para. Corollas glabrous, white outside, yellow inside, and spotted with red at the base. Branches obsoletely tetragonal.

Slender Hypocyrta. Shrub creeping.

2 H. AGGREGA'TA (Mart. l. c. p. 51. t. 221.) stem erect, nearly simple, hairy; leaves oblong, acuminated at both ends, quite entire, pilose in the young state; petioles and nerves hairy beneath; peduncles axillary, aggregate; calyxes vermillion coloured; corollas urceolate: lobes roundish, spreading. ♄. S. Native of Brazil, in the province of Rio Negro, in woods along the river Japura, near Manacuru and elsewhere. Stem terete, or obsoletely tetragonal. Corolla fine scarlet, finely pubescent outside.

Aggregate-flowered Hypocyrta. Shrub 4 to 6 feet.

Sect. II. Oncoga'stra (from ογκος, *oncos*, a hook; and γαστηρ, *gaster*, a belly; in allusion to the tube being gibbously ventricose downwards on the lower side.) Mart. nov. gen. bras. 3. p. 49. Tube of corolla very much gibbously ventricose downwards; limb short, toothed, erect.

3 H. HIRSU'TA (Mart. l. c. p. 52. t. 222.) stem erectish, or ascending, villously hairy at top; leaves on short petioles, obovate, bluntish, hairy; flowers axillary, solitary; corollas greatly swollen in front: limb contracted, erect, 5-toothed. ♄. S. Native of Brazil, in the mine provinces, in shady, stony places on the edges of woods, near Villa Rica and elsewhere. Stem flexuous, or obsoletely tetragonal. Corolla an inch long, scarlet, pubescent. (fig. 68.)

FIG. 68.

Hairy Hypocyrta. Shrub 1 to 1½ foot.

4 H. STRIGILLÒSA (Mart. l. c. p. 52.) stem erectish, villous at top; leaves on short petioles, oblong, acutish, mucronulate; flowers axillary, solitary; corollas coarsely ventricose in front; limb contracted, erect, 5-toothed. ♄. S. Native of Brazil, in the mine provinces, on the rocks of Mount Lenheiro, near St. Joâo d' El Rey and elsewhere; also on the mountains of Sincora, in the province of Bahia. Flowers similar to those of the preceding, except the calyx, which has the segments broader and acute, and the strigæ on the nerves of the leaves are more conspicuous than in the other parts, and the corolla is less pubescent. Perhaps belonging to the first section *Codonánthe*.

Strigillose Hypocyrta. Shrub 1 to 1½ foot.

5 H. CILIÒSA (Mart. l. c. p. 53.) hairy; stem decumbent, radicant; leaves broad-lanceolate, acuminated at both ends, a little serrated; flowers axillary, aggregate; calyxes subulate, purplish; corollas campanulately tubular: lobes roundish, spreading: lower one with bent in ciliæ. ♄. S. Native of Brazil, in the diocess of Japura, in woods at Manacuru. Stems rooting on trees, terete, purplish. Corolla more than an inch long, cream-coloured, pubescent; tube calcarately gibbous at the base behind, and widened upwards.

Ciliated-flowered Hypocyrta. Shrub creeping.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

IX. COLU'MNEA (a name given by Plumier, in honour of Fabius Columna, as he is commonly called, or Fabio Colonna, of the noble family of Colonna, in Italy; author of "Minus cognitarum stirpium Ecphrasis," Rome, 1616; and "Phytobasanos," 1 vol. 4to. Naples, 1592.) Plum. 33. Lin. gen. no. 792. Schreb. gen. no. 1060. Juss. gen. 121. ed. Usteri. p. 135. Mart. nov. gen. bras. 3. p. 56. t. 224. f. 2.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx inferior, 5-parted. Corolla tubular, straightish, gibbous behind at the base, ringent: upper lip erect, arched: lower one trifid, spreading. Stamens 4, didynamous; anthers connected with the rudiment of a fifth behind. Glands 1-5 around the ovarium. Berry 1-celled; placentas 2, parietal, 2-lobed. Seeds oblong. —Stems flexile, erect, or scandent. Leaves decussately opposite, thickish, hairy, or pubescent, somewhat serrated. Peduncles axillary, solitary, or crowded. Corollas scarlet.

1 C. SCA'NDENS (Lin. spec. 891.) leaves ovate, acute, serrated, rather villous; segments of calyx denticulated, and are, as well as the corollas, pubescent; upper lip of corolla undivided. ♄. S. Native of Guiana, and the West Indies, in humid, shady woods, climbing upon trees. Jacq. amer. pict. t. 179. hort.

vind. 3. p. 27. t. 48. Ker. bot. reg. 805.—Plum. gen. 28. t. 89. f. 1. Stem quadrangular. Leaves petiolate. Flowers solitary. Corollas scarlet, melliferous, hairy. The plant is called by the French in the West Indies *Liane de Sirop*.

Var. β; flowers yellow; fruit white. ♄. ◡. S. Colúmnea scándens flore lutescente, fructu albo, Plum. gen. 28.

Climbing Columnea. Fl. Aug. Sept. Clt. 1759. Shrub climbing.

2 C. HIRSU'TA (Swartz, prod. 94. fl. ind. occ. 2. p. 1080.) leaves ovate, acuminated, serrated, hairy above; calycine segments denticulated, and are, as well as the corollas, hairy. ♄. ◡. S. Native of Jamaica, at the roots of trees on the mountains in dense woods. Ait. hort. kew. 2. p. 366.—Archimènes, &c. Browne, jam. 270. t. 30. f. 3.—Sloan. hist. 1. p. 157. t. 100. f. 1. Leaves petiolate. Corollas villous, purplish, or pale red. Flowers usually twin.

Hairy Columnea. Fl. Aug. Nov. Clt. 1780. Shrub climbing.

3 C. RU'TILANS (Swartz, prod. p. 94. fl. ind. occid. 2. p. 1083.) leaves ovate-lanceolate, denticulated, rather scabrous, hairy, and coloured beneath; calycine segments jagged, and are, as well as the corollas, villous. ♄. ◡. S. Native of the interior of Jamaica, on the trunks of trees, in dense woods. Corollas reddish yellow.

Red-leaved Columnea. Fl. Aug. Sept. Clt. 1823. Shrub climbing.

4 C. HÍSPIDA (Swartz, prod. p. 94. fl. ind. occid. 2. p. 1083.) leaves ovate, obtuse, denticulated, hairy; calycine segments lanceolate, entire, pilose; stem pilosely scabrous. ♄. S. Native of the West of Jamaica, on shady rocks. Calyx blood-red. Corolla scarlet. ? Fruit white.

Hispid Columnea. Shrub 1 to 3 feet.

5 C. OVA'TA (Cav. icon. 4. p. 62. t. 391.) stems creeping and scandent; leaves ovate, crenated, rather hispid above, and somewhat tomentose beneath. ♄. ◡. S. Native of San Carlos de Chiloe. Peduncles terminal, solitary. Calycine segments tridentate. Corolla scarlet, beset with white hairs. Capsule 2-celled, ex Cav.

Ovate-leaved Columnea. Shrub creeping.

6 C. SCHIEDEA'NA (Schlecht, in Linnæa, 8. p. 249.) stems simple; leaves oblong-lanceolate, quite entire, clothed with silky villi; calycine segments ovate-lanceolate, entire, and are, as well as the corollas, spotted and villous. ♃. S. Native of Mexico, on old trees near Misantla, and near the Hacienda de La Laguna. Stems nodose, smoothish at bottom, but clothed with purplish villi at top. Leaves on short petioles, largest ones 5 inches long, and 1½ broad. Corolla 2 inches long, clothed with glandular villi, variegated with yellow and brown. Berry globose, white. Seeds oblong, acutish at both ends.

Schiede's Columnea. Shrub.

N.B. What is C. stellàta, Loir. coch. p. 384. ?

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

X. MITRA'RIA (from μιτρα, *mitra*, a mitre; in reference to the mitre-formed bractea which covers the calyx.) Cav. icon. 6. p. 57. t. 579. Mart. nov. gen. bras. 3. p. 66.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx inferior; limb 5-parted, equal, calyculated by a 2-lobed, mitre-formed bractea. Corolla tubularly-ventricose; upper lip of limb 2-lobed; lower one 3-lobed. Stamens 4, didynamous, exserted, with the rudiment of a fifth behind; anthers free. Berry 1-celled, many-seeded.—Habit of *Colúmnea*. Stems scandent. Leaves ovate, acute, serrated. Flowers axillary. Corollas scarlet.

1 M. COCCÍNEA (Cav. l. c.) ♄. ◡. S. Native of San Carlos de Chiloe.

Scarlet-flowered Mitraria. Shrub scandent.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XI. DRYMO'NIA (from δρυμος, *drymos*, an oak wood; in allusion to the plant growing on trees in woods.) Mart. nov. gen. bras. 3. p. 57.—Gesnèria species, Jacq. et Kunth.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx free, oblique, 5-leaved; leaflets imbricate, 2 interior. Corolla oblique, campanulately sub-ringent, gibbous at the base behind; throat spreading; upper lip 2-lobed; lower one 3-lobed. Stamens 4, didynamous, without any rudiment of a fifth; anthers free. Hypogynous disk, bearing an ovate gland behind. Capsule baccate, ovate, coriaceous, 1-celled, 2-valved; placentas 2, parietal, bilamellate. Seeds numerous, fusiform.—Shrubs climbing, and fixed by strong roots to trees, or lying upon the earth. Stems flexile, nearly terete, with a shining epidermis, inordinately branched. Leaves opposite, petiolate, serrated, pubescent from simple hairs, like all the herbaceous parts of the plant, thickish. Peduncles axillary, solitary, shortish, bractless. Corollas large, painted.

1 D. CALCARA'TA (Mart. l. c. p. 58. t. 224.) leaves ovate, rounded at the base, cordate, acute at the apex, and are, as well as the obliquely cordate-ovate, toothed segments of the calyx, downy; segments of corolla denticulated; anthers spurred at the base. ♄. S. Native of Brazil, in the province of Rio Negro, along the river Japura, on trees. Corolla large, white, striped with yellow, and spotted with purple. Calyx large.

Spurred-anthered Drymonia. Shrub climbing.

2 D. SPECTA'BILIS (Mart. l. c. p. 59.) leaves elliptic-oblong, acute, obsoletely toothed, clothed with adpressed pili; calycine segments ovate-oblong, obsoletely denticulated, clothed with adpressed hairs; segments of corolla crenulated, fringed, ex Bonpl. ♄. S. Native of New Granada, in woods on the banks of the river Smitha, between Villa La Sequia and the town of Popayan, at the altitude of 600 hexapods. Leaves 2-3 inches long. Corolla large, white, campanulate, downy outside; limb reddish.

Showy Drymonia. Shrub climbing.

3 D. JACQUI'NI; leaves oblong, acuminated at both ends, hairy, toothed; calycine segments serrated; limb of corolla sharply serrulated. ♄. S. Native of the West Indies. Beslèria serrulàta, Jacq. hort. schœnbr. 3. p. 21. t. 290. Leaves hairy, greenish above, and brownish purple beneath. Calyx large green. Corolla cream-coloured.

Jacquin's Drymonia. Fl. ? Clt. 1806. Shrub climbing.

4 D. ? GRANDIFLÒRA; leaves ovate-oblong, acuminated, crenated, densely pilose above, villous beneath, as well as on the branchlets; peduncles axillary, elongated, many-flowered; calycine segments ovate-oblong, acute, quite entire, densely pilose; corollas campanulate, villous; throat open. ♄. S. Native of New Granada, in humid woods between Paramo de San Fortunato and Fusagasuga, at the altitude of 1000 hexapods. Beslèria grandiflòra, H. B. et Kunth, nov. gen. amer. 2. p. 401. Leaves purplish beneath. Calyx purplish. Corolla campanulate, sub-gibbous at the base, villous outside, white, and glabrous inside: limb bilabiate, spotted with red. Anthers cohering cruciately with the rudiment of a fifth stamen.

Great-flowered Drymonia. Shrub.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XII. KLU'GIA (named after Fr. Klug, M.D.) Schlecht, in Linnæa, 8. p. 248.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx free, pentagonally 5-winged, 5-toothed. Corolla tubular: limb bilabiate: upper lip large, roundish entire: lower one small, 3-lobed. Stamens 4, nearly equal, without any rudiment of a fifth. Anthers approximating by pairs. Hypogynous disk narrow, glandular. Capsule membranous, free, 2-valved; placentas 2,

bilamellate. Seeds numerous, cylindrical.—An herb with alternate leaves, and somewhat grumose from minute down. Leaves unequal-sized. Flowers disposed in a terminal raceme. Habit of a species of *Cùphea*.

1 K. azu'rea (Schlecht, l. c.) ♃. S. Native of Mexico, at Cueste grande de Chiconquiaco. Root creeping. Stems simple, or branched, roughish from minute, spreading, stiff hairs. Leaves oblong-ovate, acuminated, vertical, entire, or repand, or obsoletely and sinuately-toothed, bluntish at the base, green above, and beset with short, thick, rufous hairs, paler beneath, and clothed with somewhat grumose, minute down; largest ones 4-5 inches long. Racemes usually solitary, downy. Corolla blue, 1½ inch long. Capsule elliptic, attenuated at both ends, 1-celled.

Azure-flowered Klugia. Pl. ½ to 1 foot.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XIII. TAPI'NA (from *ταπεινος*, *tapeinos*, humble; dwarf plants.) Mart. nov. gen. bras. 3. p. 59.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx free, 5-parted, unequal. Corolla funnel-shaped, sub-ringent, gibbous in front at the base; tube coarsely ventricose behind; throat contracted; limb erect; upper lip 2-lobed; lower one 3-lobed. Stamens 4, didynamous, with the rudiment of a fifth behind; anthers cohering. Hypogynous ring swelling into a gland behind. Capsule ovate, coriaceous, 1-celled, 2-valved; placentas 2, parietal, bilamellate. Seeds numerous, oblong.—Stems simple, or branched, rising from an underground tuber, and, like all the herb, soft and fleshy. Leaves petiolate, opposite. Peduncles axillary, 1-flowered, solitary, rarely twin.

1 T. barba'ta (Mart. l. c. p. 60. t. 225. f. 1.) stem branched; leaves oblong, or oblong-lanceolate, attenuated at both ends, acute, toothed; segments of calyx cordately sub-deltoid; corolla hairy outside. ♃. S. Native of Brazil, in the mine provinces, in dense woods near Almada; and in like marshy places on the road to Felisbert. Gesnèria barbàta, Nees, et Mart. in nov. act. bonn. 11. p. 48. Stems decumbent, throwing out roots at the base. Corolla white, suffused with red inside, above an inch long, much inflated below. (f. 69. a.)

FIG. 69.

Bearded-flowered Tapina. Pl. decumbent.

2 T. pusi'lla (Mart. l. c. p. 61. t. 225. f. 2.) stem simple, an inch high; leaves orbicularly-ovate, obtuse, crenated; calycine segments triangular; corolla downy outside. ♄. S. Native of the province of Rio Janeiro, in shady woods on Serra d' Estrella, Beyrich. Tuber size of a pea. Corolla 4-lines long, white, ventricose in the throat below.

Least Tapina. Pl. 1 inch.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XIV. NEMATA'NTHUS (from *νημα*, *nema*, a thread; and *ανθος*, *anthos*, a flower; in allusion to the flowers being hairy.) Schrad. in gött. gel. anz. 1821. 1. p. 719. Maximil. reise bras. 2. p. 108. and 343. Mart. nov. gen. bras. 3. p. 46.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx free, deeply 5-parted, oblique. Corolla inferior, campanulately funnel-shaped, oblique, gibbous at the base behind; throat spreading; limb equally 5-lobed. Stamens 4, didynamous, with a small rudiment of a fifth, or without; anthers cohering. Hypogynous ring swollen into an oblong gland behind. Capsule pyramidal, coriaceous, 1-celled, 2-valved; placentas 2, parietal, bilamellate. Seeds numerous, oblong.—Shrubs with simple, or irregularly branched stems, furnished with shining, cinereous epidermis, tumid at the nodi, climbing upon trees, and adhering to them by their roots. Leaves opposite, petiolate, thickish. Gemmation naked, with complicate leaves. Peduncles axillary, 1-flowered, bractless, very long and filiform, pendulous. Corollas large, showy, scarlet.

1 N. chlorone'ma (Mart. l. c. p. 47. t. 219.) leaves oblong-lanceolate, acuminated at both ends; calyxes and peduncles 2-4 inches long, green, clothed with white hairs. ♄. S. Native of the province of Rio Janeiro, in shady parts of woods on Mount Corcovado; and on Serra dos Orgaos. Leaves reddish beneath, or pale, glabrous, or ciliated. Calyx 1 to 1½ inch long, with glandularly denticulated margins. Corollas large, 2 inches long, scarlet, beset with white hairs outside. Filaments white.

Green-threaded Nematanthus. Shrub climbing.

2 N. Jone'ma (Schrad. l. c.) leaves broad-lanceolate, acuminated at both ends; calyx of a violaceous colour, clothed with hoary villi; peduncles 6 to 12 inches long, clothed with violaceous and white villi. ♄. ◡. S. Native of Brazil, in woods between Ilheos and St. Petro de Alcantara. Habit of the preceding. Calyx obscurely violaceous; segments shorter and narrower, hoary from white hairs. Corolla scarlet, a little smaller, beset with scattered, minute hairs.

Violet-threaded Nematanthus. Shrub climbing.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XV. ALLOPLE'CTUS (from *αλλος*, *allos*, diverse; and *πλεκω*, *pleco*, to plait; the calyx appears as if it was plaited in diverse directions.) Mart. nov. gen. bras. 3. p. 53.—Crántzia, Scop.—Orobánche species, Vellos. in Vand. script. t. 7. f. 18.—Gesnèria species, Lin., Aubl., Swartz, and Kunth.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx free, coloured, 5-cleft; segments imbricate, more or less combined, 2 interior. Corolla inferior, tubular or club-shaped, straightish; limb short, 5-lobed or 5-toothed. Stamens 4, didynamous, with a small rudiment of a fifth from the base of the tube. Hypogynous ring swollen into a gland behind. Capsule baccate, ovate, coriaceous, 1-celled, 2-valved. Seeds numerous, oblong.—Shrubs climbing on trees, and adhering to them by the roots, or by the clasping of the branches. Stems somewhat tetragonal above, and somewhat thickened at the nodi, rather flexile, and filled with medulla. Branches opposite. Leaves opposite, one in each pair smaller than the other, petiolate, fleshy, with scattered or decumbent, or erect down, the under surface generally reddish. Gemmation naked, with the young leaves complicate, villous, or hairy. Flowers axillary or many, aggregate, nearly sessile or racemose, furnished with coloured bracteas, or solitary, on long peduncles. Calyxes and bracteas scarlet or blood red. Corolla yellow. The species inhabit the humid parts of woods in tropical America, in which they are great ornaments to the trees, from the vivid colour of the calyxes and bracteas.

1 A. sparsiflòrus (Mart. nov. gen. bras. 3. p. 55. t. 223. f. 1.) leaves oblong, or oblong-lanceolate, attenuated at the base, acuminated, beset with fine strigæ; flowers nearly sessile, axillary, aggregate, or scattered; bracteas smaller than the orbicularly triangular segments of the calyx, which are, as well as the bracteas, of a deep blood colour, and almost quite entire; limb of corolla villous, 5-toothed. ♄. S. Native of Brazil, in the province of Rio Janeiro, climbing upon rocks and trees, in shady humid places near Corrego Seco, and elsewhere on Serra dos Orgaos; as well as on Serra de St. Geraldo, in the mine

provinces. Leaves 3-7 inches long, reddish beneath. Corolla yellow.

Scattered-flowered Alloplectus. Shrub climbing.

2 A. circina'tus (Mart. l. c. p. 56. t. 223. f. 2.) leaves oblong or broad-oblong, attenuated at the base, acuminated, finely strigillose; racemes axillary; peduncles nodulose; bracteas larger than the oblong, calycine segments, and are, as well as them, deep purple, and almost quite entire; limb of corolla villous, shortly 5-lobed, revolute. ♄. ◡. S. Native almost throughout Brazil, in moist parts of woods, climbing upon trees. Beslèria hirtélla, Schott. in œstr. med. jahrb. 42. p. 8.? Corollas yellow.

Circinate Alloplectus. Fl. July, Aug. Clt. 1824. Shrub climbing.

3 A. hi'spidus (Mart. l. c. p. 57.) leaves oblong-elliptic, acute, serrately crenated, hispid; peduncles axillary, solitary, 1-flowered; calycine segments ovate-lanceolate, sharply serrated, hispid; bracteas unknown. ♄. S. Native of New Granada, in humid places on the Andes of Popayan, and in the valley of the river Mayo, between Mamendoy and the town of Pasto, at the altitude of 1040 hexapods. Beslèria híspida, H. B. et Kunth, nov. gen. amer. 2. p. 399. Branches warted, hispid, while young. Leaves 2 inches long, and 1 broad. Corolla yellow, hispid from pili; limb oblique, 5-cleft, reflexed. Said to be nearly allied to *Beslèria cristàta*.

Hispid Alloplectus. Shrub climbing.

4 A. Ku'nthii; leaves ovate-oblong, subacuminated, denticulated, pilose above, and pilosely pubescent beneath, and purplish; peduncles axillary, few together, 1-flowered; calycine segments ovate, acuminated, denticulated, pilose, purplish; bracteas unknown. ♄. ◡. S. Native of New Granada, in shady places on the Andes, about Quindiu, and near the Villa La Erre; and in the plains of Sacandonoy, between the town of Almaguer and Pasto, at the altitude of 1000 to 1200 hexapods. Beslèria bícolor, H. B. et Kunth, nov. gen. amer. 2. p. 398. Branches hispid, subtetragonal. Corolla hairy, yellow, purple on the back, and somewhat gibbous at the base; limb somewhat 5-cleft, and sub-bilabiate.

Kunth's Alloplectus. Shrub climbing.

5 A.? calcara'tus; leaves oblong, subacuminated, crenately serrated at apex, pilose; peduncles axillary, 2-4-flowered; calyx hairy, with oblong, acuminated, denticulated, coloured segments; limb of corolla 5-lobed; bracteas unknown. ♄. S. Native of the Andes of Quindiu, near La Pamilla, at the altitude of 1130 hexapods. Beslèria calcaràta, H. B. et Kunth, nov. gen. amer. 2. p. 399. Branches fuscous, pilose, hispid while young. Corolla orange-yellow, glabrous, tubularly calceolate, spurred above at the base, and saccately inflated under the lower lip; spur short, straight, obtuse; throat constricted; lobes of limb rounded: 2 superior ones larger.

Spurred-flowered Alloplectus. Shrub 2 to 3 feet.

6 A. sangui'neus (Mart. l. c.) leaves obovate-oblong, acuminated, toothed, furnished with a few adpressed hairs, marked with purple spots beneath; flowers axillary, sessile; calycine segments deeply serrated, very hairy, coloured. ♄. S. Native of St. Domingo, and the Antilles; of New Granada, on Mount Quindiu, near El Passo del Machin, at the altitude of 1030 hexapods. Beslèria sanguínea, Pers. syn. 2. p. 165. Dalbergària phœnícea, Tussac. ant. 1. p. 141. t. 30. Calyxes more jagged than serrated. Corolla tubular, villous, gibbous, sub-bilabiate, ex Pers.; rudiment of a fifth stamen wanting.

Bloody-calyxed Alloplectus. Shrub climbing.?

7 A. crista'tus (Mart. l. c.) leaves ovate, serrated; peduncles axillary, solitary, 1-flowered; bracteas cordate, toothed, sessile, scarlet, as well as the calycine segments, which are serrated; corolla hairy outside; lobes rounded, entire. ♄. ◡. S. Native of Guiana and Martinico, in humid woods. Beslèria cristàta, Lin. syst. p. 468. Aubl. guian. 2. p. 637. Swartz, obs. 232. Jacq. amer. p. 188. t. 119. Mill. dict. no. 3.—Plum. gen. 29, with a figure. Corolla yellowish.

Crested-calyxed Alloplectus. Fl. June, Aug. Clt. 1739. Shrub climbing.

8 A. cocci'neus (Mart. l. c.) leaves ovate, glabrous, stiff, a little toothed; peduncles axillary, bearing 3-6 flowers in an umbel at top; bracteas 2, at the division of the common peduncle, orbicularly cordate, toothed, scarlet, like the calycine segments, which are serrated. ♄. ◡. S. Native of Guiana, in marshy parts of woods. Beslèria coccínea, Aubl. guian. 2. p. 632. t. 255. Corolla and fruit yellow.

Scarlet-calyxed Alloplectus. Fl.? Clt. 1819. Shrub climbing.

9 A. Schóttii; leaves ovate-lanceolate, quite entire, pubescent; flowers axillary, crowded, nearly sessile; calyxes red, denticulated, roundish; limb of corolla, which is clavate, erectish. ♄. ◡. S. Native of Brazil. Beslèria bícolor, Schott. in œstr. med. jahrb. 4. 2. p. 8. Beslèria díchrous, Spreng. syst. 2. p. 840.

Schott's Alloplectus. Shrub climbing.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XVI. EPI'SCIA (from επι, *epi*, upon; and σκια, *scia*, a shadow; so named because the species delight in shady places.) Mart. nov. gen. bras. 3. p. 39. Beslèria species of authors.

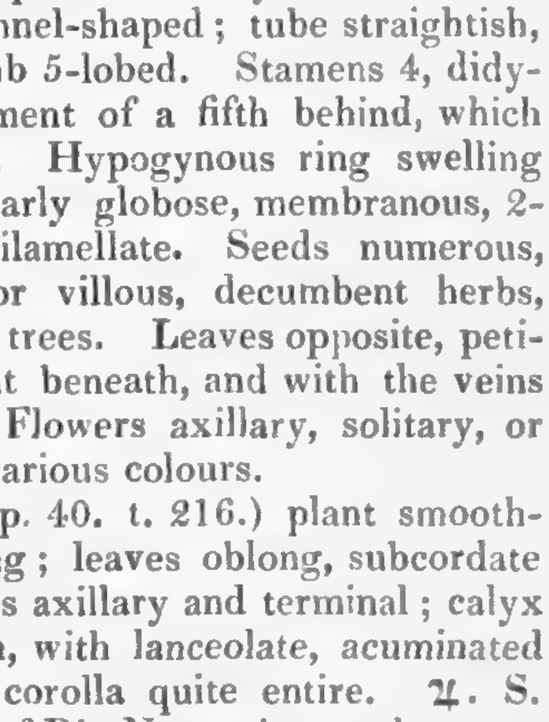
Lin. syst. *Didynàmia, Angiospérmia.* Calyx free, 5-cleft or 5-parted. Corolla inferior, funnel-shaped; tube straightish, gibbous behind at the base; limb 5-lobed. Stamens 4, didynamous, furnished with the rudiment of a fifth behind, which rises from the base of the tube. Hypogynous ring swelling into a gland behind. Capsule nearly globose, membranous, 2-valved; placentas 2, parietal, bilamellate. Seeds numerous, oblong.—Soft, juicy, glabrous, or villous, decumbent herbs, rooting upon the earth or decayed trees. Leaves opposite, petiolate; the middle nerve prominent beneath, and with the veins thick, anastomosing, and juicy. Flowers axillary, solitary, or in little cymes, and bracteate, of various colours.

1 E. decu'mbens (Mart. l. c. p. 40. t. 216.) plant smoothish; stems decumbent and creeping; leaves oblong, subcordate at the base, acute, crenated; cymes axillary and terminal; calyx about half as long as the corolla, with lanceolate, acuminated subserrated segments; lobes of corolla quite entire. ♃. S. Native of Brazil, in the province of Rio Negro, in marshy parts of dense woods, along the river Japura, &c., creeping on the trunks of decayed trees. Leaves 3-5 inches long, reddish beneath. Corolla white, $1\frac{1}{2}$ inch long.

Decumbent Episcia. Pl. 1 to 3 feet.

2 E. re'ptans (Mart. l. c. p. 41. t. 217.) plant pilosely hairy; stem sarmentose, radicant; leaves ovate, obtuse, crenated; peduncles solitary, axillary, 1-flowered; calycine segments linear-subspatulate, obtuse; lobes of corolla toothed. ♃. S. Native of Brazil, in thickets along the river Japura and elsewhere. Leaves whitish beneath. Corolla scarlet, hairy outside. (fig. 70.)

FIG. 70.



Creeping Episcia. Pl. creeping.

3 E. melittifòlia (Mart. l. c. p. 42.) pilose; stem erect; leaves ovate, acutish at both

ends, coarsely crenated; cymes axillary and terminal; calyx nearly equal in length to the tube of the corolla; calycine segments lanceolate, acuminated, subserrated; lobes of corolla quite entire. ♃. S. Native of Guiana and the Antilles. Beslèria melittifòlia, Lin. spec. p. 862. Aubl. guian. 2. p. 636. Smith, exot. bot. 1. t. 54. Beslèria melissæ Tragi folio, Plum. gen. p. 29. t. 5. icon. t. 48. Corolla purple. Capsule globose, size of a large pea, and, without doubt, 2-valved, but probably baccate from the umbilical funicles being long and fleshy. Seeds as in *E. réptans*.

Balm-leaved Episcia. Fl. July, Aug. Clt. 1789. Shrub 1 to 3 feet.

4 E.? pulche'lla (Mart. l. c.) stem erect; leaves oblong-ovate, wrinkled, crenated, running into the petioles, which are connate; cymes axillary; calyx pentagonal, coloured; lobes of corolla entire: lower ones the largest. ♃. S. Native of Trinidad. Beslèria pulchélla, Donn, hort. cant. p. 140. Sims, bot. mag. 1146. Beslèria umbellàta, Herb. Banks. Bracteas 2, opposite, under the corymbs. Calyx scarlet; segments serrated. Corolla yellow, striped with red. This differs from the other species of *Episcia*, in the calyx being tubular and 5-toothed, and of a reddish colour. The rudiment of the fifth stamen wanting. It is said to be nearly allied to *Beslèria lùtea*, and *B. coccínea*, Lin. but is probably a species of *Allopléctus*.

Neat Episcia. Fl. July, Aug. Clt. 1806. Pl. 2 to 3 feet.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

Tribe II.

Cyrtandra'ceæ (this tribe agrees with the genus *Cyrtándra* in the characters given below.) Calyx inferior. Fruit capsular and baccate, superior. Seeds exalbuminous.

Subtribe I.

Trichospòreæ (the plants contained in this tribe agree with the genus *Æschynánthus*, in the seeds being furnished with hairs at ends.) Blum. bijdr. 779. Fruit capsular, siliquose. Seeds pendulous, expanded at both ends, or only at the base or apex, into a setaceous or membranous wing.

XVII. TROMSDO'RFFIA (named in honour of J. B. Tromsdorff, who has written various works on the use of many plants, as well as analyzing their chemical parts.) Blum. bijdr. p. 762.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx tubular, 4-5-cleft; segments equal. Corolla funnel-shaped, widened upwards, with an unequal, somewhat bilabiate limb. Stamens 4, 2 of which only bear anthers; anthers 2-celled, cohering; cells equal in their insertion. Stigma broad, somewhat bilamellate. Capsule silique-formed, elongated, falsely 4-celled, 2-valved; lobes of the dissepiment, which is contrary, bearing the seeds on the margins, which are revolute. Seeds minute, pendulous, expanded at the base into a membranous wing.—Erect or radicant shrubs, with opposite or alternate, serrated leaves, and elongated, axillary peduncles. This genus is nearly allied to *Didymocárpus*, from which it differs in the seeds being furnished with a membranous wing at the base.

1 T. speciòsa (Blum. bijdr. p. 763.) stem erect; leaves opposite, nearly equal, elliptic-oblong, acuminated, unequally toothed, clothed with rough hairs above, downy beneath; peduncles crowded, bifid, or sometimes dichotomous; flowers diandrous. ♄. S. Native of Java, on the west side of the island, on the banks of rivers. Flowers showy, having the tube of a deep violet colour at bottom, and the throat sulphur-coloured. Filaments 4, villous at top.

Showy Tromsdorffia. Fl. Year. Shrub erect.

2 T.? elonga'ta (Blum. bijdr. p. 765.) stem climbing, radicant; leaves alternate, or the opposite one is very small, elliptic, attenuated at both ends, doubly serrated, downy; peduncles solitary, very long, bearing a many-flowered umbel at top; stamens didynamous. ♄. ◡. S. Native of the Moluccas. The fruit has not been seen, but the structure of the ovarium and ovula agree with those of the first species.

Elongated Tromsdorffia. Shrub climbing.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XVIII. ÆSCHYNA'NTHUS (from *αισχυνω*, *aischuno*, to be ashamed; and *ανθος*, *anthos*, a flower.) Jack. in Lin. trans. 14. p. 42. t. 2. f. 3. Wall. pl. rar. asiat. 1. p. 55. t. 71.—Trichósporum, D. Don. prod. fl. nep. p. 124. Blum. bijdr. p. 763. Incavíllea species of Roxb.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx ventricosely tubular, 5-cleft. Corolla tubular, incurved, with a dilated, campanulate throat, and an oblique, sub-bilabiate limb. Stamens 4, didynamous, exserted, usually with the rudiment of a fifth; anthers at first conniving by pairs; cells parallel. Stigma excavated, somewhat funnel-shaped. Capsule long, silique-formed, 2-valved, falsely 4-celled. Seeds small, generally scabrous from papillæ ending in a bristle-like tail at both ends.—Twining, radicant, parasitical shrubs; with opposite, simple, entire leaves, and axillary and terminal, few-flowered, umbellate peduncles.

1 Æ. radi'cans (Jack. in Lin. trans. 14. p. 43.) stem radicant; leaves ovate or oval, acute, sometimes almost cordate at the base, villous in the young state, veinless; peduncles axillary, sometimes terminal, 2-flowered, villous, bibracteate; calyxes villous. ♄. ◡. S. Native of Java and Sumatra, in woods, rooting on old trees. Trichósporum radìcans, Nees, ex Blum. bijdr. p. 764. Leaves 1-2 inches long. Flowers drooping. Corolla of a crimson colour, and villous outside, and sulphur coloured inside. The rudiment of the sterile stamen very small.

Radicant Æschynanthus. Shrub climbing.

2 Æ. volu'bilis (Jack. l. c. p. 42.) stem twining; leaves oval, acute at both ends, glabrous, with indistinct nerves; peduncles axillary, 2-flowered, bibracteate; pedicels longer than the peduncle; calyxes glabrous. ♄. ◠. S. Native of the neighbourhood of Bencoolen. The axils of the leaves are sometimes furnished with a flower-bearing branchlet, which has the appearance of a many-flowered peduncle. Corolla crimson-coloured.

Twining Æschynanthus. Shrub twining.

3 Æ. pu'lcher; stem radicant; leaves lanceolate, rounded at the base; peduncles 2-flowered, bibracteate, disposed in axillary and terminal fascicles. ♄. ◡. S. Native of Java, along with *Æ. radìcans*. Trichósporum púlchrum, Blum. bijdr. 764. Corollas scarlet.

Fair Æschynanthus. Fl. Year. Shrub creeping.

4 Æ. grandiflòrus; stem radicant; leaves long-lanceolate, nerveless; umbels terminal, many-flowered; lobes of corolla rounded, nearly equal. ♄. ◡. S. Native of the East of Bengal, in forests of Silhet, and on the Garrow hills, creeping upon trees. Incarvíllea parasítica, Roxb. cor. 2. p. 291. fl. ind. 3. p. 112. Trichósporum grandiflòrum, D. Don, in edinb. phil. journ. and prod. fl. nep. p. 125. Flowers large, drooping, colour of a beautiful mixture of orange and crimson, size of those of *Digitàlis*. Segments of calyx ovate. Style exserted.

Great-flowered Æschynanthus. Shrub creeping.

5 Æ. parviflòrus; stem radicant; leaves elliptic, acuminated, nerved; umbels terminal, few-flowered; superior lobes of corolla shorter, and acutish. ♄. ◡. S. Native of Lower Nipaul, creeping on the trunks of trees. Trichósporum parvi-

flòrum, D. Don, prod. fl. nep. p. 125. This species differs from the preceding, in the flowers being not one-third the size; in the segments of the calyx being linear; in the 2 superior lobes of corolla being shorter, and acutish; and, lastly, in the leaves being twice as broad, shorter, and nerved; as well as in the style being inclosed.

Small-flowered Æschynanthus. Shrub creeping.

6 *Æ.* oblongifòlius; downy; stem thick, tetragonal; leaves unequally ovate-oblong, acuminated, downy, serrulated; cymes axillary. ♄. S. Native of Chittagong, in mountain valleys common. Incarvíllea oblongifòlia, Roxb. fl. ind. 3. p. 112. Peduncles solitary, dichotomous, with a flower in each fork; and each division bearing 3-6 flowers, all very villous. Corollas large, like those of *Martýnia diándra*, colour a mixture of whitish-red, tinged with yellow; one pair of the filaments slender and abortive; the fertile pair thick and villous, bearing large 2-lobed anthers. The capsule is shorter and thicker than in the preceding species. The seeds are flat, and winged by a membranous margin all round. Perhaps a new genus.

Oblong-leaved Æschynanthus. Shrub.

7 *Æ.* ramosi'ssima (Wall. pl. rar. asiat. 1. p. 55. t. 71.) stem much branched, radicant; leaves oblong, acuminated; umbels terminal, many-flowered; corolla subclavate, clothed with glandular down. ♄. ◡. S. Native of Nipaul, in woods, creeping upon trees and on rocks. Capsule 4-angled, and 4-furrowed, compressed, 10 inches long, 1-celled, 4-valved. Seeds sometimes terminated by 2 bristles at apex, and ending in one at the base. Calyx tubular, 5-toothed. Corolla curved: lower lip 4-cleft: upper one bifid. Stigma clavate, plano convex at top. Corolla orange-coloured, reddish above. Very nearly allied to *Æ. grandiflòrus* (fig. 71.)

FIG. 71.

Much-branched Æschynanthus. Shrub creeping.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XIX. LYSIONO'TUS (from λυω, *luo*, to release; and νωτος, *notos*, the back; in reference to the capsule opening with elasticity from the dorsal suture.) D. Don, in edinb. phil. journ. 7. p. 86. prod. fl. nep. p. 124. Blum. bijdr. 764. Incarvíllea species, Wall.—Chirìta, Hamilt. mss.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx deeply 5-cleft or 5-parted, equal. Corolla tubular, incurved, with a dilated campanulate throat, and oblique, bilabiate, 5-lobed limb. Stamens 4, inclosed: 2 upper ones sterile, and shorter: and the 2 lower ones antheriferous; anthers linear, combined; cells parallel. Stigma capitate, sometimes funnel-shaped, with an excavated disk. Capsule long, silique-formed, 2-valved, falsely 4-celled, opening with elasticity from the dorsal suture. Seeds small, oblong-terete, muricated, ending in a hair at both ends, as in *Æschynánthus*.—Terrestrial or parasitical, glabrous, perennial herbs, with creeping roots and stems. Leaves opposite or verticillate, simple. Peduncles axillary and terminal, 1-flowered, solitary, or in fascicles, furnished with two opposite, involucral leaves at the base, and bibracteate in the middle.

1 L. serra'ta (D. Don, l. c.) root creeping; stems erect, glabrous, rather fleshy; leaves 3 in a whorl, oblong-lanceolate, acuminated, coriaceous, serrated, reticulately veined; corymbs pedunculate, 5-10-flowered, below the top of the stem. ♃. S. Native of Nipaul, upon trunks of trees and on rocks. L. ternifòlia, Wall. pl. asiat. rar. 2. p. 2. t. 118. Chirìta ternifòlia, Hamilt. mss. Plant glabrous. Peduncles verticillate or opposite, like the leaves. Corymbs twice or thrice trichotomous, furnished with 2 opposite bracteas under each division. Seeds terminated by a long simple hair at each end. Corollas large, pale blue.

Serrated-leaved Lysionotus. Pl. 1 foot.

2 L. angustifòlius (Blum. bijdr. p. 765.) stem radicant; lower leaves opposite: superior ones subverticillate, linear-lanceolate, bluntish, veinless; axillary flowers solitary: terminal ones aggregate. ♃. S. Native of Java, near Buitenzorg, creeping upon trees. Bignònia angustifòlia, Blum. hort. buit. p. 82. bat. verh. 9. p. 194. Trichósporum angustifòlium, Blum. in bot. zeit. no. 9. 1825.

Narrow-leaved Lysionotus. Fl. Year. Pl. creeping.

3 L. a'lbidus (Blum. bijdr. p. 765.) stem radicant; leaves oblong-lanceolate, rather crenulated, glabrous, veinless; peduncles disposed in axillary and terminal fascicles; bracteas minute, subulate. ♃. S. Native of Java, in the western provinces, in woods, where it is called *Mengando-Manjal*. Bignònia álbida, Blum. cat. hort. buit. p. 81. bat. verh. 9. p. 195. Thichósporum álbidum, Blum. bot. zeit. no. 9. 1825. Flowers whitish.

Whitish-flowered Lysionotus. Pl. creeping.

4 L. longiflòrus (Blum. bijdr. p. 766.) stem radicant; leaves opposite, oblong-lanceolate, or ovate-oblong, long-acuminated, quite entire, almost veinless, glabrous; flowers disposed in terminal fascicles. ♃. S. Native of Java, in the provinces of Tjanjor, Buitenzorg; and Bamtam, in woods on the mountains.

Var. β; leaves narrower. ♃. S. Native of Java, among the elevated woods of Mount Gede, upon old trees.

Long-flowered Lysionotus. Fl. Year. Pl. creeping.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XX. AGALMY'LA (from αγαλμα, *agalma*, an ornament; and ὕλη, *hule*, a wood; the species are great ornaments to the woods in which they grow wild.) Blum. bijdr. p. 766.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-parted, equal. Corolla tubular, incurved, with a dilated throat, and an oblique, 5-lobed, sub-bilabiate limb. Stamens 5, exserted, of which 2 or 4 are fertile; anthers linear, connected, with parallel cells. Stigma bilamellate. Capsule very long, silique-formed, 2-valved, falsely 4-celled. Seeds minute, ending in a hair at both ends.—Climbing or radicant herbs, with simple leaves, and axillary fascicles of flowers. This genus is nearly allied to *Lysionòtus*, from which it differs in the bilamellate stigma, and in habit.

1 A. stami'nea (Blum. bijdr. 767.) stem radicant, and is, as well as the petioles, hairy; leaves alternate, oblong, acuminated, denticulated, nearly equal at the base, downy beneath and on the edges; flowers diandrous, disposed in axillary fascicles. ♃. S. Native of Java, in mountain woods. Justícia parasítica, Lam. ill. 1. p. 42. Cyrtándra stamínea, Vahl, enum. 1. p. 105.

Long-*stamened* Agalmyla. Pl. creeping.

2 A. asperifòlia (Blum. bijdr. p. 767.) stem rather scandent; leaves opposite, elliptic-oblong, acuminated, denticulated, nearly equal at the base, rather hispid; flowers didynamous, disposed in axillary fascicles. ♃. S. Native of Java, in humid parts of woods in the province of Tjanjor.

Rough-leaved Agalmyla. Fl. Aug. Pl. climbing.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

Subtribe II.

DIDYMOCA'RPEÆ (the plants contained in this subtribe agree with the genus *Didymocárpus*, in the siliquose capsules and naked seeds.) All as in *Trichospòreæ*, except the seeds, which are not furnished with any hair at either end.

XXI. STREPTOCA'RPUS (from στρεπτος, *streptos*, twisted; and καρπος, *carpos*, a fruit; the capsule is spirally twisted.) (fig. 72. f.) Lindl. bot. reg. 1173. Didymocárpus species, Hook.

FIG. 72.

Lin. syst. *Diándria, Monogýnia.* Calyx 5-parted (fig. 72. a.) Corolla tubularly funnel-shaped; throat ventricose; limb oblique, 5-lobed, nearly equal. Stamens 4, the 2 anterior ones fertile, and the 2 sterile ones tubercle-formed (f. 72. d.); anthers glabrous, connate (f. 72. c.): cells divaricate. Style compressed; stigma bilabiately dilated: lips reniform. Capsule siliquose, spirally twisted; placentas bilamellate, conniving in the middle; margins revolute, seminiferous. Seeds numerous, minute, glabrous.—A tufted, stemless herb. Leaves wrinkled, flat on the ground. Peduncles radical, 1-flowered, bibracteate above the middle. Corollas pale blue.

1 S. Re'xii (Lindl. l. c.) 4. S. Native of South Africa, in the lands of Mr. G. Rex, at the Knysna, where it was discovered by Mr. Bowie. Didymocárpus Réxii, Hook. exot. fl. t. 227. Leaves ovate, crenated, 6-9 inches long, and 3-4 broad. Peduncles on the axils of the leaves. Corolla 2 inches long, pubescent. (Fig. 72.)

Rex's Streptocarpus. Fl. Year. Clt. 1824.? Pl. ½ foot.

Cult. A light rich earth or vegetable mould is a good soil for this plant; which is readily increased by division.

XXII. DIDYMOCA'RPUS (from διδυμος, *didymos*, twin; and καρπος, *karpos*, a fruit; in reference to the twin capsules.) Wall. ex Jack. in Lin. trans. 14. p. 32. D. Don, prod. fl. nep. p. 122.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-cleft. Corolla funnel-shaped, with a ventricose throat; limb 5-lobed; upper lip the shortest. Stamens 4, rarely 5, 2 of which are antheriferous, inclosed: sterile ones very short; anthers adnate: cells transverse. Stigma lateral, flattish, obtuse. Capsule silique-formed, falsely 4-celled, 2-valved; valves opening elastically from the dorsal suture. Lobes of dissepiment with revolute, seminiferous edges. Seeds naked, pendulous, ovate. Perennial, stemless, or caulescent herbs. Roots tufted, fibrous. Leaves usually cordate, crenated, wrinkled, hairy. Stems or scapes erect, simple. Flowers rose-coloured or purple, involucrated, disposed in dichotomous umbels.

§ 1. Scapi'geræ. *Stemless, scapigerous plants, with radical leaves.*

1 D. macrophy'lla (Wall. in litt. ex D. Don, prod. fl. nep. p. 122.) leaves cordate-oval, dentately serrated or crenated, villous above and nearly naked beneath; scapes glabrous, much shorter than the leaves; involucra and involucels roundish, quite entire, connate at the base; calycine segments roundish. 4. G. Native of Nipaul and Kamaon; from Jurreepanee upwards, towards Mussooree, and near Simla. Royle, ill. himal. t. 70. f. 2. Leaves large, usually solitary, 3-7 inches long, and 2½ or 5 inches broad. Petioles 3-4 inches long. Scapes equal in height to the petioles, rarely higher. Flowers and involucels purple.

Long-leaved Didymocarpus. Pl. ¼ to ½ foot.

2 D. cine'rea (D. Don, prod. fl. nep. p. 122.) leaves cordate-oval, obtuse, unequally crenated, clothed with cinereous tomentum above, as well as the petioles; scapes mealy, few-flowered, shorter than the leaves; involucra a little toothed, and are, as well as the involucels, clothed with greyish tomentum; calycine segments ovate, acute. 4. G. Native of Nipaul. Leaves 1½ to 2 inches long, about equal in length to the petioles, grey on both surfaces. Scapes filiform. Flowers large, purple.

Cinereous Didymocarpus. Pl. ¼ foot.

3 D. plica'ta (D. Don, l. c.) leaves twin, nearly sessile, orbicularly cordate, fleshy, rugosely plicate above, silky white, and lacunosely veined beneath, with revolute edges; scapes pubescent, many-flowered. 4. G. Native of Nipaul. Root much branched, fibrous, densely tufted. Leaves an inch long. Scapes 5 inches high.

Plicate-leaved Didymocarpus. Pl. ½ foot.

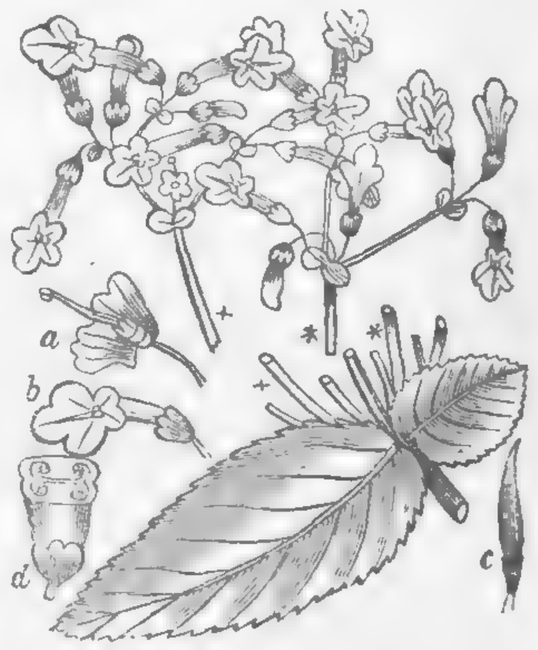
§ 2. *Caulescéntes. Caulescent plants.*

4 D. villòsa (D. Don, l. c. p. 123.) stem 4-leaved, very villous; leaves unequal, oval, petiolate, doubly crenated, clothed with silky villi on both surfaces; peduncles solitary, or twin, many-flowered, glabrous, longer than the leaves; calyxes smooth. 4. G. Native of Nipaul. Leaves 1-2 inches long, rounded at the base: radical ones none. Segments of calyx very short, rounded. Corolla large, purple.

Villous Didymocarpus. Pl. ¼ to ½ foot.

5 D. oblònga (Wall. pl. rar. asiat. 2. p. 34. t. 140. D. Don, prod. fl. nep. p. 123.) stem furnished with 2-4 leaves at top, woolly, or downy; leaves elliptic-oblong, or ovate-oblong, acuminated, rather villous; peduncles terminal, crowded, twice forked, with 2 sessile, cordate sessile bracteas under each bifurcation, downy. 4. G. Native of Nipaul, among rocks on Sheopore. Radical leaves none. Leaves 2½ inches long, and below an inch broad. Middle pedicels 1-flowered, and lateral ones generally 2-flowered. Corollas dark purple. Bracteas or involucral leaves quite entire, and are, as well as the calyxes, coloured. (Fig. 73.)

FIG. 73.



Oblong-leaved Didymocarpus. Pl. ¼ to ½ foot.

6 D. aroma'tica (Wall. in edinb. phil. journ. 1. p. 378. pl. rar. asiat. 2. p. 31. t. 141. D. Don, prod. fl. nep. 123.) stem leafy, pubescent; radical leaves few, pressed to the ground, ovate-cordate, obtuse, crenated, on short petioles, the two lower cauline ones broad-cordate, on long petioles, coarsely and

acutely toothed, and with two pairs of others at the top of the stem, which are crowded, ovate, acutely toothed; peduncles 2-3, terminal, twice or thrice dichotomous or trichotomous; central pedicels twin, or solitary: terminal ones by threes. ♃. G. Native of Nipaul and Kamaon, on rocks and trunks of trees. Plant pubescent. Bracteas or involucels cordate under each division of the peduncles. Calyx campanulate, fleshy, bluntly 5-toothed. Corollas purple. This species yields an aromatic drug, which is in high repute among the Hindoos, especially their ladies, who use it as a perfume. It is called *Kumkuma*, also *Rani-Goindhi*, and consists of the dried primordial leaves, which are wrinkled, small ovate, covered with dense silvery, soft hairs, intermixed with numerous brown, resinous dots. When rubbed between the fingers they assume a reddish tinge. Their fragrance is of a very delightful kind, and continues long after they have been dried. The leaves of all the species possess in a greater or less degree a peculiar fragrance, which is elicited by rubbing the green parts, but is entirely lost in the dried state, except in the present species.

Aromatic Didymocarpus. Pl. ½ to 1 foot.

7 D. PRIMULIFÒLIA (D. Don, prod. fl. nep. p. 123.) stem downy, bearing 4 crowded leaves at top; leaves cordate-oval, petiolate, twice crenated, wrinkled and silky on both surfaces; peduncles twin, many-flowered, and are, as well as the calyxes, pilose; bracteas or involucels roundish oval, mucronate, connate at the base. ♃. G. Native of Nipaul. Radical leaves none. Leaves very like those of *Primula vèris*. Calycine segments roundish. Corolla purple.

Primrose-leaved Didymocarpus. Pl. ¼ to ½ foot.

8 D. CRINÌTA (Jack. mal. misc. vol. 1. Lin. trans. 14. p. 33. t. 2. f. 2. a. i.) stem short, thick, erect; leaves alternate, long, spatulate, acute, serrated, pilose, red; peduncles 2-5 together, axillary, 1-flowered, cohering with the petioles at the base; calyx reddish, hairy. ♃. S. Native of Pulo-Penang, in the forests, where it is called *Timmu* by the natives. Root long, tapering. The whole plant hairy. Leaves crowded, nearly sessile, 9-10 inches long. Peduncles furnished each with 2 alternate bracteas. Corolla white, tinged with purple; tube incurved, swelling above; limb sub-bilabiate. Anthers composed of 2 divaricate, transverse lobes.

Long-haired Didymocarpus. Pl. 1 foot with the leaves.

9 D. RACEMÒSA (Jack. in Lin. trans. 14. p. 34.) stem erect; leaves opposite, lanceolate, attenuated at both ends, doubly serrated, glabrous above; peduncles axillary, usually bifid; flowers racemose, disposed in two rows along the rachis. ♃. S. Native of Sumatra, on the west coast at Tappanooly. Leaves crowded, on short petioles, spreading about 9 inches long; all the nerves on the under surface, and the midrib on the upper, pilose; petioles short, stem-clasping. Peduncles covered with purple, glandular hairs. Bracteas lanceolate, acuminated, serrated, ciliated. Corolla white. Calyx reddish, hairy. Capsule linear, hairy.

Racemose-flowered Didymocarpus. Pl. ½ foot.

10 D. REPTANS (Jack. l. c. p. 35.) prostrate, creeping; leaves petiolate, elliptic, crenulated; peduncles 1-3 together, axillary, 1-flowered. ♃. S. Native of Pulo-Penang, in the forests, where it is called *Timmu-Kichel* by the Malays. Stem villous. Leaves lying flat, slightly cordate, opposite, obtuse, covered with white hairs, rather reddish beneath. Petioles villous. Peduncles furnished with bracteas near the summit. Corolla white, funnel-shaped, somewhat irregular, similar to those of *D. crinìta*. Anthers approximate, reniform, 2-celled. Disk surrounding the ovarium, 5-toothed.

Creeping Didymocarpus. Pl. creeping.

11 D. CORNICULÀTA (Jack, l. c. p. 36.) villous; stem erect; leaves alternate, obovate, acuminated, serrated; flowers fastigiate, secund; peduncles solitary, axillary, elongated. ♃. S. Native of Sumatra, at Tappanooly. Peduncles bearing several dense fascicles of secund flowers, spreading in a kind of semicircle somewhat in the manner of *Lòtus corniculàtus*. Pedicels and calyxes covered with glandular hairs. Bracteas linear, acute. Corolla white, form of the genus; anthers cohering; cells transverse. The capsules spreading horizontally like radii in a semicircle, of which the peduncle is the axis.

Horned Didymocarpus. Pl. 1 to 2 feet.

12 D. BARBÀTA (Jack. l. c. p. 38.) shrubby, erect; leaves opposite, ovate, somewhat unequal sided, hairy; peduncles slender, axillary, fascicled, 2-6-flowered; stamens 4, bearded at top, 2 of which are sterile; calyx smooth, funnel-shaped. ♄. S. Native of Sumatra. Branches scabrous. Leaves petiolate, entire, strigose above. Peduncles bifid, or trifid, sometimes again divided, so as to be dichotomous. At each division of the peduncle is situated a funnel-shaped bracteal cup, apparently composed of two opposite bracteas, which are united nearly their whole length. In the axillæ at the base of the peduncles the bracteas are distinct and woolly. Mouth of calyx 5-cleft. Corolla with nearly equal, rounded segments. Anthers with transverse lobes. Stigma sublobate.

Bearded-stamened Didymocarpus. Shrub.

13 D. ELONGÀTA (Jack, l. c. p. 37.) erect, pilose; leaves opposite, ovate, acute at both ends, serrated; spikes axillary, secund; pedicels binate, remote; calyx tomentose, as well as the spike; corolla elongated. ♃. S. Native of Pulo Bintangor, an island lying off the west coast of Sumatra. Leaves petiolate, papillose and pilose above, but villous beneath; petioles ciliated. Bracteas linear at the base of the pedicels. Corolla tubular, a little curved, white, with a purplish tinge, slightly tomentose; limb bilabiate: lower lip elongated. Stamens 4, all fertile and didynamous; anthers connected by pairs, 2-lobed, reniform. Stigma thickened, emarginate.

Elongated-flowered Didymocarpus. Pl. ½ foot.

14 D. FRUTE'SCENS (Jack, mal. misc. vol. 1. Lin. trans. l. c. p. 39.) stem suffrutescent, erect; leaves opposite, on long petioles, ovate-lanceolate, attenuated at both ends, glabrous above, canescent beneath; flowers axillary, fascicled; stamens didynamous; calyx tomentose, with glandular hairs. ♄. S. Native of Pulo Penang. Stem simple, densely covered with ferruginous, adpressed scales, or chaffy hairs. Leaves slightly serrated, 8-10 inches long, tomentose beneath; petioles villous. Peduncles 1-3-flowered, shorter than the petioles, purplish. Bracteas lanceolate, acute. Calyx tubular, 5-parted. Corolla white, tomentose, incurved; segments obtuse. Anthers connected by pairs, adnate, consisting of 2 nearly parallel lobes. Stigma truncate.

Shrubby Didymocarpus. Shrub.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

XXIII. CHIRÀTA (altered from the vernacular name of one of the species.) Hamilt. mss. D. Don, prod. fl. nep. p. 89. Royle, ill. himal. t. 70. Wall. pl. rar. asiat. 1. p. 43. t. 50.—Calosácme, Wall.—Didymocárpus species, Wall.

LIN. SYST. *Didynàmia, Angiospérmia.* Calyx deciduous, tubular, 5-cleft. Corolla tubular at the base, ventricose at top; limb campanulate, 5-lobed, bilabiate; lobes rounded, imbricate in æstivation. Stamens 2, antheriferous, inclosed, sometimes without any rudiments of sterile ones, and sometimes with 3; filaments glabrous; anthers roundish, naked, adnate. Stigma bipartite; lobes linear, obtuse. Capsule siliquose, 2-celled,

many-seeded; dissepiment parallel. Seeds naked, acute at both ends.—Perennial hairy herbs. Stems simple. Leaves opposite, unequal in size. Peduncles axillary, opposite, bibracteate, usually 1-flowered. Flowers large red, or purple.

1 C. urticifòlia (Hamilt. mss. ex D. Don, prod. fl. nep. p. 90.) leaves elliptic, acute, nearly equal, serrated; peduncles 1-flowered, shorter than the leaves; calycine segments linear-lanceolate, obtuse. ♃. G. Native of Nipaul, at Narainhetty. Didymocárpus speciòsus, Wall. mss. Stem ascending, rooting at the base, tetragonal, hairy. Leaves often 4 inches long. Bractea ovate-oblong, bluntish, remote from the flower. Flowers reddish purple, size of those of *Digitàlis purpùrea*.

Nettle-leaved Chirata. Pl. ½ to 1 foot.

2 C. pu'mila (D. Don, prod. fl. nep. p. 90.) leaves unequal, elliptic, bluntish, serrated, red beneath; peduncles 2-flowered, about equal in length to the leaves. ♃. G. Native of Nipaul. Stem low, tetragonal. Larger leaves 2½ inches long, and 1½ inch broad. Peduncles bibracteate in the middle. Very like the preceding, but much more humble, and the flowers smaller.

Dwarf Chirata. Pl. ¼ foot.

3 C. bifòlia (D. Don, prod. fl. nep. p. 90. Royle, ill. himal. t. 70.) stem 2-leaved, pubescent; leaves very unequal in size, pubescent, crenated, the one small and petiolate, and the other large, cordate, sessile; peduncle terminal, 1-flowered. ♃. G. Native of Nipaul and Kamaon, Wall.; from Jurreepanee upwards towards Mussooree, and near Simla, Royle. Didymocárpus bifòlia, Wall. in lit. Calosácme ampléctens, Wall. cat. no. 800. Stem filiform. Largest leaf 2 inches long, and 1½ broad, rounded at top. Flowers like those of the preceding, reddish purple, but smaller.

Two-leaved Chirata. Pl. ¼ foot.

4 C. macrophy'lla (Wall. pl. rar. asiat. 1. p. 56. t. 72.) root creeping; leaves on long petioles, ovate-cordate; scape elongated, few-flowered; corolla cylindrical, ventricose in the middle. ♃. G. Native of Nipaul, on Sheopore, in shady woods. Corolla yellow. Stamens 5, the 3 sterile ones subcapitate. Anthers oblong.

Large-leaved Chirata. Pl. 2 feet.

5 C. grandiflòra (Wall. pl. asiat. rar. 1. p. 43. t. 50.) stem ascending; leaves ovate, acuminated, pilose; peduncles axillary, few-flowered. ♃. G. Native of Nipaul, on the high mountains in humid places, upon rocks. Flowers large, rose-coloured. Calyx 5-nerved, 5-angled, 5-cleft, inflated. Corolla funnel-shaped, pilose. Stamens 5, the 2 lower fertile, bearing reniform, cohering, 1-celled anthers; the 3 sterile ones subulate, pilose, and subcapitate. Stigma funnel-shaped, 2-lobed. Seeds small, subulate, naked, acute at both ends.

Great-flowered Chirata. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

Subtribe III.

CYRTA'NDREÆ (this tribe contains plants agreeing with the genus *Cyrtándra*, in the fruit being baccate, and in the seeds being erect.) Fruit baccate. Seeds pendulous, naked.

XXIV. CYRTA'NDRA (from κυρτος, *kyrtos*, a curve; and ανηρ ανδρος, *aner andros*, a male.) Forst. gen. 3. no. 1. Jack, in Lin. trans. 14. p. 25. t. 2. f. 1. a. g. Blum. bijdr. 767. Gaud. in Freyc. voy. pt. bot. p. 446. t. 56. &c. Beslèria species, Forst. prod. no. 236.

Lin. syst. *Diándria*, *Monogýnia*. Calyx tubular, 5-cleft, nearly equal, or sometimes somewhat bilabiate. Corolla funnel-shaped, having the tube widened upwards; the limb 5-lobed and sub-bilabiate. Stamens 5, ex Blume, 4, ex Jack, 2 of which are antheriferous, the other 2 or 3 sterile; cells of anthers parallel. Stigma obtuse, or capitate, often emarginate. Fruit baccate, longer than the calyx. Lobes of dissepiment with revolute, seminiferous margins. Seeds naked, usually pitted, or dotted.—Shrubs or herbs with erect or procumbent stems. Leaves opposite, those opposed to each other unequal in size, one of them being almost abortive. Flowers capitate, or in fascicles, rarely solitary, axillary, bracteate, or involucrated, white, or of a dull purple colour.

§ I. *Stems herbaceous, procumbent, or erectish. Flowers white, capitate, almost inclosed in the large one-leaved involucrum.—Species natives of Java and Sumatra.*

1 C. gla'bra (Jack, in Lin. trans. 14. p. 28. Blum. bijdr. p. 768.) almost stemless; leaves alternate, (the opposed ones being very small, and almost abortive,) on long petioles, broad-ovate, sometimes subcordate at the base, serrulated, glabrous; heads of flowers on short peduncles, involucrated; involucrum large, campanulate, closely embracing the flowers. ♃. S. Native of Java, in the humid parts of woods in the provinces of Bamtam, Buitenzorg, &c. Blume. Interior of Bencoolen, Jack. Flowers large, white, with a pale yellowish throat. Antheriferous filaments thick. Leaves about 7 inches long by 5 broad.

Glabrous Cyrtandra. Pl. ¼ to ½ foot.

2 C. pe'ndula (Blum. bijdr. p. 768.) stem creeping at bottom; leaves opposite, on long petioles, elliptic-oblong, acuminated, serrated, smooth above, but rather villous on the nerves beneath; heads of flowers involucrated on long peduncles, pendulous. ♃. S. Native of Java, in humid places on the mountains. Flowers dirty white, dotted with purple at the bottom. Calyx tubular, 5-cleft, split on one side. Sterile stamens 3, minute. Nearly allied to *C. bícolor*.

Pendulous-flowered Cyrtandra. Pl. creeping.

3 C. bi'color (Jack, in Lin. trans. 14. p. 27.) stem erectish, creeping at bottom; ? leaves opposite, elliptic-lanceolate, cordate at the base, glabrous above, villous and purple beneath, about the length of the petioles; heads of flowers on peduncles which are shorter than the petioles, embraced by a deciduous involucrum. ♃. S. Native of Sumatra. Leaves on long petioles, 9-10 inches long, the opposite ones nearly abortive. Peduncles reflexed, bearing each a head of 6-10 flowers. Corollas large, white. Sterile filaments 2.

Two-coloured-leaved Cyrtandra. Pl. erectish.

4 C. pi'cta (Blume, bijdr. p. 769.) stems procumbent at bottom; leaves remote, opposite, one of which is almost abortive, on long petioles, broad-ovate, acute, a little attenuated at the base, or subcordate, serrated, but rather villous on the nerves beneath; heads of flowers involucrated, axillary, almost sessile. ♃. S. Native of Java, in humid places on the mountains. Flowers large, white, having the throat dotted with purple. Stigma dilated, obtuse. Sterile stamens 3, minute. Nearly allied to *C. maculàta*.

Painted-flowered Cyrtandra. Pl. procumbent.

5 C. macula'ta (Jack, in Lin. trans. 14. p. 26.) plant low; leaves opposite, one abortive, the other roundish cordate, acute, serrated, glabrous above, and rather villous beneath, petiolate; heads of flowers involucrated, axillary. ♃. S. Native of Sumatra. Leaves 4 inches long by 4½ broad. Calyx tubular, 5-toothed. Corolla white, with a large purple spot on each of the 3 lower lobes. Sterile stamens 2. Fruit oblong. Seeds disposed round the lobes of the dissepiment.

Spotted-flowered Cyrtandra. Pl. low.

6 C. hu'milis (Blum. bijdr. 769.) stem procumbent, creeping; leaves approximate, opposite, on long petioles, oval oblong,

obtuse at both ends, rounded at the base, serrated, glabrous above, but rather downy on the veins beneath; heads of flowers axillary, involucrated, sessile. ♃. S. Native of the island of Nusæ-Kambanga, in woods. Corolla pale yellowish. Filaments of the fertile stamens rather villous on the back. Stigma emarginate. Nearly allied to *C. pícta*.

Humble Cyrtandra. Pl. creeping.

7 C. macrophy'lla (Jack, in Lin. trans. 14. p. 25. t. 2. f. 1. a. g.) erectish; branches 4-sided, with rounded angles, and two opposite sides deeply furrowed; leaves roundish-ovate, serrated, glabrous, the opposite ones abortive, on long petioles; peduncles shorter than the petioles; flowers capitate, nearly sessile, supported by a 1-leaved involucrum. ♃. S. Native of the interior of Sumatra. Leaves dark green above, and whitish beneath. Corollas white. Sterile filaments 2. Stigma funnel-shaped.

Large-leaved Cyrtandra. Pl. 1 foot.

8 C. hirsu'ta (Jack, l. c. p. 27.) plant ascending, pilose; leaves elliptic-ovate, cordate at the base, crenated, pilose on both surfaces, on long petioles, the opposed ones generally abortive; heads few-flowered, involucrated by a 2-parted involucrum. ♃. S. Native of Sumatra. Stem terete. Leaves 5 inches long, and 3 broad; petioles as long as the leaves, embracing the stem at the base, and uniting with the base of the opposite one. Peduncles axillary, reflexed, villous. Corolla white, pilose outside. Stigma thick, depressed. Sterile filaments 2.

Hairy Cyrtandra. Pl. ascending.

9 C. incómpta (Jack, l. c. p. 29.) plant erect, shaggy with brown hairs; leaves elliptic-ovate, serrated, on long petioles, the opposed ones abortive; heads of flowers propped by a 2-leaved involucrum, densely woolly. ♃. S. Native of Sumatra, where it is called *Langkavang* by the Malays. Leaves villous, 6 inches long. Peduncles shorter than the petioles. Corolla villous; limb nearly equal. Ovarium embraced by a nectarial ring.

Undecked Cyrtandra. Pl. erect.

10 C. au'rea (Jack, l. c.) showy, erect; stem thick, 4-sided, pilose from adpressed hairs; leaves opposite, roundish ovate, acuminated, serrated, clothed with silky pili, on long petioles; heads of flowers dense, nearly sessile, involucrated. ♃. S. Native of the interior of Bencoolen, at the foot of Gunong Bunko. Leaves both perfect. Involucrum closely investing the head of flowers. Corolla yellow, sub-campanulate: limb nearly equal. Stigma bilabiate.

Golden-flowered Cyrtandra. Pl. erect.

11 C. pelta'ta (Jack, l. c. p. 30.) leaves peltate, ovate, acuminated; heads on very short peduncles, involucrated. ♃. S. Native of Sumatra. Stem ascending, terete, smooth. Leaves on long petioles, the opposite petioles, abortive, bluntly serrated, smooth, paler beneath, 8-10 inches long. Corolla white, funnel-shaped; limb rather irregular. Sterile filaments 2. Ovarium embraced by a nectarial ring.

Peltate-leaved Cyrtandra. Pl. ascending.

§ 2. *Stems herbaceous. Peduncles bibracteate,* 1-2-3-*flowered. Flowers not capitate.—Species natives of the Sandwich Islands.*

12 C. cordifòlia (Gaud. in Freyc. voy. pt. bot. p. 446. t. 56.) leaves roundish-ovate, acute, obliquely cordate, toothed, hairy above, but clothed with villous tomentum beneath, rusty; peduncles 3-flowered; calyxes clothed with rusty villi. ♃. S. Native of the Sandwich Islands, from the altitude of 100 to 300 hexapods, along with the following species.

Cordate-leaved Cyrtandra. Pl. erect.

13 C. grandiflòra (Gaud. l. c. p. 447. t. 55.) leaves oblong, acuminated, narrowed at the base, obsoletely denticulated, ciliated, smoothish above, but paler beneath, with the nerves and veins clothed with powdery down; peduncles 2-leaved and 2-flowered at the apex; calyxes glabrous. ♃. S. Native of the Sandwich Islands.

Great-flowered Cyrtandra. Pl. erect.

14 C. Lessonia'na (Gaud. l. c. t. 54.) leaves oblong, acuminated, narrowed at the base, denticulated, puberulous above, but clothed with silky tomentum beneath, rusty; peduncles 1-flowered, bibracteate; calyx rather villous, 5-parted, with the edges of the segments undulately inflexed. ♃. S. Native of the Sandwich Islands.

Lesson's Cyrtandra. Pl. erect.

15 C. triflòra (Gaud. l. c. t. 52.) leaves oblong, sub-acuminated, cuneated at the base, somewhat doubly serrated, glabrous; nerves and veins clothed with adpressed down beneath; peduncles 3-flowered; calyxes smoothish. ♃. S. Native of the Sandwich Islands.

Three-flowered Cyrtandra. Pl. erect.

16 C. biflòra (Forst. gen. 3. no. 1.) leaves ovate, quite entire; involucrum caducous, inflated; peduncles 2-flowered. ♃. G. Native of Otaheite. Beslèria biflòra, Forst. floral. no. 236.

Two-flowered Cyrtandra. Pl. erect.

17 C. Carnotia'na (Gaud. l. c. t. 53.) leaves elliptic-oblong, acute, running into the petioles, remotely serrulated, hairy above, and clothed with soft tomentose pubescence beneath, canescent; peduncles few-flowered, subdichotomous; calyxes villously pubescent. ♃. S. Native of the Sandwich Islands.

Carnoti's Cyrtandra. Pl. erect.

18 C. paludòsa (Jack, l. c. p. 447.) leaves oblong, acuminated, narrowed at the base, coarsely serrated, glabrous, paler beneath; peduncles 1-flowered. ♃. S. Native of the Sandwich Islands.

Marsh Cyrtandra. Pl. erect.

19 C. Menzie'sii (Hook. et Arn. in Beech. voy. pt. bot. p. 91.) leaves 4 in a whorl, ? oblong, short-acuminated, cuneated at the base, somewhat denticulately ciliated towards the apex, rather scabrous above, glabrous beneath, but the nerves and veins are clothed with adpressed down; peduncles bearing many flowers, which are disposed in an umbellate manner; calyx hairy, with subulate teeth. ♃. S. Native of the Sandwich Islands.

Menzies's Cyrtandra. Pl. erect.

§ 3. *Stems suffruticose, erect. Corollas bilabiate, dirty purplish, or dirty yellow, for the most part small, and disposed in fascicles. Habit different from the other sections, and have more resemblance to the Didymocárpus frutéscens. The species of this section might form a distinct genus, on account of their bilabiate corolla and longer fruit, and in the whole superfices of the lobes of the dissepiment being seminiferous.*

20 C. pilòsa (Blum. bijdr. p. 770.) stem ascending, simple, tetragonal at top; leaves opposite, obovate-oblong, sharply serrated, sessile, pilose above, and strigose on the veins beneath; fascicles many-flowered, on short peduncles, axillary, involucrated by foliaceous bracteas. ♄. S. Native of Java, in humid places on the mountains of Salak, Gede, Seribu, &c. Flowers dirty yellow, having the lower lip reddish inside, and 3-lobed: upper lip emarginate, smaller. Sterile filaments 3, small. Allied to *C. rubiginòsa*.

Pilose Cyrtandra. Shrub small.

21 C. rubiginòsa (Jack, in Lin. trans. 14. p. 32.) stem erect, 4-angled, bristly in the young parts; leaves opposite, petiolate, obovate-lanceolate, acuminated, acutely serrated; the nerves pilose on the lower surfaces; peduncles axillary, fascicled, 1-flowered, and, like the calyxes, clothed with clammy pili. ♄. S. Native of Sumatra. Bracteas linear, acute. Corolla of a dusky purple colour, pilose outside: lower lip of 3 small shallow lobes: upper lip bifid, shorter. Stigma bluntly bilabiate. Berry cylindrical. Sterile filaments 2.

Rusty Cyrtandra. Shrub small.

22 C. sulca'ta (Blum. bijdr. p. 770.) stem erect, tetragonal, furrowed above, clothed with brown tomentum; leaves opposite, petiolate, oblong, long-acuminated, unequally narrowed at the base, unequally and sharply serrated at top, smoothish above, but rather villous on the nerves beneath; fascicles of flowers almost sessile, axillary, bracteate. ♄. S. Native of Java, on Mount Megamendung. Corolla dirty purple: upper lip 2-lobed: lower one larger and 3-lobed. Sterile filaments 3, small.

Var. β; leaves larger; flowers white. ♄. S. Native of Java, on the Seribu mountains.

Furrowed Cyrtandra. Shrub small.

23 C. nemoròsa (Blum. bijdr. p. 771.) stem erect, tetragonal, downy at top; leaves opposite, petiolate, oblong, acuminated, obliquely attenuated at the base, unequally and deeply serrated, rather downy on the veins on both surfaces; fascicles of flowers pedunculate. ♄. S. Native of Java, in groves. Calyx sub-bilabiate: lower lip bifid: upper trifid. Corolla bilabiate: upper lip emarginate, brown: lower lip 3-lobed, and larger, dirty white, and brownish in the throat. The fertile filaments are thickened at top; and the middle one of the 3 sterile shortest.

Grove Cyrtandra. Shrub small.

24 C. rostra'ta (Blum. bijdr. 771.) stem almost terete, erectish; superior leaves alternate, those opposed being very small, petiolate, oblong, beaked, unequally attenuated at the base, and unequally and sharply serrated at top, glabrous above, but rather villous on the ribs beneath; fascicles of flowers pedunculate, axillary. ♄. S. Native of Java, in woods on the Seribu mountains, and on mount Salak. Corolla dirty purple, rather villous outside, sub-bilabiate, with a gibbous throat. Sterile filaments 3. Nearly allied to *C. nemoròsa* and *C. sulcàta*.

Var. β; flowers purple and white. ♄. S.

Beaked-leaved Cyrtandra. Shrub small.

25 C. flave'scens (Blum. bijdr. p. 772.) stem terete, erectish; leaves opposite, petiolate, oblong-lanceolate, acuminated at both ends, unequally and remotely serrated, downy on the veins beneath; flowers solitary, axillary, almost sessile. ♄. S. Native of the Island of Nusæ-Kambanga, in humid places among bushes. Corolla sulphur-coloured, funnel-shaped, bilabiate, rather villous outside. Sterile filaments 2, minute.

Yellowish-flowered Cyrtandra. Shrub small.

26 C. cocci'nea (Blum. bijdr. p. 772.) stem erect, tetragonal; leaves opposite, on long petioles, oblong, acuminated, glandularly serrated, oblique at the base, having the ribs for the most part blood-coloured beneath, smooth; fascicles of flowers pedunculate, axillary, umbellate. ♄. S. Native of Java, in woods in the interior. Calyx ventricose, 5-cleft, sub-bilabiate. Corolla somewhat bilabiate, scarlet, sometimes whitish-brown. Sterile filaments 3, minute. Berry elongated, beaked.

Scarlet-flowered Cyrtandra. Shrub small.

27 C. Cele'bica (Blum. bijdr. p. 772.) stem erect, tetragonal; leaves opposite, on long petioles, elliptic-oblong, acuminated, unequally attenuated at the base, crenulated, glabrous, but clothed with cobwebbed down while young; fascicles of flowers panicled, axillary. ♄. S. Native of the Celebes, in woods. Allied to *C. coccínea*, from which it differs in the fascicles of flowers being panicled.

Celebes Cyrtandra. Shrub small.

28 C. gra'ndis (Blum. bijdr. p. 773.) stem erect, nearly terete; leaves opposite, on long petioles, elliptic-ovate, acute, sometimes obliquely cordate at the base, doubly and glandularly serrated, sometimes tomentose beneath on the nerves and veins; fascicles of flowers pedunculate, axillary, involucrated; involucrum bifid. ♄. S. Native of Java, in the higher woods on mounts Gede and Salak.

Var. β; leaves deeply serrated. ♄. S.

Great Cyrtandra. Shrub.

29 C. arbore'scens (Blum. bijdr. p. 773.) stem erect, tetragonal; leaves large, opposite, elliptic-oblong, running into the petioles at the base, unequally toothed, smooth above, but rather tomentose beneath; heads of flowers pedunculate, involucrated; involucrum large, foliaceous, bifid. ♄. S. Native of Java, in the province of Tjangor, on the mountains, in humid parts of woods.

Arborescent Cyrtandra. Shrub.

30 C. cunea'ta (Blum. bijdr. p. 773.) stem erect, tetragonal; leaves opposite, the one smaller than the other, petiolate, cuneate-oblong, acuminated, obsoletely denticulated at top, smoothish above, but rather strigose on the veins beneath; umbels axillary, on long peduncles. ♄. S. Native of the Moluccas.

Cuneate-leaved Cyrtandra. Shrub.

31 C. frute'scens (Jack, in Lin. trans. 14. p. 31.) stem erect; leaves opposite, lanceolate, serrated, glabrous, petiolate; peduncles axillary, generally 3-flowered, not so long as the petioles. ♄. S. Native of Sumatra. Leaves 7-9 inches long. Bracteas linear at the base of the pedicels. Calycine segments subulate. Corolla purplish: lower lip longer, 3-lobed; lobes shallow. Sterile filaments 2. Stigma dilated, sub-bilabiate. Berry cylindrical: lobes of the dissepiment revolute, and seminiferous on their whole surfaces, like most of the other species in this section.

Shrubby Cyrtandra. Shrub.

Cult. For culture and propagation of the herbaceous species see *Streptocárpus*, p. 658, and for the shrubby species see *Rytidophýllum*, p. 550.

XXV. WHI'TIA (evidently dedicated to some person of the name of White, of whom we know nothing.) Blum. bijdr. p. 774.

Lin. syst. *Diándria, Monogýnia.* Calyx small, deeply 5-cleft, equal. Corolla funnel-shaped, having the tube widened upwards; limb 5-lobed, irregular, sub-bilabiate. Stamens 5, 2 of which are antheriferous and hardly exserted, and the other 3 setaceous and sterile. Cells of anthers unequal in the insertion. Stigma somewhat funnel-shaped. Fruit baccate, silique-formed: lobes of dissepiment fleshy, and bearing the seeds on their revolute edges. Seeds naked, striated, surrounded by thin pulp.—Climbing shrubs, with opposite, simple, entire, oblique leaves; those opposed to each other of unequal size. Fascicles of flowers axillary, bracteate, on short peduncles. This genus differs from *Cyrtándra*, in the calyx being small, and divided nearly to the base, not tubular; in the stamens being exserted, not inclosed; in the insertion of the anthers being unequal, not parallel; in the stigma being funnel-shaped, not capitate nor emarginate.

1 W. oblongifòlia (Blum. bijdr. p. 774.) leaves oblong-lanceolate, glabrous; fascicles of flowers on short peduncles; brac-

teas lanceolate; fruit elongated. ♄. S. Native of Java, in mountain woods, where it is called *Lida-bebek*.

Oblong-leaved Whitia. Fl. Year. Shrub climbing.

2 W. carnòsa (Blum. bijdr. p. 775.) leaves oblong-lanceolate, rather tomentose beneath; fascicles of flowers on short peduncles, axillary, involucrated by 2 bracteas; fruit oblong. ♄. ᴗ. S. Native of Sumatra, and of Java, in woods on the Seribu mountains. Cyrtándra carnòsa, Jack, in Lin. trans. 14. p. 30. Stems obscurely 4-sided, smooth. Largest leaves 7-8 inches long: the opposite ones small, roundish-cordate. Corolla white.

Fleshy Whitia. Fl. Year. Shrub climbing.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XXVI. RHYNCHOTE'CHUM (from ρυγχος, *rhynchos*, a beak; but the application is not evident.) Blum. bijdr. 775.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx 5-cleft, equal. Corolla with a short campanulate tube, and an unequal, 5-lobed limb. Stamens 4, somewhat didynamous, inclosed; anthers 1-celled, free. Style incurved; stigma obtuse. Fruit baccate, globose, girded by the calyx: lobes of fleshy dissepiment revolute and seminiferous. Seeds naked. This genus differs from *Cyrtándra* in all 4 stamens being fertile; in the anthers being 1-celled, and in the berry being globose.

1 R. parviflòrum (Blum. p. 775.) stem simple, terete; leaves opposite, oblong-lanceolate, serrated, rather villous beneath; corymbs dichotomous, axillary; pedicels subfasciculate. ♄. S. Native of Java, on the Seribu mountains.

Small-flowered Rhynchotechum. Shrub.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XXVII. LOXO'NIA (from λοξος, *loxos*, oblique; flowers.?) Jack. in Lin. trans. 14. p. 4. Blum. bijdr. 776.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx tubular, angular, 5-cleft. Corolla funnel-shaped, with a 5-lobed, unequal, somewhat bilabiate limb. Stamens 4, didynamous, inclosed; anthers sagittate, with divaricate lobes. Stigma bilamellate. Fruit baccate? inclosed in the calyx, and probably dehiscent, 2-celled; lobes of dissepiment revolute, seminiferous. Seeds naked, pitted.—Herbaceous plants, with opposite leaves: the opposed ones small, generally unequal sided. Flowers racemose.

1 L. díscolor (Jack, in Lin. trans. 14. p. 40.) leaves glabrous above, but purplish and retrorsely scabrous beneath; racemes simple, elongated. ♃. S. Native of the interior of Bencoolen. Stem tomentose, purple, terete, rather flexuous, recurved. Leaves opposite, bifarious: the one minute and reniform, the other subsessile, semicordate, ovate-oblong, falcate, acuminated, 4-5 inches long, slightly serrated; serratures recurved, in old leaves almost obsolete. Calyx covered with red hairs. Corolla of a delicate yellowish-green colour, streaked with purple inside.

Two-coloured-leaved Loxonia. Pl.?

2 L. hirsu'ta (Jack, l. c. p. 41.) hairy; leaves semi-ovate, broad; peduncles 2-4-cleft; flowers racemose. ♃. S. Native of Sumatra and the interior of Bencoolen. Stem recurved. Leaves on very short petioles: the one small and semicordate, the other semi-ovate, acuminated, slightly serrated, about 5 inches long, and 2 or $2\frac{1}{2}$ broad. Peduncles dividing into 2 or 4 unilateral racemes.

Hairy Loxonia. Pl.?

3 L.? decu'rrens (Blum, bijdr. p. 776.) leaves opposite, oblong, acuminated, cuneated at the base, decurrent, serrated, glabrous; flowers in fascicles, axillary. ♃. S. Native of Java, on the Seribu mountains, in humid places.

Decurrent-leaved Loxonia. Fl. Feb. Shrub.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

XXVIII. CENTRO'NIA (from κεντρον, *kentron*, a spur; back of anthers spurred at the base.) Blum. bijdr. p. 776.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx spathaceous, cleft on one side. Corolla funnel-shaped, with a bilabiate, nearly equal limb; upper lip 2-lobed: lower lip 3-lobed, spreading. Stamens 4, inclosed; anthers 1-celled, spurred on the back at the base, free. Style thick; stigma capitate. Fruit baccate, silique-formed; lobes of fleshy dissepiment revolute, seminiferous. Seeds naked.—A small, rather fleshy, parasitical plant, furnished with ovate obtuse stipulas and bracteas.

1 C. mira'bilis (Blum. bijdr. p. 777.) ♃. S. Native of Java, on Mount Salak, in humid parts of woods.

Showy Centronia. Fl. Sept. Oct. Pl. small.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

XXIX. UTA'NIA (an alteration from its vernacular name Tjankuda-Utan.) Kùhlia, Reinwdt. herb. ex Blum. bijdr. p. 777. but not of Kunth.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx 5-cleft; segments imbricate, permanent. Corolla funnel-shaped, with a 5-lobed, nearly equal limb. Stamens 5, exserted; anthers incumbent, bifid at the base. Style erect; stigma capitate. Fruit baccate, olive-formed; lobes of fleshy dissepiment revolute, seminiferous. Seeds naked.—A branched shrub, with rather large, opposite, oval leaves, which are acutish at both ends, quite entire, coriaceous, glabrous, and undulated. Panicles terminal, drooping; pedicels subcorymbose.

1 K. morindæfòlia; ♄. S. Native of Java, at the foot of Mount Salak, where it is called *Tjankuda-Utan*. Kúhlia morindæfòlia, Blum. bijdr. p. 777.

Morinda-leaved Kuhlia. Fl. Year. Shrub.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

XXX. FIE'LDIA (named after Baron Field, F.L.S., &c. late Judge of the Supreme Court of New South Wales.) Cunningh. in Field's New South Wales, p. 363. icone. Hook. exot. fl. t. 1. p. 232.

Lin. syst. *Didynàmia*, *Angiospérmia*. Calyx deeply 5-parted, permanent, inclosed in a spath-formed bractea, which is cleft on one side. Corolla tubularly ventricose; limb 5-lobed, equal, somewhat bilabiate. Stamens 4, didynamous, with the rudiment of a fifth; filaments dilated; anthers 2-celled, roundish. Stigma bilamellate. Berry white, spongy, fleshy, 1-celled. Seeds small, numerous, dotted, attached to two fleshy, parietal, bilamellate placentas.—A climbing, radicant shrub, almost parasitical upon the trunks of trees, clothed with dense rusty down when young. Leaves simple, opposite, remote: those opposed to each other, unequal in size, elliptic, acute at both ends, deeply serrated in the upper half, downy, of a deep green colour; petioles downy. Peduncles axillary, solitary, 1-flowered. Flowers pendulous, greenish-white.

1 F. Austra'lis (Cunningh. l. c. Hook. l. c.) ♄. ᴗ. G. Native of New South Wales, on the Blue Mountains, Caley, in 1804; and upon naked rocks on the Five Islands, Cunningh. in 1822.

Southern Fieldia. Shrub creeping.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

Subtribe IV.

LOXOTIE'Æ (this subtribe agrees with the genus *Loxòtis*, in the seeds being erect.) Capsule 2-valved or circumcised. Seeds erect, naked.

§ 1. *Capsule 2-valved.*

XXXI. LOXO'TIS (from λοξος, *loxos*, oblique ; corollas.) R. Br. ex Benth. scrop. ind. p. 57. Antònia, R. Br. but not of Pohl. Wulfènia species, Wall.

Lin. syst. *Diándria, Monogýnia.* Calyx tubular, 5-cleft. Corolla with a tubular base, and a short, bilabiate limb. Stamens 2, fertile ; anthers cohering : sterile ones wanting, or very minute.—Herbaceous plants.

1 L. obli'qua (Benth. scroph. ind. p. 57.) calyx shortly 5-cleft ; segments broad-lanceolate, bluntish. ♃. ? S. Native of Nipaul and Silhet ; common on the Himalaya. Wulfènia oblìqua, Wall. tent. fl. nap. p. 45. t. 35.

Oblique-flowered ? Loxotis. Pl. erect.

2 L. interme'dia (Benth. l. c.) calyx 5-cleft beyond the middle ; segments lanceolate, very acute. ♃. ? S. Native of Martaban, at Moolmyme. Wulfènia intermèdia, Wall. cat. no. 408. Habit of the preceding, but the young leaves are often pubescent.

Intermediate Loxotis. Pl. erect.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

XXXII. GLOSSA'NTHUS (from γλωσσα, *glossa*, a tongue ; and ανθος, *anthos*, a flower ; in allusion to the large concave lower lip of the corolla.) Klein, mss. ex Benth. scroph. ind. 57. Wulfènia species, Wall.

Lin. sÿst. *Didynàmia, Angiospérmia.* Calyx tubular, 5-cleft. Corolla tubular at the base : limb bilabiate ; upper lip very short : lower one large, convex. ? Stamens 4, fertile ; anthers cohering. Capsule 2-valved.—Herbaceous plants.

1 G. Malaba'rica (Klein, mss. ex Benth. l. c.) stem divaricately branched ; leaves and inflorescence of *Loxòtis*. ♃. ? S. Native of Malabar and the Nielghery mountains, in the Indian Peninsula. Wulfènia Notoniàna, Wall. tent. fl. nap. p. 46. cat. no. 409.

Malabar Glossanthus. Pl.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

XXXIII. PLATYSTE'MMA (from πλατυς, *platys*, broad ; and στεμμα, *stemma*, a garland of flowers ; in reference to the broad corollas.) Wall. pl. rar. asiat. 2. p. 41. t. 151.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx ovate, 5-cleft, equal. Corolla rotate, very flat, without a tube : limb bilabiate, 5-lobed : lower lip larger, 3-lobed, contracted at the base : upper lip obcordate. Stamens 4, very short, equal ; anthers large, reniform, 1-celled. Style very long and thick ; stigma capitate, entire. Ovarium roundish-ovate, 2-celled. Ovula densely inserted in twin placentas.—Small, pilose, rock, 1 or 2-leaved herbs. Flowers few, large, blue, terminal, on long pedicels, twin or subumbellate. Corollas flat, hence the generic name.

1 P. violoi'des (Wall. pl. rar. 2. p. 42. t. 151. Royle, ill. himal. t. 70. f. 2.) leaves 2, opposite under the peduncles, one smaller than the other, but none radical ; peduncles 2-flowered, one from the axil of each leaf. ♃. G. Native of Upper Nipaul, upon rocks among moss, Wall. ; from Jureepanee upwards, towards Mussooree ; and near Simla, Royle. Plant 2-6 inches high, downy. Leaves sessile, orbicularly cordate, sinuately toothed.

Violet-like Platystemma. Pl. 2 to 6 inches.

2 P. ma'jor (Wall. pl. rar. asiat. 2. p. 42.) stem longer, furnished with one ovate-cordate, acute, sharply and sinuately-toothed leaf ; peduncles umbellately bifid, each division bearing 2 flowers, besides 1 or 2 solitary flowers from the bifurcation. ♃. G. Native of Kamaon. Bracteas 2, opposite, small under the divisions of the stem or peduncles in both species.

Larger Platystemma. Pl. $\frac{1}{2}$ to $\frac{3}{4}$ foot.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

XXXIV. OURI'SIA (named after Ouris, once Governor of the Moluccas, who received this plant from Commerson, who had given it his name.) Comm. ex Juss. gen. p. 100. ed Usteri, p. 112. Gærtn. fil. carp. 3. p. 44. t. 185. R. Br. prod. p. 438. Poppig, et Endlicher, nov. gen. 1. p. 2. Dichròma, Cav. ann. des scienc. 3. t. 32. icon. 6. p. 59. t. 282. Chelòne species, Lin. fil. suppl. and Willd.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx 5-cleft, nearly equal. Corolla funnel-shaped : limb 5-cleft, nearly equal ; segments obtuse. Stamens 4, didynamous. Stigma capitate, emarginate or 2-lobed. Capsule 2-celled, 2-valved ; valves septiferous in the middle. Placentas globose, adnate to the dissepiment. Seeds numerous, with an aril-formed, reticulated testa.—Creeping herbs, with opposite leaves, and terminal and axillary, bractless peduncles.

Sect. I. Ouri'sia (see genus for derivation.) Poppig, et Endlicher, nov. gen. 1. p. 2. Calyx sub-bilabiate. Corolla funnel-shaped ; tube widened a little in the middle, and curved : limb erect, hardly equalling a sixth part of the tube.

1 O. Magella'nica (Juss. l. c. Gærtn. l. c. Poppig, et Endlicher, l. c. t. 4.) stem creeping ; radical leaves cordate-ovate or elliptic, doubly serrated, on long petioles ; cauline leaves reniform, opposite, half stem-clasping ; peduncles axillary, solitary, elongated, 1-flowered ; calyx ciliated : upper lip tridentate : lower one bifid. ♃. G. Native of Chili, on the Andes, among rocks ; and of the Straits of Magellan, in the fissures of rocks. Chelòne ruelloìdes, Lin. fil. suppl. 271. Forster, in Comm. goett. 9. p. 35. Willd. spec. 3. p. 226. Corolla purple.

Magellan Ourisia. Pl. 3 to 6 inches.

Sect. II. Dichròma (from δις, *dis*, double ; and χρωμα, *chroma*, colour ; in reference to the scarlet colour of the corolla, and green of the other parts of the plant.) Poppig, et Endlicher, nov. gen. 1. p. 3. Calyx equal : segments hardly cohering at the base. Corolla funnel-shaped : limb spreading, equal in length to a third or half the length of the erect cylindrical tube.

2 O. integrifòlia (R. Br. prod. p. 439.) glabrous ; stem creeping ; leaves subovate, quite entire ; peduncles terminal, generally solitary ; calyx deeply 5-cleft, equal. ♃. G. Native of Van Diemen's Land. This differs from *O. Magellánica*, in the calyx being equally 5-cleft, and in the corolla being shorter.

Entire-leaved Ourisia. Pl. creeping.

3 O. cocci'nea (Pers. ench. 2. p. 169. Poppig, et Endlicher, l. c.) radical leaves cordate, doubly crenated, violaceous be-

neath, downy above; petioles and stem villous; peduncles panicled, equal to the calyx in length, but 6 times shorter than the corolla, pilose. ♃. G. Native of the South of Chili, in shady places at the river Rucal; and of Chiloe, in humid shady places. Dichròma coccínea, Cav. icon. 6. p. 59. t. 282. Corolla scarlet. Seeds minute, ovate.

Scarlet-flowered Ourisia. Pl. ½ to 2 feet.

4 O. pa'llens (Poppig, et Endlicher, nov. gen. chil. 1. p. 3. t. 5.) radical leaves orbicularly cordate, crenated, smoothish; petioles villous; tops of stem sub-panicled; peduncles equal in length to the calyx, and almost twice shorter than the tube of the corolla, which is regular, all quite glabrous. ♃. G. Native of the South of Chili, on the Andes at Antuco, in rocky places.

Pale Ourisia. Pl. ¼ to ½ foot.

5 O. microphy'lla (Poppig, et Endl. l. c. p. 3. t. 7.) suffruticose, glabrous; leaves oval, sessile, closely and quadrifariously imbricated, coriaceous; peduncles axillary, solitary, 1-flowered, short; stamens one half shorter than the tube. ♄. G. Native of the South of Chili, in the fissures of basaltic rocks on the Andes of Antuco. A small, branchy shrub, with the habit of *Erìca*. Corolla rose-coloured, or lilac.

Small-leaved Ourisia. Shrub.

6 O. alpi'na (Poppig, et Endl. l. c. t. 6.) radical leaves cordate-oblong, doubly crenated, and are, as well as the petioles and stem, villous; peduncles corymbose and equal; calyxes one-half shorter than the tube of the regular corolla, quite glabrous. ♃. G. Native of the South of Chili, on the top of Pico de Pilque, among the Andes. Corolla scarlet.

Alpine Ourisia. Pl. ¼ to ½ foot.

7 O. polya'ntha (Poppig, et Endl. l. c. p. 4.) suffruticose; branches downy; leaves oval, sessile, by remote pairs, membranous; peduncles axillary, solitary, 1-flowered, elongated; stamens length of tube. ♄. G. Native of the South of Chili, on the Andes, in cold places. Corolla scarlet; limb yellow inside.

Many-flowered Ourisia. Shrub.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

§ 2. *Capsule circumcised.*

XXXV. AIKI'NIA (named in honour of Arthur Aikin, F.L.S., Secretary to the Society of Arts.) R. Br. in Wall. pl. rar. asiat. 3. p. 65. t. 288. Epíthema, Blume, but not of Jack.

Lin. syst. *Diándria, Monogýnia.* Calyx tubular, 5-cleft, equal. Corolla hypogynous, irregular; limb spreading; upper lip bifid: lower tripartite, with nearly equal segments. Stamens 4, the 2 superior ones fertile, with cohering anthers: lower 2 sterile. Stigma capitate. Capsule girded by the calyx, 1-celled, circumcised; placentas 2, free, seated on adnate, parietal pedicels, seminiferous all over. Seeds erect, with elongated funicles.—Annual, rather pilose herbs. Leaves cordate, a little toothed: lower usually one or more alternate: superior ones nearly opposite. Spikes unilateral, circinate while young, and head-formed, but corymbose while bearing the fruit, peduncular; pedicels disposed in a double row along the rachis, crowded, bractless, but the racemes are involucrated by one roundish cucullate leaf each at base. Flowers small, blue. Nearly allied to *Loxòtis*.

1 A. Brunònis (Wall. l. c. 3. p. 66. t. 288.) leaves petiolate; peduncles solitary, or many. ☉. F. Native of the Island of Timor, near Colping. Gratìola involucràta, Roxb. fl. ind. 1. p. 138.? Plant branched, or simple.

Brown's Aikinia. Pl. ¼ foot.

2 A. Horsfie'ldii (R. Br. l. c. p. 66.) leaf solitary, sessile, terminating the stem; peduncles solitary, many. ☉. F. Native of Java. Epíthema, Blum.

Horsfield's Aikinia. Pl. ¼ foot.?

3 A. carnòsa; leaves petiolate; peduncles solitary, or many seriate; racemes capitate; bractea small, ovate; corollas exceeding the calyx a little. ☉. F. Native of Nipaul. Epíthema carnòsum, Benth. scroph. ind. p. 57. Pæderotoìdes carnòsa, Wall. mss.

Fleshy Aikinia. Pl. ¼ foot.?

Cult. For culture and propagation see *Streptocárpus*, p. 658.

XXXVI. STAURANTHE'RA (from σταυρος, *stauros*, a cross; and ανθηρα, *anthera*, an anther; in allusion to the anthers cohering in a cruciate manner.) Benth. scroph. ind. p. 57.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx subrotately campanulate, 5-plicate, very broadly sub-10-cleft. Corolla ample, oblique, with a very short tube, spurred behind at the base, subquinquefid at top. Stamens 4, fertile; anthers heart-shaped, cohering cruciately. Capsule circumcised. Ramification of stem, and obliquity of leaves, like that of *Glossánthus*. Leaves large, wrinkled. Racemes ditrichotomously panicled, 8-20-flowered.

1 S. grandiflòra (Benth. l. c.) ♃.? S. Native of Penang, Wall. Glossánthus? grandiflòrus, Benth. in Wall. cat. no. 6395.

Great-flowered Stauranthera. Pl. branched.

Cult. For culture and propagation see *Streptocárpus*, p. 658.

† *A genus hardly known whether it belongs to the order Bignoniaceæ or the present.*

XXXVII. AMPHICO'ME (from αμφι, *amphi*, on both sides; and κωμη, *kome*, a head of hair; in reference to the seeds being furnished with a tuft of hairs at both ends.) Royle, ill. himal. t. 72. f. 1. Incarvíllea species, R. Br. ex Royle, l. c.

Lin. syst. *Didynàmia, Angiospérmia.* Calyx tubular, pentagonal; angles stiffer than the membranous ciliated sides, 5-toothed; teeth subulate, slightly hairy. Corolla tubular near the base, ventricose above; limb 5-lobed: lobes short, rounded, ciliated, imbricate in æstivation. Stamens 4, didynamous, with the rudiment of a fifth. Cells of anthers converging, each furnished about its middle with a small tail-like process; filaments terminated above in a broad, membranous process. Stigma bilamellate. Capsule long, slender, silique-formed, 2-valved, but only opening on one side; dissepiment free, opposite the valves, bearing on both sides along the margins suspended seeds. Seeds oblong, rough, slightly winged at both ends, and terminated in a much divided coma of fine hairs, exalbuminous. Embryo straight, almond-shaped; radicle above. Cotyledons foliaceous.—A diffuse shrub, with impari-pinnate, alternate leaves, and axillary and terminal racemes of flowers.

1 A. argu'ta (Royle, l. c.) ♄. G. Native of Himalaya. Incarvíllea argùta, Royle, l. c.) Leaflets opposite, on short petioles, 3-4 pairs, lanceolate, acuminated, unequal at the base, dentately serrated. Corollas red.

Sharp-serrated-leaved Amphicome. Shrub 3 feet.

Cult. For culture and propagation see *Rytidophýllum*, p. 650.

Order CLXXV. LABIA'TÆ (so named from *labium*, a lip; in consequence of the two-lipped corolla.) Juss. gen. p. 110.

R. Br. prod. p. 499. Mirb. ann. mus. 15. p. 213. Bartl. ord. nat. 180. Benth. lab. p. xiii.

Calyx tubular, regular, 5-cleft, or 5-10-toothed, or bilabiate; lips entire, or divided. Corolla tubular, irregular, bilabiate; superior lip undivided or bifid, lying over each other in æstivation: lower lip trifid. Stamens 4, didynamous, 2 of which are sometimes sterile; filaments inserted under the sinuses of the lower lip and interlabiate; anthers 2-lobed: lobes usually divaricate; but sometimes dimidiate, and therefore somewhat 1-celled, with an obsolete division and a continuous suture. Ovaria 4, 1-seeded, connected with the base of the style, seated on a glandular disk, and girded at bottom; ovula erect. Style 1. Stigma bifid, usually acute, sometimes unequal, or dilated. Achenia 4, hidden by the permanent calyx, some of them generally abortive. Albumen wanting, or very sparing. Embryo erect. Cotyledons flat.—Herbs, rarely shrubs. Stems and branches tetragonal. Leaves opposite, exstipulate, simple, undivided, or lobed; petioles or bases of the leaves not articulated with the branch. Flowers opposite, verticillate, capitate, spicate, racemose, or solitary, axillary or terminal, bracteate or naked.

The order *Labiàtæ* is one of the most natural and distinctly marked of all. The opposite leaves, monopetalous corolla, 2 or 4 stamens, and the free 4-lobed ovarium, are characters so easily observed, and so constantly accompanying the general habit of the whole series, that from the time of Linnæus to the present day but two or three genera have been improperly associated with, or separated from it. Its immediate affinities are few. The same 4-lobed ovarium is only found in *Borragineæ*, but here the fifth stamen is always present and fertile, and the corolla is usually regular, with gyrate inflorescence. *Scrophularineæ*, and other allied tribes are at once separated by the capsular fruit. In *Verbenàceæ* alone, having frequently the same inflorescence and many of the characters of *Labiàtæ*, approach near enough to occasion any hesitation in drawing the line of separation. The ovarium is slightly lobed in *Verbèna* and other neighbouring genera, and in *Cymària* and some *Teùcria* it is less lobed than in other *Labiàtæ*, but yet the distance is considerable in this respect between the former and the two latter genera, ex Bentham.

The species are to be found in more or less abundance over the surface of the globe, but the greater mass within the tropics. Many are extremely odoriferous; some bear handsome flowers, others are mere weeds. They are remarkable for their tonic, cordial, stomachic virtues; they contain both a bitter and an aromatic principle in different proportions. The bitterness which is given out in decoctions resides in a gum resinous secretion abounding in some *Teùcria*, which are particularly employed as stomachics, and sometimes as febrifuges; those which abound in essential oil, and are consequently aromatic, are used as stimulants. From the different degree of combination of these principles in different plants, they have obtained various uses, such as savory, thyme, marjoram for the seasoning of food; sage, balm, ground ivy for tea; cat thyme, marjoram, lavender, and thyme for sternutories; others, such as lavender, mint, balm, and rosemary, for perfume. The essential oil of all contain camphor, which is said to exist in such quantity in sage and lavender, that it has been supposed that the separating of it might become an object of commerce.

In the arrangement of this truly natural family, I have followed Mr. Bentham, whose elaborate work, entitled "Labiatarum Genera et Species," is a model for future monographers.

Synopsis of the genera.

TRIBE I.

OCYMOÌDEÆ. Stamens declinate. Corolla sub-bilabiate; the superior 4 lobes flat, and nearly equal, or the two uppermost ones are joined: the lower segment is declinate, usually of a different form from the others, sometimes flat, but usually concave, boat-shaped, or saccate. Old anthers usually saucer-shaped.

§ 1. *Segments of corolla almost of equal length: lower one the narrowest, declinate, and flattish.—Tropical plants.*

1 O'CYMUM. Fructiferous calyx deflexed; the uppermost tooth ovate, large, usually decurrent.—Whorls 6-flowered, rarely with so many as 10 flowers.

2 GENIÓSPORUM. Fructiferous calyx almost erect, or declinate, usually transversely wrinkled at base; teeth irregular: upper one not decurrent. Filaments naked. Lobes of style subulate.—Whorls many-flowered.

3 MESÒNA. Upper lip of corolla divided; lower one small, and inflexed. Shorter stamens appendiculate at the base.

4 ACROCE'PHALUS. Calyx erectish, having the 4 lower teeth combined into an entire or 4-toothed lip.—Whorls of flowers capitate.

5 MOSCHÓSMA. Fruit-bearing calyx declinate; upper tooth ovate, not decurrent. Tube of corolla inclosed. Lobes of style very short.—Whorls few-flowered, secund, usually disposed in axillary racemules.

6 ORTHOSI'PHON. Fructiferous calyx deflexed; superior tooth ovate. Tube of corolla straight, exserted. Style headed by the stigma.—Habit of *O'cymum*.

§ 2. *Lower segment of corolla elongated, concave.—Tropical plants.*

7 HOSLU'NDIA. Superior stamens abortive. Fructiferous calyx baccate.

8 PLECTRA'NTHUS. Fructiferous calyx 5-toothed, not spiny, with an open mouth. Filaments free.

9 CÒLEUS. Fructiferous calyx toothed, not spiny, with an open mouth. Filaments monadelphous.

10 ANISOCHI'LUS. Fructiferous calyx closed.—Whorles of flowers spicate.

11 ŒOLLA'NTHUS. Calyx truncate, circumcised at the base in the fructiferous state.

12 Pychnóstachys. Teeth of fructiferous calyx subulately spinose.—Whorls of flowers spicate.

§ 3. *Lower segment of corolla somewhat stipitate, transversely subcallous at the base, and at length saccate, but bent down abruptly at the time of florescence.*

13 Pe'ltodon. Teeth of calyx subulate, peltate at apex.—Habit of *Hýptis capitàta*.

14 Marsypia'nthus. Achenia concave, boat-shaped, with membranous, involute, fringed margins.—Habit of *Hýptis capitàta*.

15 Hy'ptis. Calyxes not peltate, fructiferous ones not bilabiate. Achenia not cymbiform.

16 Eriòpe. Floriferous calyx equal, fructiferous one increasing and bilabiate: upper lip tridentate: lower lip bidentate.

§ 4. *Corolla bilabiate: upper lip 2-lobed: lower lip 3-lobed. Stamens inclosed in the tube.*

17 Lava'ndula. Character the same as that of the section.

Tribe II.

Menthoi'deæ. Corolla subcampanulate, or funnel-shaped; tube shorter than the calyx, or hardly longer; limb 4-5-cleft, with the lobes nearly equal, rarely sub-bilabiate. Stamens distant, straight, or diverging, not approximating by pairs, nearly equal; the lower ones are a little longer; the superior ones sometimes abortive.

§ 1. *Anthers terminal, also the younger ones are confluently 1-celled. Stamens somewhat declinate.*

18 Pogoste'mon. The 3 superior segments of corolla approximate: lower one declinate.

19 Dysophy'lla. Corolla almost regular.

§ 2. *Anthers versatile; cells divaricate, at length confluent. Stamens sometimes somewhat ascending.*

20 Elshóltzia. Corolla tubular; limb short, bilabiate. Lobes of gynóphore shorter than the ovarium.

21 Tetrade'nia. Corolla regular. Lobes of gynophore longer than the ovarium.

§ 3. *Anthers 2-celled; cells parallel. Corolla normal, as in the whole tribe.*

22 Colebroòkia. Fructiferous calyx pappose, adhering to the achenia.

23 Peri'lla. Upper tooth of fructiferous calyx small. Style deeply bifid.

24 Isa'nthus. Achenia rather large, wrinkled reticulately.

25 Pre'slea. Calyx 4-toothed.

26 Me'ntha. Calyx 5-toothed, not pappose. Achenia smooth. Fertile stamens 4.

27 Lyco'pus. Superior stamens abortive.

§ 4. *Cells of anthers disjoined, with a filiform connective.*

28 Meria'ndra. Character the same as that of the section.

Tribe III.

Mona'rdeæ. Corolla bilabiate. Superior stamens abortive, or if fertile bearing linear, connate anthers: lower stamens fertile, ascending; anthers linear, sometimes confluently 1-celled, connate, sometimes dimidiate, free, or connate behind, with a linear connective, which is articulated to the filament, and bearing the fertile cell at top, truncate behind, but generally drawn out, filiform, elevated, bearing the other cell, which is sometimes difformed and empty, and sometimes fertile.

§ 1. *Connective filiform, articulated to the filament.*

29 Sa'lvia. Connective drawn out under the insertion, naked or bearing a cell behind.

30 Audibe'rtia. Connective not drawn out under the insertion.

§ 2. *Connective small. Fertile stamens 2.*

31 Rosmari'nus. Calyx bilabiate: upper lip entire: lower lip bifid. Filaments toothed at the base.

32 Mona'rda. Calyx 5-toothed. Lower lip of corolla linear, shortly trifid at apex.

33 Blephi'lia. Calyx 5-toothed, sub-bilabiate; throat naked inside. Lower lip of corolla broad, trifid.

34 Zizi'phora. Throat of calyx villous inside. Corolla of *Blephília*.

§ 3. *Connective small. Fertile stamens 4.*

35 Hormi'num. Character the same as that of the section.

Tribe IV.

Saturei'neæ. Calyx 5-toothed, equal, or bilabiate, $\frac{3}{2}$. Tube of corolla exannulate, shorter than the calyx, and imbricating bracteas, or hardly longer; limb sub-bilabiate: upper lip flat, entire, or emarginately bifid; lobes of lower lip flat. Stamens straight, diverging, or hardly ascending, equal, or the superior ones are shortest, or abortive. Anthers not dimidiate.

§ 1. *Fertile stamens 4. Calyx 10-13-nerved.*

36 Bystropògon. Calyx equal; throat villous inside.—Inflorescence cymose, or spicate.

37 Pychna'nthemum. Calyx equal, or sub-bilabiate, naked inside. Upper lip of corolla oblong, entire, or emarginate.—Whorls many-flowered, bracteate.

38 Monarde'lla. Throat of calyx naked inside. Segments of corolla 5, oblong, or linear, somewhat bilabiately disposed.

39 Amara'cus. Superior lip of calyx erect, entire: lower one truncate, almost wanting, or shortly bidentate.—Spikelets membranaceously bracteate.

40 Ori'ganum. Calyx somewhat equally 5-toothed; throat villous.—Spikelets broadly bracteate, rather loose.

41 Marjora'na. Limb of calyx cleft, quite entire above, orbicular, with the margin implicate beneath at the base.

42 Thy'mus. Calyx bilabiate: upper lip tridentate: lower lip bifid; throat villous.

43 Sature'ia. Calyx nearly equal; throat almost naked inside. Superior lip of corolla ovate.—Whorles of flowers axillary, or aggregate into an oblong head.

§ 2. *Fertile stamens* 4. *Calyx* 15-*nerved.*

44 Hyssòpus. Character the same as that of the section.

§ 3. *Two lower stamens alone fertile.*

45 Collinsònia. Lobes of corolla 4: superior ones nearly equal: lower one large, toothed or fringed.

46 Cuni'la. Corolla normal with the tribe.

Tribe V.

Melissi'neæ. Calyx 13, rarely 10-nerved, 5-toothed, bilabiate, $\frac{3}{2}$, or rarely equal. Tube of corolla exannulate, usually exserted; limb bilabiate; lips flat, or the upper one as in *Glèchon*, galeate. Stamens ascending: superior ones shorter, or abortive.

47 Hedeòma. Tube of corolla rarely exserted. Throat of calyx villous inside. Superior stamens abortive.

48 Microme'ria. Tube of corolla rarely exserted. Calyx nearly equal: superior stamens antheriferous.

49 Meli'ssa. Calyx bilabiate: upper lip tridentate: lower lip bidentate. Tube of corolla usually exserted. Superior stamens antheriferous.

50 Gardòquia. Calyx tubular, somewhat incurved, with an equal or sub-bilabiate mouth. Tube of corolla much exserted. Stamens 1-3, now and then sterile.

51 Gle'chon. Superior stamens abortive. Superior lip of corolla galeate.

52 Kei'thia. Superior stamens altogether abortive. Lips of corolla flat; tube exserted.

53 Thy'mbra. Calyx much compressed, flat above. Superior stamens antheriferous.

54 Dicera'ndra. Stamens 4, antheriferous; anthers bicalcarate.

55 Pogo'gyne. Stamens 4, antheriferous. Style villous.

Tribe VI.

Scutellari'neæ. Calyx bilabiate; upper lip truncate, entire or somewhat tridentate. Tube of corolla exserted, ascending: upper lip of limb arched, rarely flat. Stamens ascending: superior ones the shortest.

§ 1. *Gynophore equal, straight; lips of calyx toothed.*

56 Prune'lla. Style bifid at apex.

57 Clònia. Style quadrifid at apex.

§ 2. *Gynophore elongated, incurved, oblique at apex. Lips of calyx entire.*

58 Scutella'ria. Achenia naked. Superior lip of corolla arched.

59 Peritòmia. Achenia membranously winged. Segments of corolla flattish.

Tribe VII.

Prostanthe'reæ. Calyx campanulate, sometimes bilabiate; lips flat, entire, or the lower one bidentate or bifid; throat naked inside. Corolla with a short ample tube, a campanulate throat, and a bilabiate limb: lips flattish. Stamens 4, didynamous, shorter than the corolla: lower ones sometimes longer, and sometimes sterile. Achenia coriaceous, reticulately wrinkled. Style permanent.

§ 1. *Calyx bilabiate: lips entire, or the lower one is bifid or bidentate.*

60 Chilòdia. Upper lip of calyx entire: lower one bifid. Anthers mutic.

61 Cry'phia. Both lips of calyx entire. Anthers mutic.

62 Prostanthe'ra. Both lips of calyx entire, or hardly $\frac{3}{1}$. Anthers spurred.

63 Hemia'ndra. Upper lip of calyx entire: lower one bifid. Anthers dimidiate.

§ 2. *Calyx equal, 5-toothed.*

64 Hemige'nia. Anthers all with one of the cells fertile, and the other abortive.

65 Westri'ngia. Anthers of upper stamens dimidiate, glabrous: lower ones sterile.

66 Micrócorys. Anthers of upper stamens dimidiate, bearded: lower ones sterile.

Tribe VIII.

Nepe'teæ. Calyx equal or oblique, or sub-bilabiate, usually 15-nerved: superior teeth the largest. Corolla bilabiate. Stamens didynamous: superior ones the longest, ascending or diverging.

§ 1. *Stamens diverging.*

67 Lopha'nthus. Character the same as that of the section.

§ 2. *Stamens ascending.*

68 Ne'peta. Calyx not bilabiate; upper tooth a little

broader than the rest. Bracteas entire. Cells of anthers diverging or divaricate.

69 Marmori'tis. Calyx tubularly campanulate, longer than the corolla. Cells of anthers parallel.

70 Dracocé'phalum. Calyx bilabiate, or the upper tooth is large, or the bracteas are ciliately toothed.

71 Cedroné'lla. Tube of corolla exserted. Cells of anthers parallel.

Tribe IX.

Stachy'deæ. Calyx irregularly veined, 5-10-nerved, equal, oblique, or rarely sub-bilabiate, 3-10-toothed. Tube of corolla usually annulate inside; limb bilabiate. Stamens 4, ascending, didynamous: superior ones the shortest. Achenia dry, not reticulately wrinkled.

§ 1. *Calyx inflated after florescence, or 2-4-lobed. Corolla much exserted.*

72 Meli'ttis. Calyx membranous, campanulate: lobes 3-5, roundish. Corolla ample, much exserted.

73 Physoste'gia. Calyx obscurely veined, inflated after florescence. Corolla much exserted, with an ample throat.

74 Macbri'dea. Calyx membranous, campanulate; lobes 3: upper one oblong: lower one roundish. Corolla much exserted, with a very ample throat.

75 Syna'ndra. Calyx 4-parted. Upper cells of superior anthers empty, connate.

§ 2. *Calyx 5-toothed: limb not dilated. Stamens exserted from the tube. Corolla flattish or arched.*

76 La'mium. Calyx 5-nerved, 5-toothed: teeth not spiny. Superior lip of corolla a little arched or galeate; lateral segments hardly any, tooth-formed, or rarely oblong. Achenia acutely triquetrous, truncate.—Leaves entire.

77 Lagochi'lus. Calyx 5-nerved; teeth 5, stiff, somewhat spiny. Upper lip of corolla oblong, bifid at apex. Achenia acutely triquetrous, truncate at apex.

78 Leonu'rus. Calyx 5-nerved; teeth 5, stiff, rather spiny. Superior lip of corolla oblong, flattish, or arched; lateral segments oblong. Achenia acutely triquetrous, truncate.—Leaves jagged.

79 Anisómeles. Stamens exserted from the short upper lip of the corolla.

80 Galeópsis. Calyx somewhat 5-nerved, 5-toothed, somewhat spinescent. Cells of anthers transversely and bivalvately dehiscent; inner valve smaller, ciliated.

81 Sta'chys. Calyx 5-10-nerved, 5-toothed. Throat of corolla hardly dilated; galea a little arched, rarely oblong, flat, emarginate. Stamens exserted from the tube. Achenia obtuse, rarely truncate.

82 Spha'cele. Calyx reticulately veined; teeth nearly equal. Tube of corolla ample. Cells of anthers linear, diverging.

83 Lepechi'nia. Calyx bilabiate: upper lip tridentate: lower lip bidentate. Corolla small.

§ 3. *Stamens inclosed within the tube.*

84 Craniótome. Superior lip of corolla very short, truncate.

85 Sideri'tis. Lower lobe of style dilated, clasping the superior one at the base, which is truncate.

86 Marru'bium. Lobes of style nearly equal. Calyx tubular.

§ 4. *Limb of calyx dilated or 5-10-toothed, or with a truncate mouth, rather membranous between the teeth, or broadly and membranaceously campanulate. Superior lip of corolla generally compressedly galeate. Stamens exserted from the tube.*

87 Ballòta. Calyx regular, somewhat funnel-shaped, 5-10-toothed. Anthers 2-celled.

88 Lasiócorys. Calyx nearly equal; teeth 5, ovate, rarely with other 5 small acute ones in the recesses between the others. Galea of corolla very hairy. Anthers 2-celled.

89 Òylea. Segments of calyx 5, equal, oblong, membranous.

90 Otoste'gia. Limb of calyx somewhat bilabiately and membranously drawn out; lower lip large. Anthers 2-celled.

91 Leu'cas. Limb of calyx 8-10-toothed. Cells of anthers confluent. Galea of corolla very hairy, short; lower lobe of style very short.

92 Leonòtis. Calyx of *Leùcas section Plagióstoma*. Corolla yellow or scarlet. Galea much longer than the lip.

93 Phlòmis. Calyx tubular, 5 or 10-striped, usually plicate, 5-toothed, the margins rather membranous between the teeth. Superior filaments generally appendiculate. Cells of anthers confluent.

94 Notochæ'te. Mouth of calyx membranous, with 5 nerves, which are drawn out into as many subulate awns, which are hooked at apex.

95 Eremóstachys. All as in *Phlòmis*, except that the calyx is more ample, and the limb often large and membranous.

96 Eriophy'tum. Calyx membranous, amply campanulate. Galea of corolla large, incumbent: lip small, trifid.

97 Moluce'lla. Limb of calyx ample, oblique, with 5-10 mucrones or spines. Filaments naked at the base.

98 Holmskióldia. Calyx large, coloured, somewhat rotately campanulate. Ovarium bipartite; lobes bifid.

99 Hymenocra'ter. Calyx 13-nerved, with a 5-cleft spreading limb. Achenia tubercular.

100 Achyrospe'rmum. Achenia covered with scales at top.

101 Colquhou'nia. Achenia membranously drawn out at top.

Tribe X.

Prasie'æ. Corolla bilabiate. Stamens 4, ascending: lower ones the longest. Achenia fleshy, sub-baccate.

102 Gomphoste'mma. Throat of corolla dilated. Cells of anthers transverse, parallel.

103 Phylloste'gia. Throat of corolla nearly equal. Cells of anthers diverging. Lobes of style not subulate.

104 Stenógyne. Throat of corolla dilated. Cells of anthers at length divaricate. Lobes of style subulate.

105 Pra'sium. Calyx bilabiate. Tube of corolla inclosed.

Tribe XI.

Ajugoi'deæ. Upper lip of corolla sometimes very short, and sometimes cleft; segments cast down, rarely erect, arched: lower one elongated Stamens ascending, usually exserted: superior ones shorter, or abortive.

106 Amethy'stea. Superior stamens abortive.

107 Trichoste'mma. Limb of corolla nearly equally 5-cleft: segments declinate.

108 Teu'crium. Segments of corolla 4, nearly equal, or the 2 superior ones are larger, all declinate, or very shortly truncate: lower one large, rounded or oblong, usually concave. Stamens exserted.

109 A'juga. Superior lip of corolla short or very short. Stamens usually exserted.

110 Cyma'ria. Superior lip of corolla elongated, galeate.

Tribe I.

OCYMOI'DEÆ (from *Ocymum*, Basil.; and *idea*, similar; because the plants contained in this section agree with *O'cymum* in the characters given below.) Benth. lab. p. 1. Stamens declinate. Corolla sub-bilabiate; 4 upper lobes flat, and nearly equal: or the 2 uppermost ones are joined: lower one declinate, usually of different form, flat, but more often concave, boat-shaped, or saccate. Old anthers usually saucer-shaped.

I. O'CYMUM (said by Mathiolus to be derived from *oζω, ozo*, to smell; on account of the powerful scent of the plants.) Benth. lab. p. 1. O'cymum species of Lin. and other authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate or campanulate, 5-toothed: the upper tooth membranous, with winged, decurrent margins, at length deflexed. Corolla with a short tube; throat usually campanulate: upper lip quadrifid: lower lip hardly longer, declinate, quite entire, flattish. Stamens 4: lower ones the longest; filaments free: superior ones usually furnished with a tooth or a fascicle of hairs at the base; anthers ovate-reniform; cells confluent. Style bifid at top: lobes subulate or flattish; stigmas minute or marginal. Achenia smooth.—Herbs or subshrubs; whorls 6-flowered, rarely so much as 10-flowered, disposed in interrupted spikes or racemes; racemes simple, or a little branched at the base, rarely disposed in a thyrsoid panicle.

Sect. I. Ocymòdon (from *Ocymum*, and *οδους οδοντος, odous odontos*, a tooth; so called because the upper filaments are furnished with a tooth at the base.) Benth. lab. p. 3. Superior filaments furnished each with a toothlet at the base.—Whorls usually 6-flowered. Pedicels reflexed, usually shorter than the fructiferous calyxes.

1 O. ca'num (Sims, bot. mag. t. 2452.) herbaceous, erect, pubescent; leaves petiolate, ovate, narrowed at both ends, almost quite entire, canescent beneath; petioles ciliated; racemes simple; calyxes longer than the pedicels, reflexed in the fructiferous state: upper tooth of calyx orbicular, concave, shortly acuminated. ⊙. H. Native of Madagascar, East Indies, China, Brazil, &c. O. Americànum, Lin. amœn. 4. p. 276. spec. 833. but not of Jacq. O. álbum, Roxb., but not of Lin. O. staminèum, Sims, bot. mag. 2452. in text. O. incanéscens, Mart et Spix, reise. bras. 2. p. 787.—Very nearly allied to *O. Basílicum*, but the flowers are not half the size, and the habit distinct. Corollas white.

Hoary Basil. Fl. July. Clt. 1822. Pl. 1 foot.

2 O. Basi'licum (Lin. spec. 833.) herbaceous, glabrous, erect, or ascending; leaves petiolate, ovate or oblong, narrowed at the base, a little toothed; petioles ciliated; racemes simple; calyxes longer than the pedicels, reflexed in the fructiferous state: upper tooth ovate, concave, shortly acuminated. ⊙. H. Native of the East Indies, and tropical Africa. Corollas of all white. The sweet or larger Basil, *O. Basilicum, Basilic*, Fr.; *Basilikum*, Germ.; *Basilico*, Ital.; is a tender annual plant, highly aromatic. The bush, or Least Basil, is the *O. minimum*, is also an aromatic plant, but more diminutive than the sweet Basil, forming a round bushy head. The leaves and small branches, or leafy tops of both these species, are the parts gathered for culinary purposes, on account of their strong flavour of cloves, to be used in highly seasoned dishes. A few leaves are sometimes introduced into salad, and not unfrequently into soups. Both species are raised from seeds; and a seed bed of 3 feet by $1\frac{1}{2}$, to furnish plants for a final transplanting, in a bed 4 feet by 12; a quarter of an ounce will be sufficient. Sow on a hot-bed, in the end of March, and plant out in a warm border of rich soil; the larger at 8 or 10 inches every way. Sometimes both sorts are sown in the open border; but so treated they come up late and small. In transplanting from the hot-bed, take care to raise the plants in small tufts or single plants, with balls attached, by which they receive no check; and if watered after planting, and in dry weather, will soon produce abundance of tops. Seed can only be saved in England in warm dry seasons, and under the most favourable circumstances of situation and precocity. In general it is procured from Italy by the seedsmen.

Var. α, pilòsum (Benth. lab. p. 4.) stem much branched, ascending; leaves small, oblong, quite entire; petioles and whorles of flowers very pilose; racemes elongated; corolla usually glabrous. O. mínimum, Burm. p. 129. but not of Lin. O. basílicum, Burm. ind. 129. O. híspidum, Lam. dict. 1. p. 384. O. pilòsum, Willd. enum. 2. p. 29. Roxb. hort. beng. p. 45. O. ciliàtum, Horn. hort. hafn. O. hispídulum, Schum. pl. guin. in act. acad. hafn. 4. p. 42. Basílicum I'ndicum, Rumph. amb. 5. p. 263. t. 92. f. 1.

Var. β, anisàtum (Benth. l. c.) habit of var. α, but more erect and less pilose; leaves larger, thicker, a little toothed; corollas usually villous. ⊙. H. O. Basílicum, Lin. spec. 833. O. anisàtum, Hort. Soladi-Tirtàva, Rheed. mal. 10. p. 173. t. 87. Basílicum citràtum, Rumph. amb. 5. p. 266. t. 93. f. 1.

Var. γ, glabràtum (Benth. l. c.) stem erect; petioles and calyxes sparingly ciliated; leaves hardly toothed; racemes elongated, simple. ⊙. H. O. integérrimum, Willd. spec. 3. p. 162. O. caryophyllàtum, Roxb. hort. beng. p. 45. O. lanceolàtum, Schum. pl. guin. in act. acad. hafn. 4. p. 42.

Var. δ, màjus (Benth. l. c.) leaves ovate, and are, as well as the calyxes, large; racemes elongated, simple. ⊙. H. O. màjus, Hort.

Var. ε, álbum (Benth. l. c.) leaves broad-ovate, thickish, toothed; raceme short, dense, hardly ciliated, canescent; corollas glabrous or villous. ⊙. H. O. álbum, Lin. mant. 85. O. láxum, Vahl, herb. O. Americànum. Jacq. hort. vind. 3. t. 86.

Var. ζ, diffórme (Benth. l. c.) leaves blistered, curled, or variously laciniately toothed; corollas usually villous; raceme various. ⊙. H. O. bullàtum, Lam. dict. 1. p. 384. O. urticæfòlium, Hortul, but not of Roth. O. fimbriàtum, Roth. O. peltàtum, Hortul. O. cochleàtum, Hort, par. O. scutellarioìdes críspum, Burm.

Var. η, *densiflòrum* (Benth. l. c.) erect, glabrous; petioles and calyxes hardly ciliated; raceme short, a little branched. ⊙. H. O. Barrelièri, Roth, nov. spec. 278. Plectránthus Barrelièri, Spreng. syst. 2. p. 691.

Var. θ, *purpuráscens* (Benth. l. c.) erect, glabrous, dark purple; petioles and calyxes hardly ciliated; raceme elongated, much branched. ⊙. H. O. mèdium, Mill. dict. O. nìgrum, Thouin.

Var. ι, *thyrsiflòrum* (Benth. l. c.) erect, glabrous; petioles and calyxes hardly ciliated; raceme thyrsoid, branched. ⊙. H. O. thyrsiflòrum, Lin. mant. 84. Murr. comm. goett. 8. p. 47. t. 5. Jacq. hort. vind. 3. t. 72.

Common or Sweet-Basil. Fl. June, Aug. Clt. 1548. Pl. 1 to 1½ foot.

3 O. Forskœ'lii (Benth. lab. p. 6.) stem herbaceous, pubescent; leaves on short petioles, ovate, rounded at the base, almost quite entire, smoothish: petioles and nerves ciliated; racemes simple; fructiferous calyxes longer than the pedicels, inflated, campanulate, reflexed, ciliated above the gibbosities at the base; upper tooth orbicular, concave. ⊙. H. Native of Arabia Felix. O. gratíssimum, Forsk. fl. ægypt. p. 110. but not of Lin. Allied to the two preceding. Leaves canescent, glabrous above, and hispid on the nerves beneath, hardly crenated on the margins.

Forskoel's Basil. Pl. 1 to 1½ foot.

4 O. mi'nimum (Lin. spec. 833.) stem herbaceous, erect, finely pubescent; leaves on long petioles, ovate, almost quite entire, glabrous; petioles naked: floral leaves almost like the others; raceme simple, short; whorls loose; calyxes rather shorter than the pedicels, reflexed in the fructiferous state; upper tooth orbicular: lower ones short, acute. ⊙. H. Native of Chili, near Valparaiso. Schkuhr, handb. 2. t. 166.? O. salìnum Molina, Nat. hist. chil. 291. Much branched. Leaves hardly larger than those of *Thymus serpyllum*. Corollas white.

Least Basil. Fl. July, Aug. Clt. 1573. Pl. ½ to 1 foot.

5 O. Sellòi (Benth. lab. p. 6.) quite glabrous; stem herbaceous, erect, nearly simple; leaves petiolate, broad-ovate, acute, coarsely serrated, subcuneated at the base: floral ones sessile, shorter than the calyx, deciduous; raceme simple; fructiferous calyxes longer than the pedicels, ovate, reflexed, a little incurved, quite glabrous: upper tooth ovate, obtuse, concave. ♃. S. Native of South America; Brazil, Sello; New Spain, Mocino et Sesse. Stem branched from the perennial base; branches simple. Corolla white.

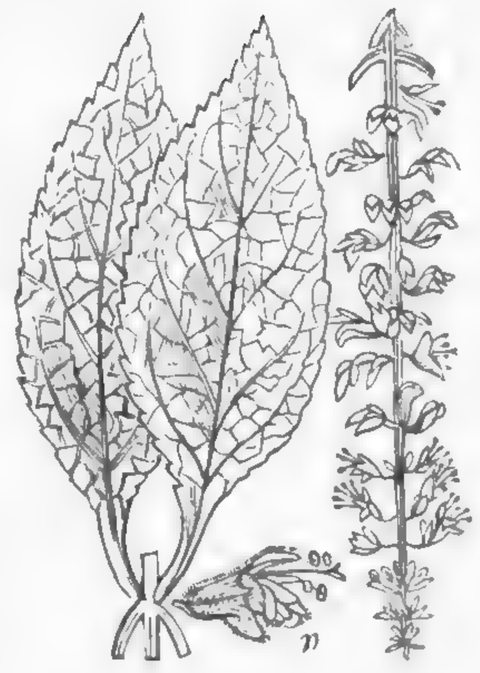
Sello's Basil. Pl. 1 to 2 feet.

6 O. vi'ride (Willd. enum. 639.) stem shrubby, branched, pubescent; leaves petiolate, ovate-oblong, acuminated, crenated, narrowed at the base, glabrous or downy on the ribs: floral leaves bractea-formed, ovate, acuminated, deciduous; raceme branched; calyxes about equal in length to the pedicels, nutant in the fructiferous state: upper tooth ovate, acuminated, concave; corolla hardly exceeding the calyx; stamens a little exserted. ♄. S. Native of the west coast of Africa, within the tropics. O. viridiflòrum, Roth. catal. 54. nov. spec. 279. O. héptodon, Beauv. fl. d'ow. 2. p. 59. t. 94. bad. O. febrífugum, Lindl. bot. reg. 753. Branches subtetragonal, pilose. Leaves glandularly dotted beneath. Calyxes pilose, and glandularly dotted. Corolla small, greenish-white. The leaves of this species are used in the manner of tea, as a febrifuge, at Sierra Leone, under the name of Fever-plant.

Green Basil. Fl. July, Oct. Clt. 1816. Shrub 2 to 4 feet.

7 O. grati'ssimum (Lin. spec. 832.) stem shrubby, smoothish; leaves petiolate, ovate, acute, crenated or coarsely toothed, narrowed at the base, glabrous or downy along the ribs; floral leaves bractea-formed, lanceolate, acuminated, hastate at the base; raceme simple or a little branched at the base, pubescent; fructiferous calyxes nutant: upper tooth ovate-oblong: lower ones very short; corolla hardly exceeding the calyx; stamens exserted. ♄. S. Native of the East Indies. O. Zeylánicum, Burm. zeyl. 174. t. 80. f. 1. O. frutéscens, Mill. dict. no. 6. O. petiolàre, Lam. dict. 1. p. 385. O. gratíssimum, Jacq. icon. rar. 3. t. 495. Cattu Tirtava, Rheed. mal. 10. p. 171. t. 86. Branches bluntly tetragonal. Pedicels short, and are, as well as the calyxes, pubescent. Corollas white. (fig. 74.)

FIG. 74.



Very-grateful Basil. Fl. July, Aug. Clt. 1751. Shrub 2 to 3 feet.

8 O. sua've (Willd. enum. 629.) stem shrubby, villous; leaves petiolate, ovate-oblong, acuminated, crenated, narrowed at the base, wrinkled, villous; floral leaves bractea-formed, ovate, acuminated; raceme somewhat panicled; whorls 6-flowered; fructiferous calyxes nutant: upper tooth ovate: lateral ones truncate; corolla larger than the calyx. ♄. S. Native of Madagascar. O. urticæfòlium, Roth. catal. p. 52. nov. spec. p. 279. O. gratíssimum, Lam. dict. 1. p. 386. but not of Lin. O. Zeylánicum, Desf. hort. par. ed. 2d. p. 75. O. villòsum, Weinm. in syll. pl. ratisb. 1. p. 121. but not of Roxb. O. holoseríceum, Breit. ex Steudel. nom. p. 559. Branches bluntly tetragonal. Corolla white, larger than those of the preceding species. Stamens exserted.

Sweet Basil. Fl. July, Sept. Clt. 1816. Shrub 2 to 3 feet.

9 O. Boje'ri (Benth. lap. p. 8.) stem shrubby, tomentose; leaves petiolate, ovate, crenated, rounded at the base or cordate, wrinkled, tomentose; floral leaves ovate, acuminated; raceme simple; whorls about 10-flowered; calyxes nutant: upper tooth ovate: lower ones very short; corolla twice as long as the calyx; stamens exserted. ♄. S. Native of Madagascar. O. cordifòlium, Bojer ex Loud. hort. brit. p. 240.?

Bojer's Basil. Clt. 1825. Shrub 2 to 3 feet.

10 O. filamentòsum (Forsk. fl. ægypt. p. 108.) stem shrubby, branched, clothed with hoary tomentum; leaves on short petioles, ovate-oblong, narrowed at both ends, acutely serrated, finely pubescent; raceme simple; calyxes longer than the pedicels, reflexed in the fructiferous state: lateral teeth truncate: lower ones shortly mucronate; corolla 4 times as long as the calyx; genitals much exserted. ♄. S. Native of the eastern coast of Africa, within the tropics; Abyssinia, Bruce; Arabia Felix, near Mount Melhan, Forsk. O. Abyssínicum, Hort. par. O. grandiflòrum, Lher. stirp. 89. t. 43. Branches bluntly tetragonal. Floral leaves coloured. Corolla white; tube exserted.

Thready Basil. Fl. July, Oct. Clt. 1802. Shrub 2 to 3 feet.

11 O. serpyllifòlium (Forsk. fl. ægypt. p. 110.) stem shrubby; branches canescent; leaves oblong, cuneated, quite entire, clothed with hoary tomentum, narrowed at the base; raceme simple, few-flowered; whorls loose, 6-flowered; calyxes declinate, canescent: upper tooth ovate, obtuse: lateral ones ovate, acute: lower ones lanceolate, acuminated; corolla about twice as long as the calyx; stamens much exserted. ♄.

G. Native of Arabia Felix, on Mout Chadra, Forsk.; Cape of Good Hope, Burchell. O. Burchellìànum, Benth. lab. p. 8. O. fruticulòsum, Burch. Leaves about the size of those of *Thymus vulgàris*, fascicled. Processes of filaments large, villous. Corollas purplish.

Wild-Thyme-leaved Basil. Shrub dwarf.

12 O. ADSCE'NDENS (Willd. spec. 3. p. 166.) stem herbaceous, prostrate; branches pubescent; leaves petiolate, ovate-oblong, obtuse, a little toothed, narrowed at the base, pubescent; floral leaves bractea-formed, deciduous; raceme simple; fructiferous calyxes nutant: tube striated: lateral segments truncate, with membranous ciliated edges; corolla twice longer than the calyx; stamens much exserted. ♃. H. Native of the East Indies, in sandy places. O. I'ndicum, Roth, nov. spec. p. 273. Plectránthus I'ndicus, Spreng. syst. 2. p. 691. O. cristàtum, Roxb. hort. beng. p. 45. Leaves hardly larger than those of *O. minimum*, often clothed with hoary tomentum beneath.

Ascending Basil. Fl. July, Sept. Clt. 1822. Pl. prostrate.

† *Species belonging to the present section, but are not sufficiently known.*

13 O. GUINEE'NSE (Schum. pl. guin. l. c.) suffruticose, branched; branches hairy; leaves petiolate, ovate, attenuated at both ends, serrated, pilose beneath, dotted and wrinkled; racemes terminal, branched; calyxes glabrous; bracteas deltoid, acuminated, deciduous. ♄. S. Native of Guinea, in the woods of Accra, Thonning. Branches quadrangular. Corolla length of calyx. Upper tooth of calyx broadly orbicular, acuminated, concave outside; middle tooth of the lower lip emarginate, deflexed.

Guinea Basil. Shrub 2 to 3 feet.

14 O. ARISTA'TUM (Blum. bijdr. 833.) leaves ovate, obtuse, repandly crenulated, attenuated at the base, quite entire, puberulous on the margins and veins beneath; branches tetragonal, and are, as well as the nearly simple raceme, obversely pubescent; whorls remote, 6-flowered; bracteas ovate-acuminated, ciliated, sessile; lower lip of calyx 4-toothed: middle teeth with long awns.—Native of Java, about Batavia, in grassy places.

Awned-calyxed Basil. Pl.

15 O. BRACHIA'TUM (Blum. bijdr. p. 833.) leaves lanceolate-ovate, acutish at both ends, remotely serrulated above, puberulous on the margins and ribs beneath; branches fastigiate, tetragonal, obversely hispid; whorls distinct, 6-flowered; bracteas ovate, petiolate, and are, as well as the pubescent calyx, ciliated; lower lip of calyx 4-toothed: middle teeth the longest.—Native of Java, in dry places about Batavia.

Armed Basil. Pl.

Sect. II. Hieróscymum (from *ιερος, hieros*, holy; and *Ocymum*; so called because this section contains *O. sánctum.*) Benth. lab. p. 11. Superior filaments appendiculate by a fascicle of hairs at base. Raceme loose, slender; whorls 6-flowered. Pedicels spreading. Calyxes nutant.

16 O. CARNÒSUM (Link, et Otto, ex Benth. lab. p. 11.) stem herbaceous, nearly glabrous; leaves petiolate, ovate, acutish, coarsely serrated, smoothish, rather fleshy; floral leaves bractea-formed, deciduous; raceme simple, many-flowered; whorls 6-flowered; calyxes campanulate, glabrous: throat naked inside: upper tooth with reflexed margins: lateral ones truncate; corolla hardly exceeding the calyx. ⊙.? S. Native of South America, Brazil, Buenos Ayres, and New Spain. Lumnítzera carnòsa, Spreng. cur. post. 223.? Stem sometimes pubescent towards the top. Leaves glandular beneath. Corolla small, purplish.

Fleshy Basil. Pl. erect.

17 O. SA'NCTUM (Lin. mant. 85.) stems pilose; leaves petiolate, oval, obtuse, toothed, pubescent, with the nerves and petioles pilose: floral ones bractea-formed, sessile, shorter than the pedicels; raceme slender, simple, or branched at the base; calyxes shorter than the pedicels, smoothish: throat naked inside: upper tooth obovate, concave; corolla hardly exceeding the calyx. ⊙. S. Native of the East Indies, in dry places, common. O. hirsùtum, Benth. in Wall. pl. rar. asiat. 2. p. 14. O. villòsum, Roxb. hort. beng. 44.? but not of Weinm. O. tomentòsum, Lam. dict. 1. p. 387. Lumnítzera tenuiflòra, Spreng. syst. 2. p. 687. O. tenuiflòrum, Lam. Willd. but not of Lin. Plectránthus monachòrum, Lin. mant. 58. O. inodòrum, Burm. fl. ind. 130. O. frutéscens, Burm. fl. ind. p. 129. —Burm. thes. zeyl. 174. t. 80. f. 2. and f. 1. Basílicum agréste, Rumph. amb. 5. p. 265. t. 92. f. 2. The whole plant is generally purplish. Leaves small, on long petioles. Corollas pale purplish. Stamens a little exserted.

Holy Basil. Fl. July, Sept. Clt. 1758. Pl. 1 foot.

18 O. TENUIFLÒRUM (Lin. spec. 833. exclusive of the synonymes) stems herbaceous,? ascending, branched, pilose; leaves on long petioles, oblong, bluntish, crenated, rather narrowed at the base, pubescent; racemes filiform, branched a little at the base; whorls few-flowered, remote; floral leaves broad-ovate, sessile; calyxes on short pedicels, rather nutant, smoothish: throat naked inside: upper tooth ovate, obtuse: lower ones short; corolla rather shorter than the calyx.—Native of the East Indies. Very nearly related to *O. sánctum*, but the racemes are shorter, the floral leaves broader, and the flowers very small and sessile.

Thin-flowered Basil. Pl. 1 foot.?

19 O. GRA'CILE (Benth. lab. p. 12.) stems ascending, pilose, panicled at top; leaves on short petioles, oblong-ovate, obtuse, crenated, narrowed at the base, pubescent: superior ones lanceolate, nearly sessile: floral ones bractea-formed, sessile, much shorter than the pedicels; racemes numerous, simple; fructiferous calyxes longer than the pedicels, declinate: throat villous inside: upper tooth ovate-obtuse; corolla rather shorter than the calyx.—Native of the Eastern coast of Africa, within the tropic; Island of Zanquebar. Very nearly related to *O. sánctum*, but differs in the leaves being narrower, the flowers smaller, and in the calyx being villous inside.

Slender Basil. Pl. 1 foot.?

20 O. TENE'LLUM (Benth. lab. p. 12.) glabrous; stem small, creeping; leaves petiolate, ovate-roundish, crenated; racemes loose, simple, the whorls 6-flowered; calyxes on long pedicels, declinate, glabrous: upper tooth ovate, very blunt: throat naked inside; corolla hardly exceeding the calyx; genitals exserted.—Native of Madagascar, Lyall. Habit of *Sálvia tenélla*. Sterile branches creeping, generally pubescent, floriferous ones ascending, glabrous. Leaves like those of *Linària cymbalària*: floral ones very minute. Corolla of *O. sánctum*.

Slender Basil. Pl. creeping.

Sect. III. Gymnócymum (from *γυμνος, gymnos*, naked; and *Ocymum*; so called in allusion to the filaments being naked.) Benth. lab. 12. Filaments all naked and toothless. Whorls 6-flowered, rarely 10-flowered. Pedicels shorter than the calyxes.

21 O. MICRA'NTHUM (Willd. enum. 630.) stem herbaceous, erect, branched, nearly glabrous; leaves petiolate, ovate, acute, serrated, rounded at the base, or cuneated, nearly glabrous: floral ones bractea-formed, deciduous; fructiferous calyx deflexed, oblong: upper tooth obtuse, concave; corolla inclosed. ⊙. H. Native of Tropical America, from Caraccas to Rio Janeiro. O. frutéscens, Sieb. pl. exsic. O. Americànum, of

many authors. O. pubéscens, Mill. dict. O. montànum, Hook. bot. mag. 2996. Stem bluntly tetragonal. Leaves glabrous, or pubescent, glandular beneath. Corolla white, or pale purple, inclosed in the calyx.

Small-flowered Basil. Fl. May, Aug. Clt. 1816. Pl. 1 foot.

22 O. Campechia'num (Mill. dict. no. 5.) stem erect, villous, at length glabrous; leaves petiolate, ovate, or ovate-lanceolate, acute, a little serrated, cuneate or narrowed at the base, canescent beneath; petioles and nerves of leaves hairy; floral leaves bractea-formed, broad, deciduous; fructiferous calyx deflexed, oblong, hispid: upper tooth obtuse, concave: lower ones ending in long awns like most of the species.—Native of New Spain; at Campeachy, Miller. This species differs from *O. micránthum* in the stem being hairy, especially at the nodi, as well as on the nerves and petioles of the leaves, and in the leaves being smaller and canescent beneath. Corollas white.

Campeachy Basil. Pl. 2 feet.

23 O. ova'tum (Benth. lab. p. 13.) stems erect, a little branched; leaves nearly sessile, broad-ovate, a little toothed, rounded at the base, smoothish, or hispid: floral ones bractea-formed, deciduous; racemes short; fructiferous calyx ovate, inflated, deflexed: upper tooth ovate-oblong, obtuse, concave; corolla hardly exceeding the calyx. ♃. S. Native of the South of Brazil, Sello. Stem villous. Leaves bluntish, entire, or 1-2-toothed.

Ovate-leaved Basil. Pl. ½ to 1 foot.

24 O. nudicau'le (Benth. lab. p. 14.) stem simple, naked; leaves approximate at the base of the stem, hardly petiolate, ovate roundish, rather pilose; racemes elongated; calyx ovate, deflexed: upper tooth running beyond the middle of the calyx; corolla twice as long as the calyx.—Native of the South of Brazil, Sello. Stems rising from a thick woody base, tetragonal, glabrous, or downy.

Naked-stemmed Basil. Pl. ascending.

25 O. ri'gidum (Benth. l. c.) branches erect, strict, pubescent; leaves sessile, stem-clasping, lanceolate, acute, quite entire, rounded at the base, stiff, ciliated: floral ones bractea-formed, ciliated; raceme loose; whorls 2-flowered; throat of corolla naked inside; corolla hardly exceeding the calyx. ♄. S. Native of Angola. Branches compressedly tetragonal. Rachi of flowers clothed with glandular down.

Stiff Basil. Shrub.

26 O. tereticau'le (Poir. dict. suppl. 1. p. 595.) stem suffruticose, villous; leaves on short petioles, oblong, irregularly serrated, narrowed a long way at the base, pubescent on both surfaces: floral ones conform, longer than the flowers: upper ones permanent; calyx declinate, tubular, hispid; corolla hardly longer than the calyx. ♄. S. Native of Guinea. O. Thonníngii, Schum. pl. guin. in act. roc. hafn. 4. p. 39. Branches terete. Whorls 6-flowered. Genitals inclosed in the tube.

Terete-stemmed Basil. Shrub diffuse.

27 O. bracteòsum (Benth. lab. p. 14.) stem herbaceous, erect, pilosely hispid; leaves on short petioles, oblong-lanceolate, acutish, remotely serrated, narrowed at the base, smoothish above, and rather hispid beneath: floral ones bractea-formed, 2-3-times longer than the calyxes, cuneated, coloured; fructiferous calyxes reflexed, ovate, a little inflated: upper tooth ovate; stamens a little exserted. ⊙. S. Native of the west coast of Africa, within the tropic. Branches bluntly tetragonal. Leaves 1-2 inches long, pale beneath.

Bracteate Basil. Pl. 1 to 1½ foot.

28 O.? diffu'sum (Benth. in Wall. pl. rar. 2. p. 14. lab. p. 15.) stem suffruticose, diffuse, villous; leaves petiolate, ovate, crenated, roundedly cuneated at the base, villously tomentose; racemes slender, few-flowered; corolla hardly twice as long as the calyx, with a straight tube, and nearly equal throat; stamens shorter than the corolla. ♄. S. Native of the East Indies, in arid places. Shrub much branched, clothed with rather clammy down all over. Whorls 2-4, rarely 6-flowered.

Diffuse Basil. Shrub diffuse, humble.

29 O.? membrana'ceum (Benth. lab. p. 15.) stem erect, villous; leaves on short petioles, ovate, obtuse, crenated, rounded at the base, wrinkled, villous: lower floral ones conform: superior ones bractea-formed, lanceolate, membranous, villous; racemes simple; whorls usually 10-flowered; calyxes oblong, pubescent: upper tooth orbicular, hardly decurrent, membranous; stamens shorter than the corolla. ⊙.? S. Native of Angola. Leaves minutely glandular: floral ones sessile. Corolla hardly exceeding the calyx.

Membranous-calyxed Basil. Pl. erect.

† *Species not sufficiently known.*

30 O. Africa'num (Lour. coch. p. 370.) leaves lanceolate, quite entire, pilose; spike terminal, verticillate, interrupted. ⊙. S. Native of the eastern coast of Africa, in sandy places. Stem tetragonal, pilose. Leaves pilose, petiolate, ovate-lanceolate. Flowers white, minute. Spikes hairy. Plant sweet-scented.

African Basil. Pl. 1 foot.

31 O. Zatarhe'ndi (Forsk. fl. ægypt. arab. p. 110.) leaves fleshy, cuneate-oblong, generally 4-toothed on both sides, villous, sessile. ♄. G. Native of Arabia Felix. Stem diffuse. Branches terete, villous. Leaves villous, hoary above, and scattered with rusty dots beneath. Whorls 6-flowered. Plant very fragrant.

Zatarhendi's Basil. Shrub 1 foot.

32 O. Vaa'læ (Forsk. fl. ægypt. p. 111.) stem tetragonal, bracteate; roots filamentose; fruit pilose.—Native of Arabia Felix. Plant very sweet-scented.

Vaala's Basil. Pl.

33 O. macrosta'chyum (Poir. dict. suppl. 1. p. 392.) stem suffruticose; leaves ovate-sublanceolate, obtuse, a little toothed, nearly glabrous; spike dense, terminal. ♄. S. Native of the East Indies, at Pondicherry. Stem much branched; branches pilose. Leaves small, hardly petiolate, oval, or oval-oblong, rather fleshy. Flowers dense; calyxes hairy.

Long-spiked Basil. Shrub.

34 O. viscòsum (Roth, nov. spec. 274.) plant clammy, very pilose; leaves obovate-roundish, coarsely and bluntly serrated, reticulately wrinkled beneath; raceme simple; bracteas ovate, petiolate; lower lip of calyx 4-toothed: middle teeth the longest.—Native of the East Indies. Whorls 4-6-flowered. Corolla blood red. Filaments toothless. Perhaps a species of *Orthosìphon*.

Clammy Basil. Pl. ½ to 1 foot.

35 O. acu'tum (Thunb. fl. jap. 248.) racemes filiform; leaves ovate, acuminated, serrated; bracteas hairy.—Native of Japan. Stem tetragonal, glabrous. Petioles a little shorter than the leaves, hairy on the midrib beneath. Bracteas ovate, acute, hispid.

Acute-leaved Basil. Pl.

36 O. cri'spum (Thunb. fl. jap. 248.) racemes terminal; leaves ovate, serrated, curled; calyxes hispid.—Native of Japan, about Nagasaki. Stem tetragonal, villous, branched. Leaves petiolate, acuminated, glabrous, purplish, an inch long; petioles villous. A decoction of this species is used in Japan to give a deep red colour to radishes, turnips, and various kinds of fruits.

Curled-leaved Basil. Pl.?

37 O. rugòsum (Thunb. fl. jap. p. 249.) racemes terminal;

leaves ovate, acute, serrated, wrinkled beneath.—Native of Japan. Stem tetragonal, furrowed, tomentose. Racemes of flowers terminal, contracted.

Wrinkled-leaved Basil. Pl. 2 to 3 feet.

38 O. sca'brum (Thunb. in Lin. trans. 2. p. 338.) racemes simple, erect; leaves ovate, dotted beneath.—Native of Japan. O. punctàtum, Thunb. jap. 249. Stem panicled, tetragonal, scabrous from pili, like the whole plant. Leaves oblong, acute, serrated. Racemes terminal; flowers opposite.

Scabrous Basil. Pl. 1 foot.

39 O. infle'xum (Thunb. fl. jap. 249.) panicle terminal, racemose; stem and branches flexuous.—Native of Japan. Stem and branches inflexed at top, tomentose, tetragonal. Leaves ovate, acute, serrated, scabrous. This species powdered is used by the Japanese to perfume their idols.

Inflexed-branched Basil. Pl. 1 foot.

40 O. virga'tum (Thunb. fl. jap. p. 250.) racemes verticillate, twiggy; leaves oblong, serrated.—Native of Japan. Stem tetragonal, deeply furrowed, tomentose, branched. Leaves obovate-oblong, tomentose, 1 inch and more long. Whorles 6-flowered.

Twiggy Basil. Pl.

41 O. cine'reum (R. Br. in append. to Salt. Abyss.) Native of Abyssinia. This species has not yet been described.

Grey Basil. Pl.

Cult. Plants of easy culture and propagation. Any light rich soil will suit the species. The shrubby and perennial kinds are readily increased by cuttings. The seeds of annual kinds should be reared on a hot-bed, and afterwards planted out. See *O. Basílicum*, p. 671.

II. GENIO'SPORUM (meaning unknown to us.) Wall. mss. Benth. lab. 19. O'cymum, species of Lin. and other authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate-tubular, with an irregularly, somewhat 5-toothed, membranous margin, when bearing the fruit erectish, or declinate, usually transversely wrinkled at the base; throat naked inside; upper tooth not decurrent: lateral ones often joined by turns with the upper one and lower ones. Corolla with a straight tube, which is rather shorter than the calyx; throat campanulate, sub-bilabiate; upper lip 4-cleft; lower one hardly longer, declinate, quite entire, flattish. Stamens 4, declinate, didynamous: lower ones the longest; filaments free, toothless; anthers ovate-reniform, with confluent cells. Style shortly bifid at top; lobes usually flattened; stigmas submarginal. Achenia smooth, or wrinkled, when examined by a lens. Annual, or perennial herbs, usually procumbent at the base. Whorles many-flowered, disposed in nearly simple racemes or spicate-racemes. Floral leaves usually cartilaginous at the base, white or yellow. Flowers small. The corolla is that of *O'cymum* and *Moschósma*, but the habit is very different. The form of the calyx and the many-flowered whorls separate it from the first; and the calyx, inflorescence, and style readily separate it from the latter.

Sect. I. Geniósporum (see genus for derivation.) Two lower teeth of calyx free.

1 G. Madagascarie'nsis (Benth. lab. p. 20.) stem suffruticose, procumbent, branched; leaves petiolate, ovate, bluntish, crenated, rounded at the base, or cordate, wrinkled, rather villous on both surfaces: floral ones bractea-formed, ovate, acute, white at the base. ♄. S. Native of Madagascar, on Mount Tanonarivan. Stem bluntly tetragonal. Floral leaves small, sessile. Whorles 10-flowered. Genitals exserted.

Madagascar Geniosporum. Shrub procumbent.

2 G. strobili'ferum (Wall. pl. asiat. rar. 2. p. 18. Benth. lab. p. 20.) stem erect, branched; leaves nearly sessile, ovate-oblong, narrowed at both ends, toothed, rough, hispid above, and rather glabrous beneath; whorls many-flowered, spicate on the tops of the branches: lower ones rather remote; floral leaves ovate, acuminated, exceeding the flowers; calyxes nearly sessile, erect in the fructiferous state, tubular, transversely wrinkled at the base, with an irregularly 5-toothed, membranous border. ♄. S. Native of the East Indies; as of Nipaul and Silhet. Plectránthus coloràta, D. Don. prod. fl. nep. p. 116. Cauline leaves 2-3 inches long. Corolla hardly longer than the calyx, blue. Genitals rather shorter than the corolla.

Strobile-bearing Geniosporum. Shrub.

3 G. parvifl'orum (Benth. in Wall. pl. rar. asiat. 2. p. 18. lab. p. 20.) stem erect, branched; leaves oblong-lanceolate, acute, narrowed at the base, serrated, strigosely hispid; raceme elongated, loose, many-flowered; calyxes pedicellate, declinate while bearing the fruit, transversely wrinkled at the base, with a bilabiate border: upper lip tridentate: middle tooth larger, ovate; lower lip quite entire, inflexed, closing the calyx.—Native of Silhet. Stem glabrous at the bottom, but hispid from pili at top, and furnished with a fascicle of hairs in the axils of the cauline and floral leaves. Leaves tapering into the short petioles. Calyx hispid at the base. Corolla small. Stamens exserted.

Small-flowered Geniosporum. Pl. 1 to 1½ foot.

4 G. elonga'tum (Benth. lab. p. 21.) stem prostrate at the base, and are, as well as the erectish, elongated branches, pubescent; leaves on short petioles, oblong-lanceolate, acute, serrated, attenuated at the base, rather hispid; whorls many-flowered, approximate, spicate; calyxes on short pedicels, rather declinate in the fructiferous state, ovate, striated at the base, and wrinkled transversely, with a contracted mouth: upper tooth ovate, membranous, obtuse, 4 lower ones smaller, and acute.—Native of Ceylon, on the mountains, Macrae. Rhinánthus I'ndica, Burm. fl. ind. 131. t. 39. f. 1.

Elongated-branched Geniosporum. Pl. prostrate.

5 G. gra'cile (Benth. lab. p. 21.) quite glabrous; stems prostrate, much branched; leaves oblong-linear, subserrated, narrowed a long way at the base; whorls many-flowered, loosely racemose: lower ones remote; pedicels capillary, about twice as long as the calyxes; calyxes tubular, striated at the base, transversely wrinkled, with a membranous, acutely 5-toothed, sub-bilabiate mouth.—Native of Ceylon, on the sea-shore near Colombo, Macrae; Coromandel, Klein. Very nearly allied to *G. prostràta*, but is distinguished at first sight by its smoothness, narrower leaves, and more loose inflorescence.

Slender Geniosporum. Pl. prostrate.

6 G. prostra'tum (Benth. in Wall. pl. asiat. rar. 2. p. 18. lab. p. 21.) stem prostrate, and is, as well as the branches, hispid; leaves petiolate, oblong-lanceolate: lower ones sub-ovate: upper ones lanceolate-linear, serrated, narrowed at the base; whorls many-flowered, spicate: lower ones rather remote; calyxes pedicellate, declinate in the fructiferous state, striated at the base, and transversely somewhat wrinkled, with an irregularly bilabiate, membranous mouth; upper lip tridentate, with the middle tooth the largest: lower lip erect, bidentate.—Native of the East Indies, Coromandel, Ceylon, &c. Lumnítzera prostràta, Spreng. syst. 2. p. 687. O'cymum prostràtum, Lin. mant. p. 566. O'cymum menthoìdes, Burm. fl. ind. p. 129. Lin. mant. 84. Thy'mus I'ndicus, Burm. fl. ind. p. 129. Méntha ocymoìdes, Lam. dict. 4. p. 103. Elshóltzia ocymoìdes, Pers. ench. 2. p. 114. Méntha Zeylánica, &c. Burm. thes. zeyl. 158. t. 70. f. 2.—Katu-tumba, Rheed. mal. 10. p. 183. t.

92. ? Much branched. Leaves ½ to 1 inch long. Whorls 10-20-flowered. Corollas minute. Stamens exserted a little.

Prostrate Geniosporum. Fl. July, Aug. Clt. 1783. Pl. prostrate.

7 G. thymifòlium (Benth. lab. p. 21.) stem herbaceous, procumbent at the base, pubescent; leaves sessile, ovate, obtuse, crenated: floral ones conform, smaller: upper ones and bracteas white and cartilaginous; whorls distant; calyxes nearly sessile, irregularly bilabiate: superior lip ovate, entire, or toothed on both sides at the base: lower lip entire, or bifid. —Native of Madagascar. Stamens a little exserted. Leaves ½ an inch long.

Thyme-leaved Geniosporum. Pl. prostrate.

Sect. II. Platóstoma (from πλατυς, *platys*, wide; and στομα, *stoma*, a mouth; calyx.) Benth. lab. p. 22. Calycine teeth combined into two almost entire lips.

8 G. Palisòti (Benth. lab. p. 22.) stem erect, pubescent; leaves petiolate, ovate, cuneately rounded at the base: floral ones hardly longer than the whorls of flowers; raceme slender; lips of calyx membranous, nearly entire. ⊙. S. Native of Guinea, and Congo. Platóstoma Africànum, Beauv. fl. d'ow. 2. p. 61. t. 95. f. 2. O'cymum sylvàticum, Schum. pl. guin. in act. acad. hafn. 4. p. 44. Flowers small.

Palisot de Beauvois's Geniosporum. Pl. 1 foot.?

Cult. For culture and propagation see *O'cymum*, p. 674.

III MESO'NA (from μεσος, *mesos*, middle; so called because the genus was supposed by the author to be intermediate between the genus *O'cymum* and *Scutellària*.) Blum: bijdr. p. 838. Benth. lab. p. 22.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx bilabiate: upper lip divided: lower one small, at length inflexed. Upper lip of corolla arched: lower one longer, undivided. Stamens didynamous, declinate; of these the two shorter are appendiculate at the base; anthers 1-celled, beardless. A genus intermediate between *O'cymum* and *Scutellària*, ex Blum. l. c. This genus is nearly allied to *Geniósporum*, but differs in the shorter stamens being appendiculate at the base; and from *O'cymum* in the superior lip of calyx being divided, and in the inflorescence, ex Benth.

1 M. palu'stris (Blum. l. c.) ♃.? S. Native of Java, in marshes about Buitenzorg. Herb scentless. Leaves ovate-oblong, toothed, wrinkled, rather pilose. Flowers densely and verticillately spiked; whorls bracteate; pedicles fascicled.

Marsh Mesona. Pl.

Cult. For culture and propagation see *O'cymum*, p. 674.

IV. ACROCE'PHALUS (from ακρος, *akros*, the highest; and κεφαλη, *kephale*, a head; in allusion to the flowers being disposed in small, dense, terminal, imbricate heads.) Benth. in bot. reg. vol. 15. lab. p. 23. — O'cymum species, Lin. and other authors.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx ovate in the floriferous state, but elongated in the fructiferous state, tubular, gibbous at the base, bilabiate: upper lip entire, flattish: lower lip entire, or 4-toothed; throat naked inside. Corolla about equal in height to the calyx, sub-bilabiate: upper lip 4-toothed: lower one entire; lobes all nearly equal. Stamens 4, declinate; filaments free, toothless; anthers ovate-reniform, with confluent cells. Style shortly bifid at apex; lower lobe a little dilated, flattened; stigmas submarginal. Achenia glabrous, smooth.—Herbs. Flowers small, disposed in densely imbricate, terminal, almost globose heads. This genus differs from *O'cymum*, *Geniósporum* and *Moschósma* by the form of the calyx, and more especially by the inflorescence. The form of the corolla distinguishes it from all other genera of the tribe *Ocymoídeæ*.

1 A. capita'tus (Benth. in Wall. pl. rar. 2. p. 18. lab. p. 23.) stem procumbent, and are, as well as the leaves, which are ovate, nearly glabrous; lower lip of calyx 4-toothed. ⊙. S. Native of the East Indies, China, &c. Lumnítzera capitàta, Spreng. syst. 2. p. 687. O'cymum capitàtum, Roth, nov. spec. 276. O'cymum capitellàtum, Lin. mant. 276. Prunélla I'ndica, Burm. fl. ind. p. 130. Branches glabrous, or with a pilose line on each side. Leaves petiolate, oblong-ovate, remotely serrated: floral ones 2-4 under each head, and longer than it, sessile. Heads ovate, pedunculate, or sessile.

Capitate-flowered Acrocephalus. Fl. July, Aug. Clt. 1806. Pl. procumbent.

2 A. Blu'mei (Benth. lab. p. 23.) stem diffuse, tetragonal; leaves linear-lanceolate, coarsely serrated; flowers densely capitate, terminal, girded by ovate, nerved bracteas. ⊙. S. Native of Java, in grassy humid places about Rompien. O'cymum acrocéphalum, Blum. bijdr. p. 834.

Blume's Acrocephalus. Pl. diffuse.

3 A. villòsus (Benth. lab. p. 23.) stem erect, and is, as well as the leaves, hairy; lower lip of calyx quite entire. ⊙. S. Native of Madagascar. Stem tetragonal, often glandular, as well as the under sides of the leaves. Floral leaves 2-4 under each head.

Villous Acrocephalus. Pl. 1 foot.

Cult. For culture and propagation see *O'cymum*, p. 674.

V. MOSCHO'SMA (from μοσχος, *moschos*, musk; and οσμη, *osme*, a smell; plant exhaling a smell like that of musk.) Rchb. consp. reg. veg. p. 171. Lumnítzera, Jacq. fil. ecl. 2. but not of Willd.—O'cymum species, Lin. and other authors.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx ovate, 5-toothed: upper tooth the largest, with the margins not decurrent: lower teeth nearly equal, and somewhat declinate after florescence; throat naked inside. Corolla with an inclosed tube, and a sub-bilabiate limb; upper lip shortly quadrifid: lower one quite entire, flattish; lobes all nearly equal. Stamens 4, declinate; filaments free, toothless; anthers ovate-reniform, with confluent cells. Style clavately capitate, and shortly bifid at apex; stigmas minute. Achenia ovate, compressed, smooth. — Herbs. Whorls few-flowered, secund, loosely racemose; racemes axillary, subpanicled. The clavate style and form of the calyx separates this genus from the preceding genera. Flowers very minute.

1 M. polysta'chya (Benth. in Wall. pl. rar. asiat. 2. p. 13. lab. p. 24.) stem acutely tetragonal, with smooth or hardly rough angles; whorls 6-10-flowered. ⊙. S. Native of the East Indies; Arabia, at Senaar, Bové; tropical New Holland, Bauer. Lumnítzera polystàchya, Jacq. l. c. O'cymum polystàchyon, Lin. mant. 567. Murr. comm. goett. nov. 3. p. 71. t. 3. O'cymum tenuiflòrum, Burm. ind. 129. but not of Lin. Plectránthus parviflòrus, R. Br. prod. p. 506.? Plectránthus micránthus, Spreng. syst. 2. p. 691. Plant branched. Leaves on long petioles, ovate, acutish, crenated, rounded at the base, glabrous, or finely downy above. Corolla minute, pale purple.

Many-spiked Moschosma. Fl. July, Aug. Clt. 1783. Pl. 1 to 2 feet.

2 M. Austra'le (Benth. lab. p. 708.) stem acutely tetragonal, with smooth angles; leaves ovate or ovate-lanceolate, pubescent; whorls loosely 6-10-flowered, distant; style bifid at apex. ⊙. S. Native of New Holland, within the tropic. Plectránthus moschàtus, R. Br. prod. 506. Lumnítzera moschàta, Spreng. syst. 2. p. 687. Hardly distinct from *M. polystàchya*, except that the leaves are pubescent, the racemes

longer and more loose, the lower teeth of the calyx narrowed, and the style more deeply bifid.

Southern Moschosma. Pl. 1 to 2 feet.

3 M. DIMIDIA'TUM (Benth. lab. 24.) stem acutely tetragonal, with smooth angles; racemes elongated; whorls about 10-flowered, glomerate, remotish. ⊙. S. Native of the west coast of Africa, within the tropics. O'cymum dimidiàtum, Schum. pl. guin. l. c. p. 41. Very nearly allied to the preceding; but differs in the larger leaves, longer racemes, smaller flowers, and usually 10-flowered, distant whorls.

Dimidiate Moschosma. Pl. 1 to 2 feet.

4 M. OCYMOI'DES (Benth. in Wall. pl. rar. 2. p. 13.) stem tetragonal, with rough angles; whorls loose, 6-flowered. ⊙. S. Native of the East Indies, in Silhet. Lumnítzera ocymoìdes, Jacq. l. c. O'cymum polýcladum, Link. enum. 2. p. 119. Habit of *M. polystàchya*; but the leaves are more acutely serrated, hispid above, and canescent beneath. Upper lip of calyx tridentate: teeth ovate: middle tooth the broadest; lower lip bidentate: teeth lanceolate, acute.

Basil-like Moschosma. Fl. July, Sept. Clt. 1823. Pl. 1 to 2 feet.

† *A species doubtful whether belonging to the genus.*

5 M. CÆ'SIA (Benth. lab. p. 25.) branches smoothish, terete; leaves ovate, dentately crenated; peduncles subverticillate, bracteate at the base. ⊙. S. Native country unknown. Lumnítzera cæ'sia, Spreng. cur. post. 223.

Grey Moschosma. Pl. 1 to 2 feet.?

Cult. For culture and propagation see *Ocy'mum*, p. 674.

VI. ORTHOSI'PHON (from *ορθος*, *orthos*, straight; and *σιφων*, *siphon*, a tube; in reference to the straight tube of the corolla.) Benth. in Bot. reg. vol. 15. lab. p. 25.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx ovate-tubular, 5-toothed; margins of superior tooth, which is ovate, membranous, decurrent, winged, deflexed after florescence. Corolla with a straight or incurved exserted tube, neither gibbous nor refracted; throat equal or rarely inflated, bilabiate; upper lip 3-4-cleft: lower one quite entire, concave. Stamens 4, declinate; filaments free, toothless; anthers ovate-reniform, with confluent cells. Style clavately capitate at apex, nearly entire or shortly emarginate; stigmas confluent in the fork, sometimes minute, sometimes capitately thickened. Achenia rugged from minute dots.—Perennial herbs or undershrubs. Racemes simple, usually elongated, rarely ovate-spike-formed; whorls 6-flowered, distant, loose. Floral leaves bractea-formed, ovate, acuminated, reflexed, usually shorter than the pedicels. Fructiferous pedicels recurved. The chief characters which distinguish this genus are the length of the tube of the corolla, and the capitate apex of the style.

1 O. RUBICU'NDUS (Benth. in Wall. pl. rar. asiat. 2. p. 14.) stems tufted, leafy at the base, branched; leaves oblong-ovate, coarsely toothed, narrowed at the base: lower ones petiolate: superior ones sessile; tube of corolla straight; throat nearly equal, twice as long as the calyx; stamens equal in length to the corolla. ♃. S. Native of the East Indies. Plectránthus rubicúnda, D. Don, prod. fl. nep. p. 116. Lumnítzera rubicúnda, Spreng. cur. post. p. 223. Root often tuberous. Stems tetragonal, more or less villous from articulated clammy hairs. Leaves 2-3 inches long, full of glandular dots. Corolla white or pale purple.

Var. α, *mollíssimus* (Benth. lab. p. 26.) leaves clothed with soft villi on both surfaces. ♃. S. Native of Nipaul and Kamaon, Wall. Plectránthus mollíssimus, Wall. mss.

Var. β, *canéscens* (Benth. l. c.) leaves clothed with short tomentose pubescence. ♃. S. Native of the mountains of Orixa, Roxb.; and at Segain, in the Birman Empire. Plectránthus tuberòsus, Roxb. mss. O'cymum tuberòsum, Roxb. in herb. Banks.

Var. γ, *rígidus* (Benth. l. c.) leaves smoothish, or clothed with very short tomentum. ♃. S. Native at Nathpur and Monghyr, Hamilt.

Reddish Orthosiphon. Pl. 1 to 1½ foot.

2 O. VIRGA'TUS (Benth. in Wall. pl. rar. 2. p. 14. lab. p. 26.) stems tufted at the base; branches erect, strict; leaves oblong-lanceolate, a little toothed, narrowed at the base, sessile, or the lower ones stand on short petioles; corolla twice as long as the calyx: tube straightish: throat nearly equal; stamens about equal in length to the corolla. ♃. S. Native of the East Indies, at Gorakpur, and in the mountains of Morang, Hamilt.; mountains about Mohun, Jacquemont. Plectránthus virgàta, D. Don, prod. fl. nep. p. 116. Lumnítzera virgàta, Spreng. syst. cur. post. 223. This species differs from *O. rubicúndus* in the stems being taller; in the leaves being narrower; in the racemes being shorter and fewer flowered; in the whorls being more remote; in the corollas being smaller; in the stems being less leafy, and in the whole plant being smoothish.

Twiggy Orthosiphon. Pl. 1 foot.

3 O. TOMENTÒSUS (Benth. l. c.) stem suffruticose; branches ascending, clothed with tomentose pubescence; leaves petiolate, ovate, cuneated at the base, rounded or subcordate, thickish, clothed with very short tomentose pubescence on both surfaces; petioles and axils naked; racemes elongated; corolla 3 times as long as the calyx: tube incurved a little: throat widened a little; stamens shorter than the corolla. ♄. S. Native of the East Indies, near Madras, Wight. O'cymum tríste, Roth. nov. spec. 270.? Plectránthus trístis, Spreng. syst. 2. p. 690. Intermediate between *O. viscòsus* and *O. glabràtus*.

Tomentose Orthosiphon. Shrub.

4 O. PA'LLIDUS (Royle, mss. Benth. in Hook. bot. misc. 3. p. 370. lab. p. 708.) glabrous or finely pubescent; stem ascending; leaves ovate, petiolate, bluntly and coarsely toothed, quite entire at the base, cuneated, and running into the petioles; corolla small: tube about equal in length to the calyx: throat nearly equal; stamens shorter than the corolla. ♃. S. Native of the East Indies, on the banks of the Jumna, Royle; Cashmere; and the Peninsula. Allied to *O. tomentòsus*.

Pale Orthosiphon. Pl.

5 O. GLABRA'TUS (Benth. in Wall. pl. rar. asiat. 2. p. 14. lab. p. 28.) stems ascending, branched, glabrous; leaves on long petioles, ovate, acute, toothed, rounded or subcordate at the base, smoothish; corolla incurved a little: tube twice as long as the calyx: throat nearly equal; stamens shorter than the corolla. ♄. S. Native of the East Indies, Arabia, Guinea, Madagascar. O'cymum thymiflòrum, Roth. nov. spec. 269. Plectránthus thymiflòrus, Spreng. syst. 2. p. 690. O'cymum suffruticòsum, Schum. pl. guin. in act. hafn. suppl. O'cymum Thonníngii, Schum. pl. guin. in act. acad. hafn. 4. p. 43. Corollas small, dark purple. Branches and often the leaves are purplish, glabrous, or scabrous from minute pili.

Glabrous Orthosiphon. Pl. 1 to 1½ foot.

6 O. INCU'RVUS (Benth. l. c.) stem procumbent at the base, ascending; leaves petiolate, oblong, crenated, narrowed at both ends, and clothed with fine pubescence; whorls subsecund; corolla villous, incurved, 3 times longer than the calyx: throat nearly equal; stamens about equal in length to the corolla. ♃. S. Native of the East Indies, in Silhet. Leaves 2-3 inches long. Tube of corolla exserted, usually very much incurved: lips spreading, as in *Stàchys* and *Betónica*.

Incurved-flowered Orthosiphon. Pl. 1 foot.

7 O. SCA'PIGER (Benth. l. c.) stems erect, simple, scape-

formed, rising from a thick, creeping, radicant base; leaves approximate at the base of the stem, petiolate, ovate-oblong, coarsely toothed, narrowed at the base, smoothish; racemes elongated; corolla about 3 times as long as the calyx: tube straight: throat very wide; stamens hardly longer than the corolla. ♃. G. Native of Nipaul. Stems smoothish. Leaves nearly all radical, 3-5 inches long. Corolla blue; upper lip 4-toothed.

Scape-bearing Orthosiphon. Pl. 1 to 2 feet.

8 O. stami'neus (Benth. l. c.) stem herbaceous, erect, a little branched; leaves petiolate, ovate, acuminated, coarsely toothed, cuneate and rounded at the base, or the upper ones are subcordate; racemes loose; corolla 3 times as long as the calyx: tube erectish: upper lip dilated; genitals much exserted. ♃. S. Native of the East Indies. O'cymum grandiflòrum, Blum. bijdr. p. 835. but not of Lher. Herb smoothish, or clothed with tomentose pubescence. Flowers beautiful white; upper lip 4-toothed. Flowers sometimes lilac.

Long-stamened Orthosiphon. Pl. 2 to 3 feet.

9 O. capita'tus (Benth. lab. p. 29.) stem herbaceous, erect, a little branched; leaves petiolate, ovate, acuminated, coarsely toothed, narrowed at the base; racemes spike-formed, short, dense, few-flowered; corolla more or less longer than the calyx; genitals much exserted. ♃. S. Native of the tropical parts of America. Stems with 2 rows of short brown hairs. Leaves 2-3 inches long, with a few short hairs above the rest glabrous: floral leaves half stem-clasping. Corollas almost like those of *O. stamíneus*, but the segments of the superior lip are narrower.

Capitate-flowered Orthosiphon. Pl. 1 to 1½ foot.

Cult. For culture and propagation see *O'cymum*, p. 674.

VII. HOSLU'NDIA (named by Thonning, in memory of Olaus Hoslund Smith, a young naturalist, who died of fever on his way to Aquapim, in Western Africa.) Vahl, enum. 1. p. 212. Benth. lab. p. 706.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 5-toothed. Corolla ringent; upper lip concave. Stamens 4, 2 of which are fertile. Achenia baccate, within the calyx.—Shrubs with tetragonal branches, opposite or verticillate leaves, and terminal panicles of flowers.

1 H. opposi'ta (Beauv. fl. d'ow. 1. p. 53. t. 52.) leaves opposite, oblong-ovate. ♄. S. Native of Guinea. Shrub much branched. Branches with a villous line between the leaves. Leaves sweet-scented, 2 inches long, remotely serrated, quite entire at the base. Corolla white, twice as long as the calyx.

Opposite-leaved Hoslundia. Shrub 5 to 6 feet.

2 H. verticilla'ta (Vahl, enum. 1. p. 213.) leaves lanceolate, 3 in a whorl. ♄. S. Native of Senegal, Dupuis. Branches pubescent, canescent at top. Leaves 1½ inch long, tapering to both ends, serrated, but entire at base and apex, glabrous above, canescent beneath, and beset with scattered, shining, resinous dots. Panicle less branched than the preceding. Flowers small, clothed with canescent villi outside.

Whorled-leaved Hoslundia. Shrub 4 to 6 feet.

Cult. For culture and propagation see *O'cymum*, p. 674.

VIII. PLECTRA'NTHUS (*from* πληκτρον, *plectron*, a cock's spur; and ανθος, *anthos*, a flower; in reference to the corolla being spurred or gibbous above the base.) Lher. stirp. 1. p. 85. Benth. lab. p. 29. Plectránthus species of authors. O'cymum species of Lin. and other authors.—Germànea, Lam. dict. 2. p. 682.—Dentídia, Lour. coch. p. 369.—I'sodon, Schrad.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate in the floriferous state, 5-toothed: teeth equal, or the upper one is largest; increasing in the fructiferous state, sometimes declinate, straight, incurved, or inflated, with equal or variously bilabiate teeth: sometimes erect, tubular, or campanulate, equally 5-toothed. Corolla with an exserted tube, gibbous or spurred above the base, at length declinate, defracted, or straightish; throat equal, rarely inflated, bilabiate: upper lip 3-4-cleft, lower one entire, usually longer, concave. Stamens 4, declinate, didynamous: lower ones the longest; filaments free, toothless; anthers ovate, reniform: cells confluent, rarely a little distinct and divaricate. Style shortly bifid at apex: lobes nearly equal, subulate; stigmas minute, terminal.—Herbs, subshrubs, and shrubs. Whorls of flowers loose, usually cymose, many-flowered, loosely racemose, or panicled.

Sect. I. Germa'nea (named after M. de Saint Germain, an amateur, and very distinguished cultivator of plants.) Benth. lab. p. 32. Fructiferous calyx declinate; upper tooth ovate: the 4 lower ones lanceolate. Corolla spurred above the base.—A shrub, with panicled flowers.

1 P. fruticòsus (Lher. stirp. 1. p. 85. t. 41.) stem shrubby; branches pubescent; leaves petiolate, broad-ovate, subcordate, doubly toothed, smoothish: floral ones bractea-formed; racemes loose, panicled; whorls loosely 6-flowered; calyx campanulate. ♄. G. Native of the Cape of Good Hope. Germànea urticifòlia, Lam. dict. 2. p. 682. Corollas blue, elegant. Plant furnished with a few scattered hairs. Leaves 4 inches long.

Shrubby Plectranthus. Fl. June, Sept. Clt. 1744. Shrub 2 to 4 feet.

Sect. II. Coleoi'des (from *Coleus*, and *idea*, like; plants with the habit of species of *Coleus*.) Fructiferous calyx declinate; upper tooth ovate: lower ones narrower, and nearly equal: or the lower ones are longer, and subconnate at the base. Corolla gibbous above the base, not spurred, declinate or defracted.—Herbs or shrubs. Flowers racemose or subpanicled.

2 P. vesti'tus (Benth. lab. p. 32.) stem shrubby; branches densely clothed with rufous villi; leaves petiolate, oblong-elliptic, bluntish, crenulated, cuneated, and quite entire at the base, wrinkled, clothed with fuscous pubescence above, and rufous villi beneath; racemes simple; whorls loose, 6-flowered; lower teeth of calyx subulate; tube of corolla straight. ♄. S. Native of Madagascar, Bojer. Branches hardly tetragonal.

Clothed Plectranthus. Shrub.

3 P. cane'scens (Benth. lab. p. 33.) branches clothed with short tomentum; leaves petiolate, cordate-ovate, acute, crenated, clothed with rufous tomentum above, a little wrinkled, canescent beneath, and finely pubescent; upper leaves lanceolate: floral ones bractea-formed; racemes simple, terminal, exceeding the leaves; whorls loose, 6-flowered; calyx campanulate: lower teeth subulate; tube of corolla inflated above, hardly gibbous. ♃. S. Native of Madagascar. Leaves coriaceous, 2-3 inches long.

Canescent Plectranthus. Pl. ?

4 P. longiflòrus (Benth. lab. p. 33.) stem nearly simple, densely tomentose; leaves on long petioles, amply cordate-ovate, acute, coarsely crenated, rather wrinkled, pubescent on both surfaces: floral ones bractea-formed; raceme simple, shorter than the leaves; whorls loose, 6-flowered, approximate; calyxes campanulate: upper tooth roundish: lower ones subulate; tube of corolla straight. ♃. S. Native of Madagascar, Bojer. Crenatures of leaves often serrated: floral leaves sessile. Corolla nearly an inch long.

Long-flowered Plectranthus. Pl.

5 P. puncta'tus (Lher. stirp. 1. p. 87. t. 42.) stem herba-

ceous, erect, thick, pilosely hispid; leaves on short petioles, ovate, obtuse, crenated, rounded at the base, or subcordate, hispid on the nerves on both surfaces; racemes simple or branched at the base; whorls 6-10-flowered: upper ones approximate; calyxes hispid, inflated in the fructiferous state: lower teeth lanceolate; upper lip of corolla very short. ♃.? S. Native of Abyssinia, Bruce. O'cymum punctàtum, Lin. mant. p. 275. Galeópsis maculòsa, Lam. dict. 2. p. 601. Germànea maculòsa, Lam. dict. 2. p. 691. Germànea punctàta, Poir. dict. 2. p. 763. Stem often spotted. Hairs on the stem and leaves articulated, and often glandular. Leaves 2 inches long. Corollas small, pale blue; disk of the upper lip lined with purple: lower lip deeply spotted at apex.

Spotted-flowered Plectranthus. Fl. Jan. May. Clt. 1775. Pl. 2 feet.

6 P. LESCHENA'ULTII (Benth. lab. p. 34.) stem erect, rather fleshy, smoothish; leaves on long petioles, oblong, acuminated, bluntly-serrated, cuneately rounded at the base, and quite entire, glabrous: floral ones deciduous; racemes simple; whorls loose, many-flowered; peduncles rather fleshy, irregularly branched; lower teeth of calyx ovate-acuminated: middle ones the longest; tube of corolla elongated: throat dilated. ⊙. S. Native of Java, Leschenault. Allied to *P. cordifòlius* and *P. incìsus*. Leaves 4-6 inches long, minutely glandular beneath.

Leschenault's Plectranthus. Pl.?

7 P. ROTUNDIFÒLIUS (Spreng. syst. 2. p. 690.) stem procumbent, and rooting at the base; branches erect, thick, smoothish; leaves petiolate, ovate-roundish, bluntish, crenated, rounded at the base or cuneated, running somewhat down the petioles, quite glabrous, thick, nerved; floral leaves bractea-formed; racemes simple; whorls loose, many-flowered, approximate; calyx campanulate: upper tooth broad-oblong: lateral ones truncate: lower one broad-ovate, connate, shortly acuminated; corolla declinate: throat scarcely inflated. ♃. S. Native of the Mauritius and Coromandel. Còleus rugòsus, Benth. in Wall. pl. rar. asiat. 2. p. 15. Germànea rotundifòlia, Poir. dict. 2. p. 763. Népeta Madagascariénsis, Lam. dict. 1. p. 712.?—Kúrka, Rheed. mal. 11. p. 49. t. 25.? The whole plant, when dried, is beset with minute black glands. Floral leaves minute. Calyx downy. Corollas blue.

Round-leaved Plectranthus. Fl. July, Aug. Clt. 1823. Pl. 1 to 2 feet.

8 P. TERNA'TUS (Sims. bot. mag. t. 2460.) stem erect; branches clothed with hoary tomentum; leaves on long petioles, ovate-roundish, acute, coarsely crenated, narrowed a long way at the base, rather fleshy, clothed with fine pubescence above, and canescent beneath; floral leaves bractea-formed; racemes simple; whorls rather loose, many-flowered, approximate; calyx campanulate: lower teeth broad-ovate, acute, very short; corolla declinate: throat hardly inflated. ♃. S. Native of Madagascar. Root fibrous, bearing oblong tubercles, for which it is cultivated, as well as the *P. rotundifòlius*. Leaves usually 3 in a whorl. Corollas purple.

Ternate-leaved Plectranthus. Fl. Aug. Clt. 1821. Pl. 1 foot.

9 P. OVA'TUS (Benth. lab. 709.) plant clothed with fine pubescence; stem herbaceous, erect; leaves on short petioles, ovate, acuminated, crenated, rounded at the base, scabrous above; floral leaves bractea-formed; racemes loose, panicled; whorls equal, usually 10-flowered; fructiferous calyx drooping, ovate, incurved, striated, reticulated, finely pubescent: lower teeth lanceolate, acute. ♃.? S. Native of Arabia Felix, on the mountains. O'cymum gratíssimum, Forsk. fl. ægypt. p. 110. but not of Lin. This plant differs from the other species contained in this section in the form of the leaves; but the habit is that of *P. cordifòlius*. Racemes of *P. Austràle*. Flowers of *P. fruticòsus*, but the corolla is not spurred.

Ovate-leaved Plectranthus. Pl. 1 to 2 feet.

10 P. FŒ'TIDUS (Benth. lab. p. 35.) stem thick, villous; leaves on short petioles, broad-ovate, crenated, truncate at the base, or cordate, thick, a little wrinkled, very villous: floral ones deciduous; racemes dense, branched a little; whorls many-flowered, approximate; calyxes villous: lower teeth setaceous; tube of corolla defracted in the middle: throat hardly inflated. ♃.? S. Native of New Holland, within the tropic, at Endeavour river. O'cymum fœ'tidum, Banks, herb. Plant rufescent. Stem bluntly tetragonal. Floral leaves broad-ovate, cordate, acuminated, glabrous above.

Fetid Plectranthus. Pl.?

11 P. CORDIFÒLIUS (D. Don, prod. fl. nep. p. 116.) plant clothed with fine pubescence; stem herbaceous, erect, thickened and fleshy at base; leaves petiolate, broad-ovate, crenated, broadly cordate at the base; floral leaves bractea-formed, ovate-cuneated; racemes loose, panicled; whorls secund, few-flowered; fructiferous calyxes nutant, ovate: lower teeth lanceolate, acuminated; throat of corolla dilated. ♃. S. Native of the East Indies; Nipaul, Wall.; Himalaya, Royle. P. móllis, Spreng. syst. 2. p. 69. Benth. lab. 35. P. divaricàtus, Weinm. in syll. pl. soc. ratisb. 1. p. 66. flora, 1826. 1. p. 174. O'cymum mólle, Ait. hort. kew. ed. 1st. vol. 2. p. 322. P. incànus, Link, enum. 2. p. 120. P. secúndus, Roxb. hort. beng. p. 45. P. Maypurénsis, Roth. nov. spec. p. 271. Perin Tolassi, Rheed. mal. 10. p. 167. t. 84. Root tuberous. Leaves 2-3 inches long. Corollas blue.

Heart-leaved Plectranthus. Fl. July. Clt. 1823. Pl. 2 to 3 feet.

12 P. SUBINCI'SUS (Benth. in Wall. pl. rar. asiat. rar. 2. p. 16.) smoothish; stem herbaceous, erect, hardly fleshy; leaves petiolate, broad-ovate, deeply toothed, cordate at the base: floral ones bractea-formed, ovate; racemes loose, panicled a little; whorls secund; fructiferous calyx rather nutant, ovate: upper tooth ovate: lower ones ovate-lanceolate, acuminated; corolla 4 times longer than the calyx: tube rather gibbous beneath the base, defracted at the middle: throat dilated a little. ♃.? S. Native of the East Indies, near Courtallum, Dindigul, and Ceylon. Nearly allied to *P. cordifòlius*.

Rather-cut-leaved Plectranthus. Pl.

13 P. CONGE'STUS (R. Br. prod. 506.) stem clothed with hoary pubescence; leaves petiolate, ovate, obtuse, crenated, cuneated at the base, thick, wrinkled, villously tomentose: floral ones minute, deciduous; racemes dense, many-flowered, panicled; whorls many-flowered, approximate; calyx declinate, incurved in the fructiferous state, striated, pubescent: upper tooth ovate, obtuse, not decurrent: lower ones lanceolate, acute: corolla about twice as long as the calyx. ♃.? S. Native of tropical New Holland. Racemes spike-formed, elongated. Whorls 20-flowered. Flowers minute, on short pedicels.

Crowded-flowered Plectranthus. Pl.

14 P. ZEYLA'NICUS (Benth. lab. p. 36.) stem procumbent, ascending, thick, pubescent; leaves petiolate, ovate-rounded, crenated, pubescent: floral ones ovate-roundish, obtuse, bifariously imbricated before the expansion of the flowers; racemes elongated, branched a little at the base; whorls rather loose, usually 10-flowered; calyxes declinate: upper lip ovate, acute, shortly decurrent: lower teeth lanceolate-acute; corolla 4 times longer than the calyx: tube gibbous beneath at the base, defracted at the middle: upper lip spreading: lower one ascending, stretched out, concave. ♃.? S. Native of Ceylon, Macrae. Allied to *P. Austràlis;* but differs in the stature, and larger leaves, and size and form of the corolla, &c.

Ceylon Plectranthus. Pl. 2 to 3 feet.?

15 P. AUSTRA'LIS (R. Br. prod. p. 506.) stem herbaceous, erect, pubescent; leaves petiolate, broad-ovate, obtuse, deeply crenated, rounded at the base, rather wrinkled, pubescent;

floral leaves ovate-roundish, deciduous; racemes elongated, simple; whorls rather loose, usually 10-flowered; calyxes declinate, incurved, striated, and smoothish in the fructiferous state: upper tooth ovate, acuminated, scarcely decurrent: lower teeth lanceolate, setaceously acuminated; corolla about 3 lines longer than the calyx: tube rather gibbous at the base, declinate: upper lip spreading: lower one stretched out, concave. ⊙. G. Native of New Holland, about Port Jackson. Lindl. bot. reg. 1098. Leaves 1 to 1½ inch long, truncate at the base, or subcordate. Corollas pale purple.

Southern Plectranthus. Fl. Aug. Sept. Clt. 1826. Pl. 2 to 3 feet.

16 P. parviflòrus (Willd. hort. berol. 1. p. 65. but not of R. Br.) stem suffruticose, erect, branched, tomentosely villous, bluntly tetragonal; leaves petiolate, broad-ovate, obtuse, crenated, rounded at the base or cordate, wrinkled, villous on both surfaces, white beneath; floral leaves ovate-roundish, deciduous; racemes elongated, simple; whorls rather loose, usually 10-flowered; calyxes declinate, incurved in the fructiferous state, striated: upper tooth acuminated, scarcely decurrent: lower teeth lanceolate, setaceously acuminated; corolla about 3 times as long as the calyx: tube subgibbous at base, declinate. ♄. G. Native of New Holland, within the tropic, and on the mountains about Port Jackson; and Sandwich Islands. Germànea parviflòra, Poir. dict. 2. p. 764. ? P. gravèolens, R. Br. prod. p. 506. P. paniculàtus, Jacq. fragm. p. 62. t. 91. Flowers blue or purple. Very nearly allied to *P. Austràlis*; but differs in the more humble stature, in the shrubby stem, in the more villous leaves, and smaller leaves and flowers.

Small-flowered Plectranthus. Fl. June, Aug. Clt. 1805. Shrub 2 to 3 feet.

17 P. Thunbe'rgii (Benth. lab. p. 37.) stem procumbent, glabrous; leaves petiolate, roundish, bluntly crenated, fleshy, quite glabrous: racemes elongated, simple; whorls loosely 4-6-flowered; floral leaves acute, shorter than the pedicels; fructiferous calyx declinate, striated, hardly incurved: upper tooth ovate, acute, scarcely decurrent: lateral teeth lanceolate, setaceously acuminated; corolla 5 times as long as the calyx: with a decurved tube, and an elongated incurved lower lip. ♃. ? G. Native of the Cape of Good Hope. O'cymum verticillàtum, Lin. suppl. 276. O'cymum racemòsum, Thunb. prod. fl. cap. p. 96. Allied to *P. Madagascariénsis*, but differs from it in the leaves being glabrous and fleshy. Corolla like that of *P. Austràlis*, but longer and more slender.

Thunberg's Plectranthus. Pl. procumbent.

18 P. Madagascarie'nsis (Benth. lab. p. 37.) stem herbaceous, procumbent, villous; branches ascending; leaves petiolate, roundish, obtuse, deeply crenated, very villous; racemes elongated, simple; whorls rather loose, usually 10-flowered, sessile, membranous, roundish-cuneated, deciduous, villous beneath and glabrous above; calyxes declinate, incurved in the fructiferous state, striated: upper tooth ovate, hardly acuminated, shortly decurrent: lower teeth lanceolate, setaceously acuminated; corolla about 3 times as long as the calyx, declinate: tube rather gibbous at the base, and defracted at the middle. ♃. ? S. Native of Madagascar and Mauritius, and Arabia Felix. O'cymum aurícula, Forsk. mss. in herb. Banks. O'cymum Madagascariénsis, Pers. ench. 2. p. 135. P. villòsus, Sieb. fl. maur. exsic. no. 152. O'cymum Hadiénse, Forsk. fl. ægypt. p. 109. P. Forskœ'lii, Vahl, symb. p. 44. but not of Willd.

Madagascar Plectranthus. Pl. procumbent.

19 P. hi'rtus (Benth. lab. p. 38.) stem procumbent, hispid; leaves petiolate, ovate, obtuse, crenated, cuneated at the base, very much wrinkled, hispid; floral leaves minute; racemes elongated, nearly simple; whorls loosely 6-10-flowered; calyxes declinate, incurved and striated in the fructiferous state: upper tooth ovate, acute: lower teeth lanceolate, setaceously acuminated; corolla 4 times longer than the calyx: tube rather gibbous at the base, defracted in the middle. ♃. ? G. Native of the Cape of Good Hope, Masson. O'cymum hírtum, Banks, herb. Nearly allied to *P. Madagascariénsis*; but differs in the smaller, more wrinkled, and more hispid leaves, and in the larger corolla, &c.

Hairy Plectranthus. Pl. procumbent.

20 P. Siebe'ri (Benth. lab. p. 710.) stem herbaceous, procumbent, pubescent; leaves on short petioles, ovate, bluntish, cuneated at the base, coarsely crenated, cut a little, thickish, pubescent: floral ones almost wanting; racemes loose, simple; whorls 6-flowered; calyxes pubescent, declinate in the fructiferous state, rather shorter than the pedicels, incurved, striated: upper tooth roundish, acutish, hardly decurrent: lower lateral ones lanceolate: middle ones setaceous; corolla twice as long as the calyx. ♃. ? S. Native of New Holland, within the tropic, Sieber. Root thickened at apex. Lower segment of corolla elongated, concave. Allied to the three preceding species.

Sieber's Plectranthus. Pl. procumbent.

21 Forste'ri (Benth. lab. p. 38.) stem herbaceous, erect, ? smoothish; leaves petiolate, ovate, bluntish, cuneated at the base, remotely crenated, smoothish: floral leaves very minute, or almost wanting; racemes loose, simple; whorls loosely 6-10-flowered; calyx glabrous, declinate in the fructiferous state, shorter than its pedicel: upper tooth ovate, acute, hardly decurrent: lower lateral teeth lanceolate, acute: middle one setaceous; corolla minute, hardly twice as long as the floriferous calyx. ⊙. ? S. Native of the New Hybrides; in the islands of Tanna, Forster. Plant slender, nearly glabrous. Racemes slender.

Forster's Plectranthus. Pl. 1 foot.

Sect. III. Heteroca'lyx (from ἕτερος, *heteros*, variable; and καλυξ, *calyx*, a calyx.) Benth. lab. p. 39. Fructiferous calyx declinate, bilabiate; both lips almost quite entire, nearly equal. Corolla gibbous above the base, not spurred, defracted.—Herbs. Flowers racemose.

22 P. ? Palisòti (Benth. lab. p. 39.) stem erect, pubescent; leaves ovate, obtuse, crenated, rounded at the base, or cordate, pubescent on the nerves on both surfaces: floral leaves bracteaformed; raceme simple; whorls 6-flowered, remote; corolla about twice as long as the calyx. ⊙. S. Native of Tropical Africa. O'cymum monostàchyum, P. Beauv. fl. dow. 2. p. 60. t. 95. f. 1.

Palisot de Beauvois's Plectranthus. Pl. 1 foot.

Sect. IV. Melissoìdes (so called from the plants having the habit of species of *Melissa*.) Benth. lab. p. 39. Fructiferous calyx declinate, bilabiate: upper lip tridentate: lower one bidentate. Corolla spurred above the base.—Herbs, with axillary, few-flowered cymes.

23 P. melissoìdes (Benth. lab. p. 39.) stem herbaceous, with rough angles; leaves petiolate, broad ovate, cuneated at the base, nearly glabrous, rough: floral ones conform; whorls axillary, loose, remote; peduncles trifid on both sides; calyx campanulate, glabrous; teeth of calyx all ovate, acute.—Native of the East Indies, in Silhet. Leaves small, scabrous from minute bristles on the nerves.

Melissa-like Plectranthus. Pl. procumbent. ?

Sect. V. I'sodon (from ισος, *isos*, equal; and οδους οδοντος, *odous odontos*, a tooth; in allusion to the teeth of the calyx being all equal.) Schrad. in Benth. lab. p. 40. Fructiferous

calyx declinate; teeth all equal, or disposed into two lips; the upper lip tridentate, and the lower one bidentate. Corolla declinate, or defracted, gibbous above the base, not spurred.—Herbs or under shrubs. Flowers panicled, rarely racemose.

24 P. lanceola'tus (Bojer. mss. ex Benth. lab. p. 40.) stem erect, pubescent; leaves oblong-lanceolate, stiff, pubescent, narrowed into the short petioles at the base; racemes simple; whorls loose, many-flowered; calyx campanulate, equal, inflated, and incurved in the fruit-bearing state, with a contracted mouth: teeth equal, short, obtuse, connivent; corolla 5 times longer than the calyx. ⊙.? S. Native of Madagascar, Bojer. Stem tetragonal. Leaves bluntish, irregularly serrated. Tube of corolla slender.

Lanceolate-leaved Plectranthus. Pl.

25 P. oblongifòlius (Wall. pl. rar. asiat. 2. p. 16. Benth. lab. p. 40.) stem herbaceous, ascending, branched, glabrous; leaves petiolate, oblong, toothed, narrowed at both ends, rather hispid above, glabrous beneath: floral ones and bracteas very minute, or almost wanting; panicles loose, branched, many-flowered; calyx hardly bilabiate, bluntly toothed, ovate, and striated in the floriferous state, but lagenæform and inflated at the base, and with a contracted mouth in the fructiferous state; corolla 3 times as long as the calyx; stamens shorter than the corolla. ♃.? S. Native of Nipaul. Leaves 2 inches long. Branches of peduncle 3-4-flowered. Calyx glabrous, beset with red glands. Corolla hardly gibbous.

Oblong-leaved Plectranthus. Pl. 3 to 4 feet.

26 P. scrophularioìdes (Wall. pl. rar. asiat. 2. p. 16. Benth. lab. p. 40.) stem herbaceous, erect, branched, nearly glabrous; leaves on long petioles, broad-ovate, crenated, rounded at the base, unequally cordate, or subcuneated: floral leaves and bracteas minute; panicles loose; fructiferous calyx declinate, inflated, deeply bilabiate: teeth all obtuse; corolla about 3 times as long as the calyx, inflated above the gibbosity; stamens exserted. ♃.? S. Native of Nipaul, and Kamaon. Stem much branched, with pubescent angles. Leaves a hand long, rather hispid above, and glandular beneath, with pubescent nerves. Corolla whitish red, inodorous like the rest of the plant.

Scrophularia-like Plectranthus. Pl. 3 to 4 feet.

27 P. Wi'ghtii (Benth. lab. p. 41.) stem herbaceous, erect, branched; leaves petiolate, broad-ovate, or roundish, acuminated, cordate at the base, glabrous on both surfaces: lower floral ones like the others: upper ones and bracteas membranous, roundish-spathulate, shorter than the peduncles and pedicels; panicles much branched, many-flowered; fructiferous calyx declinate, oblong, incurved, striated, glabrous, with an obliquely bilabiate mouth: teeth nearly equal, ovate; corolla inflated, declinate above the gibbosity: tube one half longer than the calyx; stamens exserted. ♃.? S. Native of the Peninsula of India; on mountains about Madura and Tenivelly; and on Mount Kadrougon, Leschenault. Habit of *P. striàtus*. Corolla like that of *P. scrophularioìdes*, but much smaller. Leaves $1\frac{1}{2}$ inch long, and 2 inches broad, long-acuminated, with bluntly serrated edges.

Wight's Plectranthus. Pl. 3 to 4 feet.

28 P. nigre'scens (Benth. lab. 710.) stem herbaceous, erect, branched; leaves petiolate, broad-ovate, cordate at the base, rounded or narrowed; panicles or racemes many-flowered; fructiferous calyx declinate, ovate, incurved, striated, deeply bilabiate: upper lip truncate, shortly tridentate: lower one bifid, with ovate teeth; corolla declinate, hardly gibbous above, but with the tube twice as long as the calyx; stamens exserted. ♃.? S. Native of Ceylon. P. Wíghtii, β, Benth. lab. p. 41. Plant clothed with clammy articulated hairs.

Blackish Plectranthus. Pl. 3 to 4 feet.

29 P. stria'tus (Benth. in Wall. pl. rar. asiat. 2. p. 17. lab. p. 41.) stem herbaceous, erect, branched, nearly glabrous; leaves nearly sessile, ovate, acuminated, crenated, cuneated at the base, stiff, hispid above, and glabrous beneath; panicle loose, much branched, many-flowered; calyx declinate, oblong, sub-bilabiate, with obtuse, nearly equal teeth, incurved, striated, glabrous, but glandular in the fructiferous state; corolla with a declinate tube, which is rather gibbous above the base, straight at the middle; stamens a little exserted. ♃. S. Native of Silhet and Nipaul, Wall.; Mussooree, Royle. Deyra Dhoon, Jacquemont. Stem sometimes pubescent. Leaves 2 inches long, and $1\frac{1}{2}$ broad.

Striated-calyxed Plectranthus. Pl. 2 to 3 feet.

30 P. hìspidus (Benth. in Wall. pl. rar. asiat. 2. p. 17. lab. p. 41.) stem herbaceous, erect, branched, pubescent; leaves nearly sessile, ovate, acuminated, toothed, cuneated at the base, stiff, hispid above, and pubescent beneath, and densely glandular; panicles loose, much branched, many-flowered; calyx declinate, oblong, bluntly 5-toothed, bilabiate in the fructiferous state, hardly incurved, very hispid; tube of corolla declinate, rather gibbous above the base, straight at the middle. ♃.? S. Native of Silhet. Very nearly allied to *P. striàtus*.

Hispid Plectranthus. Pl. 2 to 3 feet.

31 P. Gerardia'nus (Benth. in Wall. pl. rar. asiat. 2. p. 17. lab. p. 42.) stem herbaceous, erect, a little branched, nearly glabrous; leaves ovate, acuminated, crenated, rather hispid above, and glabrous beneath, sparingly glandular: lower ones petiolate, narrowed at the base: upper ones nearly sessile, cordate at the base: floral ones shorter than the peduncles: uppermost ones and bracteas minute; racemes panicle-formed, hardly branched; cymes loose, slender, many-flowered; calyx declinate, oblong, bilabiate, with obtuse teeth, incurved, striated, glabrous, and hardly glandular in the fructiferous state; tube of corolla declinate, sub-gibbous above the base, straight at the middle. ♃.? S. Native of Nipaul and Kamaon. Sansedarra and Deyrah Dhoon, Royle. Hyssòpus lophanthoìdes, D. Don, prod. fl. nep. p. 110. Nearly allied to *P. striàtus*, but differs in the smaller stature, larger green leaves, and nearly simple raceme, with a pubescent rachis.

Gerard's Plectranthus. Pl. 2 to 3 feet.

32 P. Coe'tsa (D. Don, prod. fl. nep. p. 117. Benth. lab. p. 42.) stem herbaceous, erect, branched, clothed with hoary pubescence; leaves petiolate, ovate, narrowed at both ends, crenated in the middle, rather hispid above, and pubescent beneath; panicles branched, many-flowered; calyx declinate, oblong, bilabiate, with ovate, acutish, nearly equal teeth, incurved, striated, and clothed with hoary pubescence in the fructiferous state, but hardly glandular; tube of corolla gibbous above the base, defracted at the middle. ♃.? S. Native of the East Indies, in Nipaul, Kamaon, Simla, Mussooree; on Mount Taong Dong, in the Birmann Empire; Japan, and Java, &c. Scutellària Japónica, Burm. nid. p. 130. O'cymum Coétsa, Spreng. cur. post. p. 223. Leaves 2 inches long. Corolla small, blue.

Coetsa Plectranthus. Fl. Oct. Clt. 1823. Pl. 2 to 3 feet.

33 P. menthoìdes (Benth. in Wall. pl. rar. 2. p. 17. lab. p. 42.) stem herbaceous, erect, branched, clothed with hoary pubescence; leaves petiolate, ovate, narrowed at both ends, coarsely toothed, pubescent on both surfaces; panicle loose, few-flowered; fructiferous calyx declinate, oblong, incurved,? clothed with hoary pubescence: teeth acutish: upper one the broadest; corolla sub-gibbous above the base, with a hardly defracted tube, and an inflated throat; anthers somewhat 2-celled. ♃.? S. Native of the East Indies, in the southern parts of the Peninsula. Habit of *P. Coétsa*, but the racemes are small and few-flowered, &c.

Mint-like Plectranthus. Pl. 2 to 3 feet.

34 P. MACRÆ'I (Benth. lab. p. 42.) stem herbaceous, branched, clothed with rufous villi; leaves petiolate, nearly sessile, ovate, acute, toothed a little, rounded at the base, clothed with soft pubescence on both surfaces: floral ones conforming to the rest; panicles branched, many-flowered; calyx declinate, oblong, sub-bilabiate: teeth nearly equal, ovate; fructiferous calyx incurved, striated, and villous; corolla 3 times as long as the calyx: tube gibbous above the base, defracted at the middle; anthers 2-celled. ♃.? S. Native of the East Indies, on the Madura mountains, in the Peninsula; Ceylon. P. rugòsus, β, tomentòsus, Benth. in. Wall. pl. rar. asiat. 2. p. 17. Habit of *P. Coétsa*, but more humble, and the stem is decumbent at the base, &c.

Macrae's Plectranthus. Pl. 2 to 3 feet.

35 P. RUGÒSUS (Wall. pl. rar. asiat. 2. p. 17. Benth. lab. p. 43.) stem shrubby, erect; branches hoary; leaves petiolate, ovate, obtuse, crenulated, rounded at the base, pubescent above, wrinkled, clothed with hoary tomentum beneath, reticulately nerved; panicles branched, many-flowered; calyxes declinate, oblong, hardly bilabiate: teeth lanceolate, acute, nearly equal; fructiferous calyx sub-incurved, striated, pubescent; tube of corolla gibbous above the base, defracted at the middle. ♄. G. Native of the East Indies; at Choor, &c., Royle; in Sirmore, Gerard. O'cymum densiflòrum, Roth, nov. spec. 275.? Lumnítzera densiflòra, Spreng. syst. 2. p. 687. I'sodon plectranthoìdes, Schrader. Corolla white, or pale blue, smaller than that of *P. Coétsa*.

Wrinkled-leaved Plectranthus. Shrub 4 to 6 feet.

36 P. RE'PENS (Wall. pl. rar. asiat. 2. p. 17. Benth. lab. p. 43.) stem creeping at the base, radicant, ascending, nearly simple, hairy; leaves petiolate, ovate-roundish, obtuse, coarsely crenated, rounded at the base, or cordate, hairy on both surfaces; raceme loose, nearly simple; cymes pedunculate; calyx declinate, oblong, a little incurved, striated, glabrous: teeth hardly unequal, lanceolate, acute; tube of corolla declinate, gibbous above the base, straight to the middle. ♃. S. Native of Nipaul, Wall. Stamens shorter than the corolla. Flowers size of those of *P. striàtus*.

Creeping Plectranthus. Pl. ½ to 1 foot.

37 P.? MONTA'NUS (Benth. in Wall. pl. rar. asiat. 2. p. 17. lab. p. 44.) stem herbaceous, erect, branched above, tomentosely villous; leaves on short petioles, ovate, obtuse, thick, wrinkled, densely tomentose; racemes branched, pyramidately panicled, tomentose; whorls rather distinct, dense, many-flowered; fructiferous calyx declinate, incurved, tomentose, almost equally and bluntly 5-toothed. ⊙.? S. Native of the Peninsula of India, about Nundydroog. Superior leaves clothed with rufous tomentum. Panicles almost like those of *P. ternifòlius*.

Mountain Plectranthus. Pl. 1 foot.

SECT. VI. PYRAMI'DIUM (from πυραμις, *pyramis*, a pyramid; in reference to the disposition of the flowers.) Benth. lab. p. 44. Fructiferous calyx erect, tubular, equally 5-toothed. Corolla gibbous above the base, not spurred, defracted.—Herbs. Flowers pyramidately panicled.

38 P. TERNIFÒLIUS (D. Don, prod. fl. nep. p. 117.) plant villously tomentose; stem erect, a little branched; leaves 3 in a whorl, nearly sessile, lanceolate-oblong, acuminated, serrated, cuneated at the base, wrinkled; panicle branched, many-flowered, pyramidal. ♃. G. Native of Nipaul, Silhet, Kamaon, Birman Empire, &c. O'cymum ternifòlium, Spreng. cur. post. p. 224. Stem hexangular. Corolla very villous on the outside, bluish. Stamens equal in height to the corolla.

Tern-leaved Plectranthus. Fl. Aug. Sept. Clt. 1820. Pl. 2 to 3 feet.

SECT. VII. AMETHYSTOÌDES (so named from the plant having the calyx of *Amethystea cærùlea*.) Benth. lab. p. 45. Fructiferous calyx erect, campanulate, equally 5-toothed. Corolla gibbous above the base, not spurred, defracted. Flowers loosely panicled.

39 P. AMETHYSTOÌDES (Benth. lab. p. 45.) stem erect, branched, pubescent; leaves ovate-rounded, crenated, narrowed a long way at the base, and quite entire; flowers loosely panicled; fructiferous calyx erect, campanulate, quite glabrous, equally 5-toothed. ♃.? G. Native of China, Reeves. Stem tetragonal. Corolla 4 times longer than the calyx. Stamens equal in length to the corolla.

Amethystea-like Plectranthus. Pl.

40 P. DU'BIUS (Vahl, mss. ex Benth. lab. p. 711.) stem erect, branched, pubescent; leaves ovate, crenated, cuneated at the base, or narrowed, wrinkled; flowers loosely panicled; fructiferous calyx erect, campanulate, clothed with hoary pubescence, equally 5-toothed. ♃.? G. Native of Japan, Thunberg. This differs from *P. amethystoìdes* in the narrower, wrinkled leaves, more veiny, and finely pubescent beneath, and, like the calyx, canescent.

Doubtful Plectranthus. Pl.

41 P. INFLE'XUS (Vahl, mss. ex Benth. lab. p. 711.) glabrous; stem erect, nearly simple; leaves ovate, acute, coarsely toothed, narrowed a long way at the base; raceme loose, few-flowered; fructiferous calyx erect, campanulate, glabrous, equally 5-toothed. ♃.? G. Native of Japan, Thunberg. This differs from *P. amethystoìdes* in the narrower leaves, and simple few-flowered raceme.

Inflexed Plectranthus. Pl.

† *Species doubtful whether belonging to the present genus.*

42 P. SALVIOÌDES (Benth. lab. p. 45.) leaves ovate-oblong, crenulated, running into the petioles at the base, and quite entire, pilose on both surfaces, ciliated; stem hoary from reversed pili at bottom, but beset with glandular clammy villi above, as well as the calyxes; raceme terminal, simple; bracteas roundish-ovate, on short petioles; lower lip of calyx (superior?) tridentate: middle tooth the smallest. ♃.? G. Native of the East Indies. O'cymum salvioìdes, Heyne, in Roth. nov. spec. p. 272. Lumnítzera salvioìdes, Spreng. syst. 2. p. 687. Stem quadrangular, hoary. Calyx nerved, sub-bilabiate. Corolla small, brownish purple, hardly one half longer than the calyx, resupinate, villous outside. The inflorescence and form of corolla is that of *O'cymum*, but the calyx is very different. It is perhaps a species of *Moschósma* or *Perílla*.

Salvia-like Plectranthus. Pl.

43 P. JAVA'NICUS (Benth. lab. p. 45.) panicles twiggy, leafy; pedicels subumbellate; leaves ovate-oblong, coarsely-toothed, pubescent on both surfaces. ♃.? S. Native of Java, in mountain marshes. Elshóltzia Javánica, Blum. bijdr. 825. Calyx tubular, 5-toothed; teeth nearly equal. Lower lip of corolla long, concave, almost quite entire: upper one arched, semi-quadrifid. Stamens inclosed. Anthers 1-celled, naked. Stigma semi-trifid. Perhaps a species of *Geniósporum*.

Java Plectranthus. Pl.

44 P. NUDIFLÒRUS (Willd. spec. 3. p. 168.) nectarium gibbous; panicle racemose, naked; leaves cordate, wrinkled; superior ones stem-clasping. ⊙.? S. Native of China. Stem quadrangular, pubescent. Lower leaves petiolate, 2-3 inches long, acuminated, coarsely toothed, glabrous, except on the veins beneath. Calyx bilabiate; segments linear, subulate. Corolla small, closed, pubescent; tube refracted, gibbous above.

Naked-flowered Plectranthus. Pl. ½ foot.

45 P. Nankine'nsis (Spreng. syst. 2. p. 691.) stem erect, glabrous, branched; leaves reniform, concave, glabrous, but fringed, on long petioles; spikes prismatic, axillary, tetragonal; calyx 5-cleft, shining, pilose, 6-nerved: the 3 upper segments obtuse, denticulated: the 2 lower ones subulate and longer; corolla pilose: upper lip 4-cleft: lower lip larger, entire, incurved, inflexed; anthers shorter than the corolla. ⊙. H. Native of China, about Nankin. Dentídia Nankinénsis, Lour. coch. p. 369. Plant brownish purple. Anthers 2-lobed. Stigma acute, bifid. Aspect of plant elegant, with the scent and colour of *Melissa crética*; but the leaves, spikes, calyx, and corolla are different. Perhaps a species of *Anisochìlus*, or *Æollánthus*.

Nankin Plectranthus. Pl. 1 foot.

Cult. For culture and propagation see *O'cymum*, p. 674.

IX. CO'LEUS (from κολεος, *koleos*, a sheath; in allusion to the filaments being connected into a tube at the base, which sheaths the style.) Lour. coch. p. 372. Benth. lab. p. 47. O'cymum species, Lin. and other authors. Plectránthus species, R. Br. and other authors. Solenostèmon, Schum. pl. guin.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate-campanulate, erect, or often declinate or reflexed in the fructiferous state: throat naked, or hispid, 5-toothed: upper tooth ovate, membranous, with the margins rarely decurrent: lower teeth narrower, all acute, or the lateral ones are ovate-truncate; the two lowermost ones often combined. Corolla with an exserted, defracted tube, an inflated or equal throat, and a bilabiate limb: upper lip short, bluntly 3-4-cleft: lower one entire, elongated, concave, usually boat-shaped, involving the genitals. Stamens 4, declinate: lower ones the longest; filaments toothless, connected at the base into a tube, which sheaths the style; anthers ovate, reniform, with confluent cells. Style subulate at apex, equally bifid; stigmas subterminal. Achenia roundish, compressed, smooth.—Herbs annual or perennial at the base, rarely suffruticose. Whorls usually 6-flowered, but often many-flowered, sometimes very dense, and sometimes loose, cyme-formed. Floral leaves bractea-formed, more or less comose at the tops of the racemes before florescence, but afterwards deciduous, rarely subpersistent, reflexed. The monadelphous stamens distinguish this genus from all other of the order.

Sect. I. Calce'olus (from *calceolus*, a slipper.) Benth. lab. p. 49. Whorls 6-10-flowered. Fructiferous calyx reflexed; throat villous inside.

1 C. spica'tus (Benth. in Wall. pl. rar. asiat. 2. p. 15. lab. p. 49.) stem procumbent at the base; branches ascending, beset with spreading pili; leaves petiolate, obovate, narrowed at the base, fleshy: floral leaves membranous, concave, exceeding the flowers, at length deciduous; spikes simple, elongated, dense; whorls 6-10-flowered, approximate; calyx hispid; upper tooth of calyx roundish, a little decurrent: lower teeth lanceolate, acute, nearly equal; lower lip of corolla stipitate, boat-shaped. ⊙.? H. Native of the Peninsula of India, on the mountains of Dindygul. Plectránthus canìnus, Roth, nov. spec. 279. Stem bluntly tetragonal. Leaves entire, or sparingly crenated, 1-2 inches long, pubescent on both surfaces: floral leaves very broad, ciliated, the rest glabrous. Corolla like that of *C. barbàtus*, but smaller.

Spicate-flowered Coleus. Pl. 1 to 1½ foot.

2 C. barba'tus (Benth. in Wall. pl. rar. asiat. 2. p. 15. lab. p. 49.) stem shrubby at the base, ascending, tomentosely hispid; leaves petiolate, ovate, crenated, narrowed at the base, clothed with soft tomentum when young, hispid from strigæ; floral leaves membranous, broad-ovate, acuminated, comose at the tops of the racemes, deciduous; racemes simple; whorls 6-flowered, distant; calyx hispid: upper tooth ovate, sub-decurrent: lower teeth lanceolate, acute, nearly equal; lower lip of corolla large, stipitate, boat-shaped. ♄. S. Native of the East Indies, in the southern mountains of the Peninsula, Mysore, Bangalore, Nipaul, and Kamaon. Plectránthus Forskœ'lii, Willd. spec. 3. p. 169. Sims, bot. mag. 2036. Germànea Forskœ'lii, Poir. dict. 2. p. 764. Plectránthus barbàtus, Andr. bot. rep. t. 594. Plectránthus comòsus, Sims, bot. mag. 2318. O'cymum ásperum, Roth. nov. spec. 268. Plectránthus ásper, Spreng. syst. 2. p. 690. Plectránthus monadélphus, Roxb. hort. beng. p. 45. Corolla beset with white hairs.

Bearded Coleus. Fl. Aug. Nov. Clt. 1806. Pl. 2 to 3 feet.

3 C. He'ynei (Benth. lab. p. 50.) stem herbaceous, ascending, simple; leaves ovate, coarsely serrated, pubescent; raceme terminal, simple; bracteas ovate-lanceolate, reflexed; filaments connate at the base. ⊙.? S. Native of the East Indies. Plectránthus monadélphus, Heyne, mss. O'cymum monadélphum, Roth, nov. spec. p. 267. R. Br. append. to Salt, abyss.? Stem tetragonal, pubescent. Leaves petiolate, obtuse. Whorls distinct, 6-flowered. Upper lip of calyx roundish-ovate, mucronate, finely crenulated, ciliated; segments of the lower lip setaceous, 2 middle ones longer than the lateral ones. Lower lip of corolla ovate, concave, crenulated.

Heyne's Coleus. Pl. ½ to 1 foot.

4 C. Zatarhe'ndi (Benth. lab. p. 50.) leaves fleshy, stiff, broad-ovate, acute, crenated, villous, truncate at the base. ♃. S. Native of Arabia Felix. O'cymum a Zatarhéndi, Forsk. fl. ægypt. p. 109. Plectránthus crassifòlius, Vahl. symb. 1. p. 44. Germànea crassifòlia, Poir. dict. 2. p. 764. Stem slightly tetragonal, beset with short bristles. Leaves 1½ inch long. Whorls 12-flowered. Corolla with a violet-coloured lower lip, and a white upper lip.?

Zaterhendi's Coleus. Pl.

Sect. II. Aroma'ria (so named from the aromatic scent of the species.) Benth. lab. p. 51. Whorls dense, nearly globose, many-flowered. Fructiferous calyx hardly declinate; throat naked inside.

5 C. aroma'ticus (Benth. in Wall. pl. rar. asiat. 2. p. 15. bot. reg. 1520.) stem shrubby at the base; branches tomentosely pubescent, or hispid; leaves petiolate, broad-ovate, crenated, rounded at the base, or cuneated, very thick, hispid on both surfaces, or clothed with white villi; floral leaves hardly equal in length to the calyx; racemes simple; whorls remote; calyx tomentose: lower teeth short, setaceous, nearly equal. ♄. G. Native of the East Indies. Plectránthus aromáticus, Roxb. hort. beng. p. 45. C. Amboínicus, Lour. coch. p. 372. Plectránthus Amboinénsis, Spreng. syst. 2. p. 690.? Plectránthus crassifòlius, Hort. C. crassifòlius, Benth. lab. p. 51. Marrùbium álbum Amboínicum, Rumph. amb. 5. p. 295. t. 102. f. 3. Leaves very fragrant, 1-2 inches long. Whorls 20-30-flowered and more. Tube of corolla about twice as long as the calyx, defracted at the middle; throat inflated: lower lip a little dilated, boat-shaped.

Aromatic Coleus. Fl. Clt. Shrub 2 to 3 feet.

Sect. III. Solenoste'mon (from σωλην, *solen*, a tube; and στημων, *stemon*, a stamen; in reference to the stamens being combined into a tube at the base.) Benth. lab. p. 52. Whorls loose, many-flowered. Fructiferous calyx declinate; throat naked inside.

§ 1. *Lateral teeth of calyx short, truncate, free from the lower ones, which are elongated and connate beyond the middle.*

6 C. Boje'ri (Benth. lab. p. 52.) stem humble, pubescent; leaves petiolate, ovate, obtuse, crenated, rounded at the base, or subcordate, hispid on the nerves on both surfaces: floral leaves minute; racemes elongated, simple; whorls loose, usually 10-flowered; common peduncles and their branches very short; calyx pubescent: upper tooth ovate, obtuse, hardly decurrent; throat of corolla hardly inflated. ♃. S. Native of Madagascar, Bojer. Plectránthus maculàtus, Bojer, mss. Mítsa maculàta, Chapm. ex Bojer, mss. Leaves spotted with purple, glandular beneath. Corolla glabrous. Stamens exserted a little.

Bojer's Coleus. Pl. humble.

7 C. scutellarioìdes (Benth. in Wall. pl. rar. asiat. 2. p. 16. lab. p. 53.) plant nearly glabrous; stem shrubby at the base; leaves petiolate, ovate, shortly acuminated, toothed, rounded at the base, glabrous, or hardly tomentose: floral leaves at length deciduous, shorter than the whorls of flowers; racemes elongated, slender, a little branched at the base; whorls loosely many-flowered; common peduncles almost wanting; pedicels about equal in length to the short branches; upper tooth of calyx ovate, acutish, hardly decurrent: lateral teeth bluntish; throat of corolla scarcely widened. ⊙. S. Native of the Indian Archipelago; Tropical New Holland, and Mauritius. O'cymum scutellarioìdes, Lin. spec. p. 834. Burm. fl. ind. p. 130. Sims, bot. mag. 1446. Plectránthus scutellarioìdes, R. Br. prod. p. 506. Branches bluntly tetragonal, glabrous, or beset with fine down. Leaves 1½ to 2 inches long, often purplish beneath. Whorls 10-15-flowered. Corolla 5 times longer than the calyx: upper lip pale; lower one blue.

Scutellaria-like Coleus. Fl. July, Aug. Clt. 1764. Pl. 2 to 3 feet.

8 C. acumina'tus (Benth. in Linnæa, 6. p. 81. lab. p. 53.) stem pilose above; leaves petiolate, ovate, long-acuminated, deeply serrated, rounded, or cuneated at the base, puberulous on both surfaces; petioles ciliated with rufous hairs; floral leaves rather comose, deciduous; raceme simple; whorls loosely many-flowered; common peduncles none; upper tooth of calyx ovate, obtuse, scarcely decurrent; tube of corolla slender. ⊙.? S. Native of Manilla. Very nearly allied to the preceding.

Acuminated-leaved Coleus. Pl. 2 to 3 feet.?

9 C. ingra'tus (Benth. lab. p. 53.) pubescent; leaves petiolate, ovate, acuminated, serrately crenated, cuneated at the base, or roundish, pubescently villous on both surfaces; floral leaves deciduous; racemes simple; whorls loosely many-flowered; common peduncles almost wanting, with short branches; pedicels elongated; calyx hispid: upper tooth ovate, not decurrent; throat of corolla widened a little.—Native of Java, in the western provinces, among the mountains. Plectránthus ingràtus, Blum. bijdr. p. 836. The whole plant is purplish. Petioles and axils pilose. Whorls distant. Calyx very villous at the base. Corolla like that of *C. scutellarioìdes*.

Ungrateful-scented Coleus. Pl. 2 to 3 feet.

10 C. grandifòlius (Benth. lab. p. 54.) stem pubescent; leaves petiolate, large, broad-ovate, acuminated, coarsely crenated, rounded or subcordate at the base, rather fleshy; floral leaves coloured, comose before the expansion of the flowers; racemes simple, elongated; whorls loosely many-flowered; common peduncles and their branches almost wanting; pedicels elongated; calyx hispid: upper tooth ovate, acute, not decurrent; throat of corolla wide. ⊙.? S. Native of the Island of Timor. Leaves pubescent: floral ones almost permanent. Allied to *C. secundiflòrus*, but differs in the inflorescence.

Great-leaved Coleus. Pl.

11 C. Africa'nus (Benth. lab. p. 54.) stem herbaceous, erect, branched, pubescent; leaves ovate, obtuse, crenated, rounded at the base, running into the petioles, nearly glabrous; racemes elongated; whorls loose; cymes many-flowered on both sides; common peduncles almost wanting, their branches elongated; upper tooth of calyx ovate, membranous, acute, shortly decurrent: lateral teeth minute: lower teeth joined into a membranous, bidentate lip. ⊙.? S. Native of the western coast of Africa. Solenostèmon ocymoìdes, Schum. pl. guin. in act. acad. hafn. 4. p. 45. Leaves 2-3 inches long, and 2 broad; floral ones bractea-formed, small. Corolla whitish.?

African Coleus. Pl.

12 C. atropurpu'reus (Benth. in Wall. pl. rar. asiat. 2. p. 16. lab. p. 53.) stem erect, clothed with fine pubescence; leaves petiolate, broad-ovate, crenated, rounded at the base, clothed with fine pubescence: floral leaves ovate, minute, deciduous; racemes nearly simple; whorls quadrifariously cyme-formed; common peduncles almost wanting, their branches elongated; pedicels very short; calyx pubescent: upper tooth ovate, acutish, scarcely decurrent: lateral teeth very blunt, equal in length to the upper one: lower ones longer; throat of corolla dilated. ⊙.? S. Native of the Indian Archipelago.

Var. β, densiflòrus (Benth. lab. p. 54.) leaves hardly purplish; racemes branched a little; whorls more approximate. ⊙. S. Native of the Islands of Manilla and Tanna.

Dark-purple-leaved Coleus. Pl.

13 C. Persoònii (Benth. lab. p. 55.) stem erect, finely downy; leaves petiolate, ovate, obtuse, crenated, truncate, or subcordate at the base, wrinkled, clothed with soft villi; floral leaves deciduous; racemes simple; whorls quadrifariously cyme-formed; common peduncles almost wanting on both sides, with elongated branches; pedicels shorter than the calyxes; calyx canescent: upper tooth orbicular, concave: lateral ones shorter, very blunt: lower ones lanceolate-setaceous; throat of corolla somewhat dilated. ⊙.? S. Native of Madagascar, and the Island of Luçon. O'cymum paniculàtum, Pers. syn. 2. p. 135. Leaves wrinkled, villous. Racemes canescent. Stamens exserted.

Persoon's Coleus. Pl.

14 C. multiflòrus (Benth. lab. p. 55.) stem ascending, villous, pubescent; leaves on long petioles, ovate-oblong, acute, crenately-serrated, cuneated, or narrowed at the base, clothed with soft pubescence; floral leaves deciduous; racemes elongated, simple; whorls quadrifariously cyme-formed; common peduncles almost wanting on both sides, with elongated branches; pedicels shorter than the calyxes; calyx clothed with glandular pubescence: upper tooth orbicular, shortly decurrent: lateral ones shorter, very blunt; corolla with a slender tube, and a sub-inflated limb: lower lip large, very broad, concave. ⊙.? S. Native of the Island of Manilla. Habit of *C. acuminàtus*, but differs in the leaves being hardly acuminated, in the inflorescence, calyx, and corolla.

Many-flowered Coleus. Pl.

15 C. macrophy'llus (Benth. lab. p. 55.) calyx hairy: lower lip trifid, the middle segment the longest, and semi-bifid; filaments monadelphous at the base; whorls distinct; peduncles branched; leaves roundish-ovate, acute, unequally and bluntly serrated, scarcely attenuated at the base, quite entire, puberulous on both surfaces. ⊙.? S. Native of Java, in humid parts of woods among the mountains. Plectránthus macrophýllus, Blum. bijdr. p. 835. Very nearly allied to *C. ingràtus*, but the leaves are purplish beneath.

Large-leaved Coleus. Pl.

16 C. bícolor (Benth. lab. p. 55.) calyx hairy, having the lower lip trifid, the middle segment the longest and semibifid; filaments monadelphous at the base; whorls distinct; pedun-

cles ramosely bifid; leaves unequal, ovate, acuminated, crenated, rounded at the base, or unequally attenuated, and quite entire, puberulous on both surfaces. ⊙.? S. Native of Java, at the foot of Mount Salak. Leaves purplish beneath. Allied to *C. macrophýllus*.

Two-coloured-leaved Coleus. Pl.

17 C. secundiflòrus (Benth. lab. p. 55.) plant clothed with fine pubescence; leaves petiolate, ovate, acuminated, coarsely crenated, roundish, or cordate at the base, wrinkled, rather fleshy; floral leaves deciduous; racemes elongated, simple; whorls cyme-formed, secund; common peduncles almost wanting on both sides, but with elongated branches; calyxes pendulous, hispid: upper tooth oblong, acute, not decurrent: lateral ones short, ovate, acutish, free: lower ones elongated, acute, combined almost to the top; throat of corolla dilated a little. ⊙.? S. Native of the Island of Timor. Allied to *C. grandiflòrus*, but differs from it in the inflorescence. Stem bluntly tetragonal.

Secund-flowered Coleus. Pl.?

18 C. Blu'mei (Benth. lab. p. 56.) leaves ovate, acuminated, coarsely and bluntly serrated, acute, and quite entire at the base, puberulous on both surfaces; whorls distinct; pedicels racemose, secund; calyx hairy: lower lip trifid, the middle segments the longest, and semi-bifid; filaments monadelphous at the base. ⊙.? S. Native of Java, in gardens. Plectránthus scutellarioìdes, Blum. bijdr. 837, but not of Lin. Leaves painted with dark purple spots above.

Blume's Coleus. Pl.

19 C. lacinia'tus (Benth. lab. p. 56.) leaves ovate, acuminated, jagged, or deeply serrated, acute, and quite entire at the base, puberulous on both surfaces; pedicels branched a little, secund; calyx hairy: lower lip trifid, the middle segment semibifid, and longer; filaments monadelphous at the base. ⊙.? S. Native of Java, in gardens. Plectránthus laciniàtus, Blum. bijdr. p. 838. Perhaps a variety of *C. scutellarioìdes*. Leaves marked with dark purple spots above. Nearly allied to *C. secundiflòrus*.

Jagged-leaved Coleus. Pl.

20 C. galea'tus (Benth. lab. p. 56.) leaves ovate, acuminated, rounded, or subcordate at the base, acutely and deeply toothed, puberulous on both surfaces; whorls distinct; pedicels branched; calyx hairy: lower lip trifid, the middle segment longer and bifid; filaments monadelphous at the base. ⊙.? S. Native of Java, in shady, humid, mountainous places. Plectránthus galeàtus, Vahl, symb. 1. p. 43. Blum. bijdr. 836. Stem villous, furrowed. Leaves villous, particularly on the veins beneath. Corolla pubescent. Allied to *C. macrophýllus*, ex Blume.

Galeate-flowered Coleus. Fl. July, Aug. Clt. 1820. Pl. 2 feet.

§ 2. *Lateral teeth of calyx acute, about equal in length to the upper one: lower ones the longest, and combined beyond the middle, and with the lateral ones at the base.*

21 C. macróstachys (Benth. lab. p. 57.) stem pubescent; leaves petiolate, ovate, acuminated, crenately serrated, rounded at the base, hispid above, and on the nerves beneath: floral ones deciduous; racemes elongated, nearly simple; whorls remote, loose; common peduncles with the branches and pedicels on both sides, shorter than the fructiferous calyxes; calyx glabrous, membranous in the fructiferous state: throat naked inside: upper tooth ovate, acute, with revolute edges; corolla with a slender tube, and dilated throat: lower lip elongated, broad, concave. ⊙.? S. Native of Java, Commerson. Stem purplish. Leaves minutely glandular beneath; floral ones bracteaformed, concave, ciliated. Whorls 10-15-flowered. Leaves and inflorescence of *C. ingràtus*. Calyx and corolla of *C. Malabárica*.

Long-spiked Coleus. Pl.

22 C. ova'tus (Benth. lab. p. 57.) stem smoothish, clothed with clammy pubescence above; leaves petiolate, ovate, scarcely acuminated, coarsely crenated, rounded or cordate at the base, rather hispid above, and glabrous beneath; floral leaves deciduous; racemes branched a little; whorls loose; common peduncles and branches almost wanting; calyx glabrous, membranous, inflated in the fructiferous state: upper tooth ovate, with subrevolute edges; corolla with a slender tube, and a dilated throat: lower lip elongated, broad, concave. ⊙.? S. Native of the Indian Peninsula; Coromandel, Wight. Very nearly allied to the preceding, but much smaller in all its parts. Floral leaves hardly ciliated.

Ovate-leaved Coleus. Pl.

23 C. Malaba'ricus (Benth. in Wall. pl. asiat. rar. 2. p. 16. lab. p. 57.) clothed with fine pubescence; leaves petiolate, large, broad-ovate, shortly acuminated, crenated, roundly truncate at the base; floral leaves deciduous; racemes loosely branched; whorls usually 10-flowered, loose; common peduncles almost wanting on both sides, with short branches; fructiferous calyx deflexed, glabrous, subinflated at the base: throat naked inside: upper tooth ovate, acutish; corolla with a slender exserted tube, and a wide throat: lower lip elongated. ⊙.? S. Native of the Peninsula of India, at Travancore, Klein. Plectránthus Malabáricus, Klein, mss. Lower leaves 3-4 inches long: floral leaves minute.

Malabar Coleus. Pl.

24 C. infla'tus (Benth. lab. p. 58.) glabrous; leaves petiolate, ample, ovate, acuminated, toothed, narrowed a long way at the base, quite entire; floral leaves deciduous; racemes branched a little; whorls irregularly cyme-formed; common peduncles almost wanting on both sides: branches alternate, or all elongated; pedicels short; fructiferous calyxes nutant, glabrous, inflated, with the throat naked inside: upper tooth ovate-lanceolate, acuminated, flat; corolla with an elongated tube, and a nearly equal throat: lower lip longer than the upper one. ⊙.? S. Native of Ceylon, Macrae. Allied to *C. Malabáricus*. Stem rather fleshy. Leaves 1 foot long, with the petioles: floral ones comose.

Inflated-calyxed Coleus. Pl.

25 C. Macræ'i (Benth. lab. p. 58.) pubescent; leaves on long petioles, ovate, acuminated, rounded or cuneated at the base; floral leaves deciduous; racemes paniculately branched; whorls quadrifariously cymose; common peduncles almost wanting on both sides, with much elongated branches, and very short pedicels; fructiferous calyx nutant, glabrous, a little inflated at the base: throat naked inside: upper tooth ovate, acutish, with revolute edges; corolla with an exserted tube, a very wide throat, and an elongated lower lip. ⊙.? S. Native of Ceylon, Macrae. Plant clothed with rufescent clammy pubescence. Leaves 2-3 inches long. Genitals hardly exserted.

Macrae's Coleus. Pl.

§ 3. *Teeth of calyx 4: lower ones nearly equal, free to the base, or hardly combined.*

26 C. glabra'tus (Benth. lab. p. 58.) leaves petiolate, ovate-roundish, serrately crenated, thick, stiff, glabrous; floral leaves minute, deciduous; racemes terminal, pubescent, simple, panicle-formed; whorls loosely cyme-formed; common peduncles elongated on both sides, as well as their branches; fructiferous calyx glabrous, elongated: upper tooth ovate, concave above:

lower ones combined at the base, lanceolate-acute. ⊙.? S. Native of the Peninsula of India, about Madura, Wight.

Glabrous Coleus. Pl. 1 foot.?

27 C. Wíghtii (Benth. lab. p. 58.) stem pubescent; leaves petiolate, ovate, crenated, rounded or subcordate at the base, thick, wrinkled, hispid on both surfaces: floral leaves deciduous; raceme terminal, simple, panicle-formed; whorls loosely cyme-formed; common peduncle elongated on both sides, as well as its branches; calyxes rather longer than the pedicels, declinate in the fructiferous state, pubescent: upper tooth ovate, flattish: lower ones lanceolate, acute, scarcely connate at the base; throat of corolla widened; lower lip about 4 times longer than the upper one. ⊙.? S. Native of the Indian Peninsula, on the Nielgherry mountains.

Wight's Coleus. Pl.

28 C. paniculàtus (Benth. in Wall. pl. rar. asiat. 2. p. 16. lab. p. 59.) stem procumbent at the base, pubescent; leaves petiolate, broad ovate, deeply toothed, rounded or cuneated at the base, thick, fleshy, hispid: floral ones deciduous; raceme simple, terminal, panicle-formed; whorls loosely cyme-formed; common peduncles with their branches and pedicels elongated on both sides; fructiferous calyx declinate, pubescent: throat naked inside: upper tooth ovate, flat: lower lanceolate-subulate, hardly connate at the base; corolla with an ample throat, and with the lower lip hardly twice as long as the upper one. ⊙.? S. Native of the Indian Peninsula, on the mountains of Dindygul. This differs from *C. Wightii* in the broader, thicker, fleshy, more cut leaves, which are cuneated or narrowed at the base, not cordate, &c.

Panicled-flowered Coleus. Pl.

† *A species not known to which section of the genus it belongs.*

29 C. tuberòsus (Benth. lab. p. 59.) leaves ovate-crenated, cuneated, and quite entire at the base, rather scabrous on both surfaces; whorls distinct; pedicels 1-flowered; calyx hairy: lower lip trifid, the middle segment semi-bifid; filaments monadelphous at the base. ♃.? S. Native of Java, in gardens. Plectránthus tuberòsus, Blum. bijdr. p. 838.—Rumph. amb. 5. p. 372. t. 132. f. 1.?

Tuberous-rooted Coleus. Pl.

Cult. For culture and propagation see *O'cymum*, p. 674.

X. ANISOCHI'LUS (from *ανισος, anisos,* unequal; and *χειλος, chilos,* a lip; in reference to the inequality of both lips of calyx and corolla.) Wall. pl. rar. asiat. 2. p. 18. Benth. lab. p. 59. Lavándula species, Lin. Plectránthus species, Roxb., Smith, and other authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, erectish, bilabiate; upper lip entire, after florescence lying upon the lower one, which is truncate, entire, or shortly 4-toothed, closing the calyx. Corolla with an exserted, defracted tube, a somewhat inflated throat, and a bilabiate limb: upper lip short, bluntly 3-4-cleft: lower lip entire, elongated, concave. Stamens 4, declinate; lower ones the longest; filaments free, toothless; anthers ovate-reniform, with confluent cells. Style subulate at apex, equally bifid; stigmas almost terminal.—Annual or perennial herbs. Whorls densely imbricate into oblong cylindrical spikes. Floral leaves bractea-formed, imbricated.

1. A. carnòsum (Wall. pl. asiat. rar. 2. p. 18. Benth. lab. p. 59.) stem erect; leaves petiolate, ovate-roundish, obtuse, crenated, cordate at the base, thick, fleshy, tomentosely villous on both surfaces; spikes on long peduncles; floral leaves ovate, obtuse; lower lip of calyx truncate, quite entire: upper lip ovate, acute, membranous, with ciliated edges. ♂. S. Native of the East Indies, in many places. Lavándula carnòsa, Lin. amœn. 10. p. 56. t. 3. Plectránthus carnòsus, Smith, in Rees, cycl. vol. 27. Plectránthus strobilíferus, Roxb. hort. beng. p. 45. Plectránthus dùbius, Spreng. syst. 2. p. 691. Plectránthus crassifòlius, Hortul.—Rheed. mal. 10. p. 179. t. 90. Stem branched, tetragonal, villous. Corolla lilac.

Var. β, purpuráscens (Benth. lab. p. 60.) spikes smoothish, purplish.

Var. γ, glàbrum (Benth. lab. p. 711.) Native of Ceylon. A. glàbra, Schrad. ind. sem. hort. goett. 1833. p. 1.

Fleshy Anisochilus. Fl. June, Sept. Clt. 1788. Pl. 2 feet.

2 A. pa'llidum (Wall. l. c. Benth. l. c.) stem erect; leaves petiolate, oblong-elliptic, narrowed at both ends, membranous, or hardly fleshy, nearly glabrous; spikes panicled; floral leaves lanceolate, acuminated; lower lip of calyx obliquely truncate, shortly 4-toothed: upper lip lanceolate, acute. ♂.? S. Native of the Birman Empire, on Mount Taong Dong. Leaves 2-3 inches long, and 1-2 broad, hardly hispid above, and almost glabrous beneath. Spikes pedunculate. Corolla of *A. carnòsum*, but more slender.

Pale Anisochilus. Pl. 2 feet.

3 A.? polysta'chyum (Benth. in Wall. pl. rar. asiat. 2. p. 19. lab. p. 60.) stem erect, branched; leaves nearly sessile, ovate-oblong, acuminated, serrated, cuneated at the base, clothed with fine pubescence, nerved beneath; spikes panicled; calyx incurved at top, with an obliquely 5-toothed mouth: upper tooth hardly longer than the rest. ⊙.? G. Native of Nipaul, near Hetownrah, in boggy places. Stem bluntly tetragonal, tomentose. Calyx clothed with rufous tomentum. Leaves 2-4 inches long.

Many-spiked Anisochilus. Pl.

4 A. dysophylloìdes (Benth. l. c.) stem procumbent at the base; branches ascending, clothed with silky villi; leaves nearly sessile, oblong-lanceolate, obtuse, quite entire, narrowed at the base; spikes axillary and terminal, pedunculate; lower lip of calyx minute, truncate: superior one small, acute, deflexed. ⊙.? G. Native of the Peninsula of India, on the Nielgherry mountains. Habit almost of *Dysophýlla rugòsa*. Plant clothed with soft, silky, rufescent pubescence. Stamens exserted.

Dysophylla-like Anisochilus. Pl. procumbent.

Cult. For culture and propagation see *O'cymum*, p. 674.

XI. Œolla'nthus (from *αιολλω, aiollo,* to vary; and *ανθος, anthos,* a flower.) Mart. amœn. bot. monac. 4. Benth. lab. p. 61.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, campanulate, truncate; teeth obsolete; throat naked inside, closed in the fructiferous state, and circumcised at the base. Corolla with an exserted tube, which is decurved beyond the calyx, and somewhat dilated above: limb bilabiate; upper lip broad, bluntly 4-toothed: lower lip entire, longer, concave. Stamens 4, declinate, didynamous; lower ones the longest; filaments free, toothless; anthers ovate-reniform, with confluent cells. Style shortly bifid at top; lobes subulate; stigmas minute, nearly terminal. This genus is nearly allied to *Anisochìlus*, from which it appears to differ only by the calyx.

1 Æ. sua'vis (Mart. l. c. 4. t. 2.) ⊙. H. Native of the East Indies.? Gathered by Martius in the Chinese Gardens at Santa Cruz, in Brasil. Stem obsoletely tetragonal, branched, pubescent. Leaves nearly sessile, obovate, entire, or obsoletely denticulated, narrowed at the base, thickish, pale green, glabrous, marked with impressed dots. Cymes or floriferous branches axillary and terminal, erect, usually trifid, furnished with floral

leaves under the divisions. Flowers secund, lilac. Plant with a sweet odour.

Sweet-scented Œollanthus. Fl. July, Aug. Clt. 1825. Pl. 1 foot.

Cult. For culture and propagation see *Ocymum*, p. 674.

XII. PYCHNO'STACHYS (from πυχνος, *pychnos*, dense; aed σταχυς, *stachys*, a spike; in allusion to the spikes being dense-flowered.) Hook. exot. fl. 2. t. 202. Benth. lab. p. 61.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, nearly equal, with 5 subulately-spinose teeth. Corolla with a defracted exserted tube, and a bilabiate limb; upper lip 4-toothed: lower one entire, concave. Stamens 4, declinate; lower 2 the longest; filaments free, toothless; anthers ovate-reniform, with confluent cells. Style subulate at apex, shortly and equally bifid.—Herbs. Whorls of flowers densely approximate into simple spikes. This genus differs from section *Pyramídium* of *Plectránthus* in the form of the calyx, and in habit.

1 P. cæru'lea (Hook. l. c.) ⊙. S. Native of Madagascar, Bojer. Stem and branches glabrous, tetragonal. Leaves sessile, oblong-linear, or lanceolate, acute, remotely serrated, narrowed at the base, glabrous, glandular beneath; floral ones bractea-formed, shorter than the calyx. Spikes dense, terminal, 1-2 inches long. Corollas small, blue.

Blue-flowered Pychnostachys. Fl. Aug. Clt. 1825. Pl. 2 to 3 feet.

Cult. For culture and propagation see *Ocymum*, p. 674.

XIII. PE'LTODON (from πελτη, *pelte*, a buckler; and οδους οδοντος, *odous odontos*, a tooth; in reference to the teeth of the calyx being terminated each by a peltate, sub-concave, ciliated, dilated appendage.) Pohl. pl. bras. 1. p. 66. Benth. lab. p. 62.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, equal, 5-toothed; teeth equal, erect, subulate, dilated at top into a peltate, sub-concave, ciliated appendage; throat bearded; increasing in the fruit-bearing state, membranous, and a little inflated. Tube of corolla straight, a little inflated, about equal in length to the calycine teeth; limb sub-bilabiate: upper lip bifid, spreading: lower lip trifid, longer and declinate: lateral lobes oblong, spreading: middle one somewhat stipitate, narrowed at the base, transversely somewhat callous, at length oblong, saccate, acute, quite entire, abruptly dejected at the time of expansion. Stamens 4, didynamous: lower ones the longest; filaments free, toothless, glabrous; anthers ovate-reniform, with sub-confluent cells. Style shortly bifid at apex; stigmas terminal, or sub-marginal. Achenia roundish, compressed, naked, smooth.—Herbs with the habit of *Hýptis capitàta*, from which they hardly differ, unless by the calyx.

1 P. pusi'llus (Pohl, pl. bras. 1. p. 67. t. 54.) stem humble, nearly simple; leaves sessile, elliptic, crenated, glabrous, pilose at the nerves; bracteas roundish, or cuneated at the base, pilose, rather exceeding the flowers. ♃. S. Native of Brazil, in dry pastures in the province of Goyaz, and the South of Brazil. Heads of flowers hemispherical. Corollas white.

Least Peltodon. Pl. procumbent, or erectish.

2 P. lóngipes (St. Hil. mss. ex Benth. lab. p. 63.) stem short, procumbent, nearly simple, glabrous, or pubescent; leaves sessile, elliptic, crenated, glabrous, or pilose on the nerves; bracteas rounded, or cuneated at the base, glabrous, or pilose, rather shorter than the flowers. ♃.? S. Native of Brazil, about rivulets near Santa Borja, in the missions of the Uruguay; and in fields near Curitiba, in the province of St. Paul. Very nearly allied to *P. pusíllus*, but differs in the peduncles being twice as long, in the bracteas being shorter, and in the calyxes and corollas being dark purple, not whitish yellow as in that species.

Long-peduncled Peltodon. Pl. procumbent.

3 P. radìcans (Pohl, pl. bras. 1. p. 68. t. 55.) stem creeping, branched, radicant, villous; leaves petiolate, ovate, bluntish, crenated, rounded, or somewhat cordate at the base, hispid on the nerves on both surfaces; bracteas crenated, cordate at the base. ♃. S. Native of Brazil, in grassy places in the provinces of Rio Janeiro and Minas Geraes; and south of these provinces. Stem tetragonal, elongated. Leaves 1-2 inches long. Inflorescence capitate. Corollas white.

Rooting Peltodon. Pl. creeping.

4 P. tomentòsus (Pohl, pl. bras. 1. p. 69. t. 56.) stem branched, villous; leaves oval, crenated, roundly cuneated at the base, and running into the petioles, pilose, tomentose beneath; outer bracteas cordately auricled, crenated, villous. ♃.? S. Native of Brazil, in the provinces of St. Paul and Minas Geraes, in dry pastures. Plant beset with rufous villi. Stem bluntly tetragonal. Inflorescence capitate. Corollas yellowish purple.

Tomentose Peltodon. Pl. 2 feet, ascending.

Cult. For culture and propagation see *Ocymum*, p. 674.

XIV. MARSYPIA'NTHUS (from μαρσυπος, *marsupos*, a purse; and ανθος, *anthos*, a flower; in reference to the shape of the flowers.) Mart. mss. Benth. lab. p. 64. Hýptis species of authors. Clinopòdium species, Vahl.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, narrowed at the base, equal, 5-toothed; teeth equal, lanceolate, erectly spreading; throat naked inside. Tube of corolla straight, about equal in length to the calycine teeth; limb sub-bilabiate; upper lip bifid; lower one trifid: lateral lobes like the lobes of the superior lip, ovate, erectly spreading, nearly equal: lower segment saccate, somewhat stipitate at the base, acuminated at apex, abruptly dejected at the time of florescence. Stamens 4, didynamous, declinate; lower 2 the longest; filaments free, toothless, glabrous; anthers ovate-reniform, with somewhat confluent cells. Style shortly bifid at top; lobes flattened a little; stigmas submarginal. Achenia ovoid, compressed, concave inside, with a membranous, involute, fringed border. This genus is very closely allied to the capitate flowered species of *Hýptis*, but differs in the calyx, and especially by the fruit.

1 M. hyptoìdes (Mart. mss. Benth. lab. p. 64.) ⊙. S. Native of Tropical America, in various places, as of Mexico, Trinidad, Porto Rico, Cayenne, Brazil, Guayaquil, &c. Herb annual, procumbent, branched, villous, glabrous, pubescent, or tomentose. Leaves more or less petiolate; upper ones nearly sessile, roundish-ovate, ovate-lanceolate, lanceolate, oblong, acute, or bluntish, serrated or crenated, narrowed, cuneated or roundish at the base, rarely subcordate. Whorls secund. Heads 6-30-flowered, sessile, or more or less pedunculate. Corolla blue, or purple, hardly exceeding the calyx.

Hyptis-like Marsypianthus. Fl. July, Aug. Clt. 1823. Pl. procumbent.

Cult. For culture and propagation see *Ocymum*, p. 674.

XV. HY'PTIS (from ὑπτιος, *hyptios*, resupinate; limb of corolla turned on its back.) Jacq. coll. 1. p. 101, 102. Poit. et Turp. ann. mus. vol. 7. Benth. lab. p. 64, and other recent authors.—Bystropògon species, Lher.—Ballòta and Népeta species, Lin. and other old authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, or

tubular, with a straight or oblique mouth; teeth 5, nearly equal, acute, or subulately awned. Corolla with the tube about equal in length to the calyx, 3-4-cleft, sub-bilabiate; the 4 upper lobes quite entire, flat, all distinct, or the upper 2 are joined: lower one abruptly deflexed at the time of florescence, saccate, contracted, and subarticulated at the base. Stamens 4, declinate; filaments free, toothless; anthers ovate-reniform, with confluent cells. Style about equally bifid at top; lobes subulate; stigmas for the most part terminal, minute on the inside of the lobes of the style, rarely altogether stigmatiferous; disk equal, the lower side generally furnished with an obtuse tooth. Achenia ovoid, oblong, or compressed, smooth, rarely wrinkled, and in some species margined by a flat wing, but never navicular.—Herbs or subshrubs. Inflorescence and habit very variable. "Looking to the large number of species, and to the great variety in their habit, it would seem at first more convenient to divide this group into a number of genera; but on examination the essential characters have proved to be so nearly the same in all, the difference consisting chiefly in the uncertain characters of inflorescence, that I have preferred considering the different groups into which they have been distributed as mere sections." Benth. lab. p. 65.

Sect. I. Gymne'ia (from *γυμνος*, *gymnos*, naked; in allusion to the stem being naked above.) Benth. lab. p. 77. Flowers sessile. Whorls many-flowered, nearly globose, disposed in dense spikes, or interrupted racemes. Bracteas numerous, adpressed, subulate. Fructiferous calyx rather membranous, recurved at apex; teeth subulate. Stem naked above; floral leaves minute.

1 H. virga'ta (Benth. lab. p. 77.) herbaceous; branches elongated, strict, nearly naked; leaves small, remote, nearly sessile, ovate-oblong, wrinkled, villous; whorls many-flowered, crowded into a short, terminal spike; bracteas small, subulate; calyx tubular, pubescent, recurved in the fructiferous state, with an oblique, membranous, reflexed mouth: teeth subulate, glabrous, about equal in length to the tube. ⊙. S. Native of Brazil. Stems many, tetragonal, glabrous, or pubescent at the base. Leaves 4-6 lines long. Spike 1 to 1½ inch long. Corolla short, white; upper lip marked with purple dots.

Twiggy Hyptis. Pl. 1 to 2 feet.

2 H. interru'pta (Pohl, pl. bras. ined. ex Benth. lab. p. 77.) herbaceous, tall, clothed with viscid pubescence; leaves petiolate, oblong-elliptic, erosely toothed, wrinkled, green on both surfaces, pubescent; whorls many-flowered, disposed into an interrupted, somewhat branched raceme; bracteas linear-subulate, acute, about equal in length to the calyx; calyx downy, tubular, recurved in the fructiferous state, with an oblique membranous mouth: teeth subulate, about equal in length to the tube. ⊙. S. Native of Brazil, in the provinces of Minas Geraes and Goyaz. Stem nearly simple. Leaves 1½ to 4 inches long. Corolla shorter than the calyx, downy, yellowish; upper lip spotted with purple.

Interrupted-racemed Hyptis. Pl. 2 to 3 feet.

3 H. platanifòlia (Mart. mss. ex Benth. lab. p. 77.) herbaceous, perennial; stem creeping, radicant; branches ascending, floccosely-woolly at the base, naked above; leaves on short petioles, broad-ovate, doubly crenated, and angularly lobed, subcordate at the base, pubescent above, but clothed with white tomentum beneath; whorls densely many-flowered, globose, remote, disposed in a terminal raceme; bracteas subulate, adpressed, about equal in length to the floriferous calyxes; calyx pubescent, recurved in the fructiferous state, membranous, with an oblique mouth, and subulate teeth. ♃. S. Native of Brazil, in the province of Bahia. Stems tetragonal. Leaves 2 inches long, like those of *Pópulus álba*. Floriferous calyx tomentose. Corolla rather shorter than the calycine teeth, white; upper segments spotted with brown; lower one somewhat rose-coloured.

Plane-tree-leaved Hyptis. Pl. 2 feet.

Sect. II. Spica'ria (from *spica*, a spike; in reference to the spiked inflorescence.) Benth. lab. p. 78. Flowers sessile. Whorls many-flowered, disposed in a dense spike, which is hardly interrupted at the base. Bracteas numerous, adpressed, linear-subulate. Fructiferous calyx straight, with subulate teeth.—Leafy herbs.

4 H. spicígera (Lam. dict. 3. p. 185.) herbaceous; stem tall, erect, branched, nearly glabrous, with rough angles; leaves petiolate, ovate, acuminated, serrated, cuneated at the base, pubescent, or nearly glabrous, pale beneath; floral leaves bractea-formed; bracteas equal in length to the calyxes. ⊙. S. Native of Tropical Africa and America, Madagascar, Manilla. Hýptis Madagascariénsis, Bojer, mss. ex Sweet, hort. brit. ed. 2d. p. 594. Népeta foliis serràtis, Plum. icon. t. 162.—Sloane, hist. 1. p. 173. t. 108. f. 1. Stem bluntly tetragonal, glabrous, or pubescent. Leaves 1½ to 2 inches long. Corolla small, white, hardly longer than the calycine teeth.

Spike-bearing Hyptis. Fl.? Clt.? Pl. 2 to 3 feet.

5 H. lopha'ntha (Mart. mss. ex Benth. lab. p. 78.) herbaceous; stem humble, erect, branched, nearly glabrous, with hardly rough angles; leaves petiolate, oblong, obtuse, crenately serrated, narrowed at the base, nearly glabrous on both surfaces, pale beneath: floral leaves bractea-formed; whorls 6-10-flowered, approximate into terminal, interrupted spikes; bracteas linear, rather shorter than the calyxes; calyx pubescent, straight, with an equal, truncate mouth, and subulate, strict, rigid teeth. ⊙. S. Native of Brazil, in grassy pastures in the province of Minas Geraes, on Serro Frio. Nearly allied to *H. spicígera*, but differs in the humble stem, which is much branched at the base, in the small, obtuse leaves, and interrupted spikes, and larger calyxes.

Crest-flowered Hyptis. Pl. ½ to 1 foot.

6 H. stri'cta (Benth. lab. p. 79.) herbaceous; stem erect. clothed with scabrous pubescence; leaves on short petioles, oblong-lanceolate, obtuse, coarsely serrated, narrowed at the base, rather villous above, but clothed with hoary tomentum beneath; raceme branched a little; whorls many-flowered: upper ones disposed in interrupted spikes: lower ones in short spikelets; bracteas subulate, shorter than the calyxes; calyx nearly glabrous, tubular, straight, with a truncate mouth, and subulate teeth. ⊙. S. Native of the South of Brazil, Sello. Stem nearly simple, tetragonal. Lower leaves 1½ to 2½ inches long. This is an intermediate species between the sections *Spicària*, *Apodòtes*, and *Polydésmia*.

Strict Hyptis. Pl. 2 to 3 feet.

Sect. III. Apodòtes (from *a*, priv.; and *πους*, *pous*, a foot; in reference to the heads of flowers being sessile.) Benth. lab. p. 79. Flowers sessile. Whorls composed of two sessile heads, which are sometimes distinct, axillary, remote, rarely disposed in a terminal, interrupted raceme. Bracteas subulate, or lanceolate. Fructiferous calyx straight; teeth subulate, or lanceolate-subulate, stiffish. Herbs with leafy, or naked stems.

7 H. nudicau'lis (Benth. lab. p. 79.) herbaceous; stems simple, erect, nearly naked, clothed with silky wool; leaves almost all radical, oval, obtuse, crenated, wrinkled, hispid; racemes simple; whorls globose, many-flowered: upper ones approximate; bracteas subulate, equal in length to the flowers; calyx pubescent, tubular, with short, acute teeth. ⊙.? S. Native of Brazil, in the provinces of Minas Geraes and Goyaz,

&c. Stems rising from a woody base. Leaves 2-3 inches long. Corolla small, dirty purple, hardly downy, about equal in length to the tube of the calyx.

Naked-stemmed Hyptis. Pl. 2 to 3 feet.

8 H. seri'cea (Benth. lab. p. 79.) stems simple, clothed with silky wool, almost leafless at top; leaves nearly sessile, ovate, obtuse, almost quite entire, thick, nerved, clothed with silky wool on both surfaces; heads globose, densely many-flowered, on short peduncles, racemose; bracteas subulate, about equal in length to the heads; calyx tubular, clothed with silky wool, with subulate teeth, which at length spread a little. ♃. S. Native of the South of Brazil, Sello. Stems many from a perennial base. Leaves approximate towards the middle of the stem, 2 inches long. Corolla exceeding the calyx. Genitals exserted.

Silky Hyptis. Pl. 2 feet.

9 H. uncina'ta (Benth. lab. p. 80.) branches clothed with rufous tomentum; leaves nearly sessile, ovate-oblong, serrately crenated, roundly cuneated at the base, rather scabrous above, hispid, but clothed with rufous tomentum on the nerves beneath; heads globose, densely many-flowered, axillary, sessile; bracteas lanceolate, about equal in length to the heads, subulate and hooked at top; calyx campanulate, with stiff, subulately awned, hooked teeth. ☉.? S. Native of Peru, Ruiz. et Pav. Throat of calyx clothed with rufous wool inside. Corolla rather shorter than the calycine teeth.

Hooked-calyxed Hyptis. Pl. 2 to 3 feet.?

10 H. hirsu'ta (H. B. et Kunth, nov. gen. amer. 2. p. 318. t. 161.) branches clothed with rufous hairs; leaves sessile, or on short petioles, oblong-ovate, cuneated, and narrowed at the base, erosely crenated, wrinkled, villous; heads sessile, globose, densely many-flowered; bracteas lanceolate, about equal in length to the calyx; calyx hispid, with lanceolate-subulate, stiff teeth, which at length spread a little; achenia wrinkled. ☉.? S. Native of New Andalusia, in arid places on Mount Tumiriquiri, Humb. et Bonpl.; Brazil, in the province of Minas Geraes, &c., Mart. Sello. Branches tetragonal. Heads sessile, or on short peduncles, the whole forming an interrupted raceme. Corolla hispid outside, a little longer than the calyx. Genitals a little exserted.

Hairy Hyptis. Pl. 2 to 4 feet.?

Sect. IV. Plagiòtis (from πλαγιος, *plagios*, transverse; and ους ωτος, *ous otos*, an ear.) Benth. lab. p. 80. Heads axillary, pedunculate, globose, densely many-flowered. Bracteas numerous, adpressed, ovate. Fructiferous calyx inflated at the base, elongated, with an incurved mouth, and short, ovate, unequal teeth. Habit of species unlike the rest.

11 H. odora'ta (Benth. lab. p. 81.) stems clothed with rusty tomentum; leaves on short petioles, oblong-elliptic, crenated, rounded at the base, scabrous above, and tomentose beneath; heads globose, densely many-flowered, paniculately much branched; calyx villous, elongated in the fructiferous state, incurved, with an oblique, shortly 5-toothed mouth. ♄. G. Native of Peru, Ruiz. et Pav. A shrub with the habit of a species of *Búddlea*. Leaves 2-3 inches long. Calyx tomentosely hispid. Corolla a little exserted.

Sweet-scented Hyptis. Shrub.

12 H. uliginòsa (St. Hil. mss. ex Benth. lab. p. 81.) herbaceous, small, glabrous; leaves sessile, lanceolate, acute, serrated, cordately stem-clasping at the base; peduncles axillary, simple; heads small, globose, dense; bracteas ovate, about equal in length to the heads; fructiferous calyx inflated at the base, with a contracted, oblique mouth, and very short, unequal teeth. ♃.? S. Native of Brazil, in the province of St. Paul, in boggy parts of woods. Habit of *Gratìola*. Stem nearly simple. Leaves ½ to 1 inch long. Lower peduncles shorter than the leaves. Corolla minute.

Bog Hyptis. Pl. ¼ to ½ foot.

Sect. V. Cy'rta (from κυρτος, *cyrtos*, a curve, in allusion to the curved apex of the fructiferous calyx.) Benth. lab. p. 81. Heads axillary, pedunculate, globose, densely many-flowered. Bracteas numerous, adpressed, subulate. Fructiferous calyx elongated, recurved at top, with subulate teeth. "The first species of this section come very near the second and third divisions of *Cephalohýptis;* the four latter only differ from *Cyanocéphalus* in the ripe calyxes being recurved at the extremity." Benth. l. c.

13 H. recurva'ta (Poit. ann. mus. 7. p. 467. t. 28. f. 2.) stem herbaceous, erectish, villous; leaves on short petioles, ovate, crenated, rounded at the base, or subcordate, wrinkled, villous: upper ones small, nearly sessile; heads globose, densely many-flowered, on long peduncles; receptacle naked; bracteas subulate, about equal in length to the calyxes; fructiferous calyx tubular, villous, recurved, with a truncate mouth, and subulate teeth. ♃.? S. Native of America, within the tropic, in various places. H. macrocéphala, Bert. mss. Angles of stem acute, rough. Leaves hardly an inch long. Teeth of calyx purplish. Corolla pale yellow.

Var. β, *hirsùtior* (Benth. lab. p. 81.) stem and leaves more densely hairy. ♃.? S. Native of Brazil, in the province of Minas Geraes.

Var. γ, *grandifòlia* (Benth. l. c.) leaves twice the size of those of the species, membranous, and green like the rest of the plant. ♃.? S. Native near Rio Janeiro.

Recurved-calyxed Hyptis. Fl. July. Clt. 1820. Pl. 4 to 6 feet.

14 H. paludòsa (St. Hil. mss. ex Benth. lab. p. 82.) herbaceous, clothed with soft, silky villi; leaves on short petioles, ovate, acute, serrated, roundly cuneated at the base, wrinkled, clothed with soft villi, canescent beneath; heads globose, densely many-flowered; peduncles 2-3 times longer than the heads; bracteas subulate, adpressed, about equal in length to the calyxes; receptacle naked; fructiferous calyx tubular, downy, recurved, with a somewhat dilated mouth, and lanceolate-subulate teeth. ♃.? S. Native of Brazil, in many places by the sea-side. Flowers white. Nearly allied to *H. recurvàta*.

Marsh Hyptis. Pl. 2 to 3 feet.?

15 H. microphy'lla (Pohl, icon. ined. ex Benth. lab. p. 82.) herbaceous, clothed with hoary pubescence; leaves on short petioles, ovate, crenated, narrowed at the base, wrinkled; heads globose, densely many-flowered; peduncles 2-3 times longer than the heads; receptacle naked; bracteas subulate, adpressed, about equal in length to the calyxes; fructiferous calyx tubular, tomentose, recurved, with a somewhat dilated mouth, and lanceolate-subulate segments. ♃.? S. Native of Brazil, in the provinces of Minas Geraes and St. Paul, in humid pastures, and inundated places. Leaves and heads smaller than those of *H. recurvàta*, and the peduncles shorter. Corolla flesh-coloured.

Small-leaved Hyptis. Pl. 2 to 3 feet.?

16 H. divarica'ta (Pohl, icon. ined. ex Benth. lab. p. 82.) herbaceous, divaricate; branches ascending, twiggy, clothed with hoary pubescence; leaves linear-lanceolate, remote, serrated at top, narrowed a long way at the base, green above, canescent beneath; heads globose, densely many-flowered, pedunculate; bracteas subulate, adpressed, about equal in length to the calyx; receptacle nearly naked; calyx tubular, pubescent, with the mouth at length rather oblique, and the teeth subulate. ♃.? S. Native of Brazil, in fields near rivulets in the province of Goyaz. Stem much branched at the base, leafy; branches

bluntly tetragonal. Lower leaves 1-2 inches long. Corolla pale purplish.

Divaricate Hyptis. Pl. 2 to 3 feet.

17 H. LAVANDULA'CEA (Pohl, icon. ined. ex Benth. lab. p. 82.) herbaceous, clothed with white tomentum, erect; branches twiggy; leaves linear, denticulated at apex, narrowed at the base; heads globose, densely many-flowered, on long peduncles; bracteas subulate, adpressed, about equal in length to the calyxes; receptacle naked; calyx tubular, pubescent, with the mouth at length oblique, and the teeth subulate. ♃.? S. Native of Brazil, in the province of Goyaz, near Fazenda de Camelliera. Allied to the preceding, but the habit is erect, and the whole plant hoary, and the leaves longer and narrower.

Lavender-like Hyptis. Pl. 2 to 3 feet.?

18 H. CAPRARIÆFÒLIA (Pohl, icon. bras. ined. ex Benth. lab. p. 83.) suffruticose, branched at the base; branches tall, almost naked at top, clothed with short pubescence; leaves small, fascicled, nearly sessile, lanceolate-cuneated, acute, toothed, narrowed at the base, green, pubescent; heads on long peduncles, small, globose, densely many-flowered; bracteas subulate, about equal in length to the head; receptacle naked; fructiferous calyx elongated, recurved: teeth subulate, pubescent, shorter than the tube. ♄. S. Native of Brazil, in the province of Goyaz, on Serra do Chrysais, and on Mount Clarvo.

Capraria-leaved Hyptis. Shrub.

19 H. DESERTÒRUM (Pohl, icon. ined. ex Benth. lab. p. 83.) branches erect, clothed with rufous tomentum; leaves petiolate, ovate, obtuse, crenated, narrowed at the base, thick, wrinkled, clothed with rusty villi on both surfaces; heads on long peduncles, globose, densely many-flowered; receptacle naked; bracteas equal in length to the head, linear, clothed with rufous villi; fructiferous calyx elongated, recurved: teeth linear, clothed with rufous villi. ♃.? S. Native of Brazil, in the pastures of deserts at Rio Parahybuna, in the province of Minas Geraes.

Desert Hyptis. Pl. 2 to 3 feet.?

20 H. BRUNNE'SCENS (Pohl, icon. ined. ex Benth. lab. p. 83.) shrubby;? branches clothed with short, rufous tomentum; leaves petiolate, ovate-oblong, obtuse, crenated, narrowly rounded at the base, wrinkled, scabrous above, and clothed with rufous tomentum beneath; heads on long peduncles, globose, densely many-flowered; receptacle naked; bracteas subulate, about equal in length to the calyxes; fructiferous calyx elongated, recurved: teeth subulate, clothed with soft villi, shorter than the tube. ♄.? S. Native of Brazil, in the province of Goyaz, at Engendo dos Bois.

Brunnescent Hyptis. Shrub.?

21 H. REFLE'XA (St. Hil. mss. ex Benth. lab. p. 83.) herbaceous, erect, densely clothed with rufous villi; leaves nearly sessile, ovate, acute, sharply and unequally toothed, narrowly cuneated at the base, clothed with very soft villi; heads on long peduncles, globose, densely many-flowered; bracteas subulate, about equal in length to the calyxes; receptacle nearly naked; fructiferous calyx elongated, recurved: teeth subulate, clothed with soft villi, shorter than the tube. ♃.? S. Native of Brazil, in grassy fields near Araxa, in the province of Minas Geraes. Stems many, a little branched. Corolla purplish violet, downy. Plant fetid.

Reflexed-calyxed Hyptis. Pl. 1 to 2 feet.

22 H. CARDIOPHY'LLA (Pohl, icon. ined. ex Benth. lab. p. 84.) stems erect, strict, densely clothed with white hairs; leaves sessile, stem-clasping, broadly heart-shaped, acute, a little serrated, clothed with soft silky wool; heads pedunculate, globose, densely many-flowered; bracteas subulate, beset with soft villi, about equal in length to the head; receptacle naked; fructiferous calyx elongated, recurvedly deflexed: teeth subulate, villous. ♃. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Stems many, simple, or sparingly branched. Corollas blue.?

Heart-leaved Hyptis. Pl. 1 to 1½ foot.

SECT. VI. CYANOCE'PHALUS (from κυανος, *kyanos*, blue; and κεφαλη, *kephale*, a head; the heads of flowers are blue.) Benth. lab. p. 84. Heads globose, densely many-flowered. Bracteas numerous, adpressed, equal in length to the head, subulate, soft, villous, reflexed on the peduncle. Receptacle naked, or clothed with short pubescence. Fructiferous calyx membranous, turbinately tubular, straight, or a little incurved, glabrous at base; teeth subulate, straight, clothed with soft villi, about equal in length to the tube. Corolla scarcely exceeding the calycine teeth.—Usually hard herbs, or sub-shrubs. Heads of flowers few towards the tops of the branches, generally on long peduncles. When young several of the first species of this section cannot be distinguished from some species of the sect. *Cyrta*. Others, by the slight inflation of the tube of the calyx at its maturity, come very near the section *Xanthiophæ'a*, ex Benth.

23 H. LANA'TA (Pohl, icon. ined. ex Benth. lab. p. 84.) suffruticose; branches clothed with wool like hairs; leaves numerous, sessile, ovate, acutish, crenated, cordately stem-clasping at the base, clothed with wool like hairs on both surfaces, nervosely wrinkled beneath; heads pedunculate, densely many-flowered; receptacle nearly naked; bracteas subulate, about equal in length to the head; calyx nearly straight, with subulate teeth, which are clothed with woolly villi, and are about equal in length to the tube. ♃. S. Native of Brazil, in the province of Goyaz, at Agua Gente and Traheras.

Woolly Hyptis. Pl. 1 to 2 feet.?

24 H. ADPRE'SSA (St. Hil. mss. ex Benth. lab. p. 84.) stems erect, strict, nearly simple, pubescent; leaves sessile, erect, ovate-lanceolate, acute, crenately serrated, rounded at the base, subcordately stem-clasping, stiff, nerved, glabrous, or tomentose; heads globose, densely many-flowered, on long peduncles; receptacle naked; bracteas subulate, equal in length to the head; calyx straight: teeth subulate, clothed with soft villi, about equal in length to the tube. ♃.? S. Native of Brazil, in the province of Goyaz, in fields near Torquilla. Habit and flowers similar to *H. cardiophylla*.

Adpressed Hyptis. Pl. 1 to 2 feet.

25 H. RÍGIDA (Pohl, icon. ined. ex Benth. lab. p. 85.) suffruticose; branches pubescent, erect; leaves sessile, ovate, acutish, serrately crenated, cordately stem-clasping at the base, wrinkled, clothed with very short rufous pubescence beneath; heads on long peduncles, globose, densely many-flowered; receptacle nearly naked; bracteas subulate, about equal in length to the head of flowers; calyx straightish: teeth subulate, clothed with soft villi, about equal in length to the tube. ♄. S. Native of Brazil, in the province of Minas Geraes. This species differs from *H. nervòsa* in the leaves being narrower and less canescent, and in the heads being smaller, &c.

Rigid Hyptis. Shrub.

26 H. FRAGILIFÒLIA (St. Hil. mss. ex Benth. lab. p. 85.) suffruticose; branches erect, pubescent; leaves sessile, ovate-roundish, obtuse, crenated, cordately stem-clasping at the base, stiff, nearly glabrous above, and at length shining, reticulately veined beneath, and nearly glabrous; heads pedunculate, globose, densely many-flowered; receptacle naked; bracteas subulate, about equal in length to the head; calyxes straight: teeth subulate, clothed with soft villi, about equal in length to the tube. ♄. S. Native of Brazil, in the province of Minas Geraes, near Pentra. Corolla pale purple.

Brittle-leaved Hyptis. Shrub.

27 H. nervòsa (Pohl, icon. ined. ex Benth. lab. p. 85.) suffruticose; branches villously hispid; leaves sessile, ovate-roundish, obtuse, crenated, cordately stem-clasping at the base, wrinkled, pubescent above, and clothed with hoary tomentum beneath; heads on long peduncles, globose, densely many-flowered; receptacle nearly naked; bracteas subulate, about equal in length to the head; calyx straightish: teeth subulate, clothed with soft villi, about equal in length to the tube. ♄. S. Native of Brazil, in the province of Minas Geraes, between Estiva and Rio de Prata.

Nerved-leaved Hyptis. Shrub.

28 H. ca'ndida (Pohl, icon. ined. ex Benth. lab. p. 85.) suffruticose; branches clothed with white tomentum; leaves sessile, ovate, bluntish, crenated, cordately stem-clasping at the base, wrinkled, canescent above, but clothed with white tomentum beneath; heads on long peduncles, globose, densely many-flowered; receptacle nearly naked; bracteas subulate, about equal in length to the head; calyx nearly straight: teeth subulate, clothed with soft villi, about equal in length to the tube. ♄. S. Native of Brazil, between Rio Jequitinhonha and Barreros, in the province of Minas Geraes.

Whitened Hyptis. Shrub.

29 H. molli'ssima (Benth. lab. p. 85.) suffruticose; branches elongated, villous; leaves sessile, ovate-roundish, acutish, crenated, cordately stem-clasping at the base, nervosely wrinkled, clothed with very soft villi on both surfaces; peduncles longer than the leaves; heads globose, densely many-flowered; bracteas subulate, equalling the head; receptacle naked; calyxes nearly straight: teeth subulate, clothed with soft villi, rather longer than the tube. ♄. S. Native of Brazil, in the province of Minas Geraes, &c., in hedges and cultivated places. Stem woody at base. Branches almost simple, tetragonal. Corolla obscure violet, shorter than the calycine teeth.

Very soft Hyptis. Shrub 4 to 5 feet.

30 H. argu'ta (Pohl, icon. ined. ex Benth. lab. p. 86.) suffruticose? tall; branches densely clothed with rufous villi; leaves petiolate, broad-ovate or roundish, sharply toothed, thick, wrinkled, densely villous on both surfaces; heads on long peduncles, globose, densely many-flowered; receptacle naked; bracteas subulate, equal in length to the head; calyx nearly straight: teeth subulate, clothed with very soft villi, about equal in length to the tube. ♄. S. Native of Brazil, in pastures of deserts at Rio Parahybuna, in the province of Minas Geraes. This species differs from its nearest allies, in the more densely villous, larger leaves.

Sharp-toothed-leaved Hyptis. Shrub.

31 H. rugòsa (Benth. lab. p. 86.) stem shrubby; branches pubescently villous; leaves on short petioles, ovate-roundish, acute, sharply and serrately crenated, rounded or cordate at the base, wrinkled, clothed with short rufous villi on both surfaces; heads on long peduncles, globose, densely many-flowered; bracteas subulate, about equal in length to the head; calyx nearly straight: teeth subulate, clothed with soft villi, rather longer than the tube. ♄. S. Native of Brazil, on Serra das Carancas, in the province of Minas Geraes, &c. Leaves 6-9 lines long, usually 3 in a whorl, thick, hard.

Wrinkled-leaved Hyptis. Shrub 2 feet.

32 H. cunea'ta (Pohl, icon. ined. ex Benth. lab. p. 86.) suffruticose?; branches erect, tomentosely pubescent; leaves on short petioles, obovate, broadly crenated, narrowed at the base, stiff, rather scabrous above, reticulated beneath, and clothed with rufous pubescence; heads globose, on long peduncles; receptacle naked; bracteas subulate, equalling the head; calyx straight: teeth subulate, clothed with soft villi, about equal in length to the tube. ♄. S. Native of Brazil, in deserts at Rio Parahybuna, in the province of Minas Geraes.

Cuneate-leaved Hyptis. Shrub.

33 H. lippioi'des (Pohl, icon. ined. ex Benth. lab. p. 86.) shrubby?; branches clothed with rufous tomentum; leaves on short petioles, ovate, crenated, rounded at the base, pubescent above, but reticulated and clothed with rufous tomentum beneath, rigid; heads on long peduncles, globose, densely many-flowered; receptacle naked; bracteas subulate, equalling the head; calyx nearly straight: teeth subulate, clothed with soft villi, about equal in length to the tube. ♄. S. Native of Brazil, in the province of Goyaz. Nearly allied to *H. rígida*, with the habit of *H. nervòsa*; but the leaves are constantly petiolate, and ovate at the base, and not cordately stem-clasping.

Lippia-like Hyptis. Shrub.

34 H. selaginifòlia (Mart. mss. ex Benth. lab. p. 87.) shrubby; branches subfasciculate, stiff, nearly glabrous, nodose; leaves small, nearly sessile, linear, acute, sharply serrated, narrowed at the base, stiff, glabrous, smooth; heads on long peduncles, globose, densely many-flowered; receptacle naked; bracteas subulate, equalling the head; calyxes erectish: teeth subulate, soft, villous, about equal in length to the tube. ♄. S. Native of Brazil, in the province of Minas Geraes. Habit and heads like those of *H. rugòsa*, but the form of the leaves is very distinct.

Selago-leaved Hyptis. Shrub.

35 H. peduncula'ris (Benth. lab. p. 87.) pubescent; leaves remote, sessile, lanceolate, obtuse, serrated, rounded at the base, rather coriaceous, glabrous above, shining and nerved beneath, clothed with fine down; heads on long peduncles, globose, densely many-flowered; receptacle nearly naked; bracteas subulate, equal in length to the heads; calyx nearly straight: teeth subulate, clothed with soft villi, about equal in length to the tube. ♃.? S. Native of Brazil, in the province of Minas Geraes, in grassy fields at Serro Frio and Villa de Tepico, &c. Stem nearly simple. Leaves 2 inches long, but shorter than the internodes. Peduncles twice as long as the leaves. Calyx tubular.

Long-peduncled Hyptis. Pl. 1 to 2 feet.?

36 H.? bidenta'ta (Pohl, icon. ined. ex Benth. lab. p. 87.) herbaceous?; branches erect, strict, clothed with short tomentose pubescence; leaves on short petioles, lanceolate-ovate, sharply and doubly serrated, cuneate at the base, nervosely wrinkled, pubescent on both surfaces, or clothed with rufous tomentum beneath; heads on long peduncles, globose, densely many-flowered; receptacle naked; bracteas subulate, about equal in length to the head; fructiferous calyx elongated, a little recurved: teeth subulate, clothed with soft pubescence, shorter than the tube. ♃.? S. Native of Brazil, in pastures of deserts at Rio Parahybuna, in the province of Minas Geraes. Habit of *H. incìsa*, but the fructiferous calyx is a little recurved. Perhaps belonging to this or the preceding section.

Twice-toothed-leaved Hyptis. Pl. 2 to 3 feet.?

37 H. inci'sa (St. Hil. et Mart. mss. ex Benth. lab. p. 87.) nearly glabrous, or clothed with clammy pubescence; stems procumbent at the base, ascending; leaves on short petioles, ovate or lanceolate, acute, irregularly and deeply serrated, undulated, roundedly cuneated at the base, stiff, nearly glabrous on both surfaces; heads on long peduncles, globose, densely many-flowered; receptacle naked; bracteas subulate, equalling the heads; calyx nearly straight: teeth subulate, soft, villous, about equal in length to the tube. ♃.? S. Native of Brazil, in the province of Minas Geraes, on Serro Frio. Allied to *H. pedunculàris*, but differs in the leaves. Leaves about an inch long, and, like the peduncles, are often 3 in a whorl.

Cut-leaved Hyptis. Pl. procumbent.

38 H. lóngipes (St. Hil. mss. ex Benth. lab. p. 88.) suffruticose, nearly glabrous, or clothed with tomentose pubescence;

leaves petiolate, oblong-lanceolate, bluntish, irregularly and bluntly toothed, with undulated margins, narrowly cuneated at the base, stiff, complicate, clothed with rufous down on both surfaces; heads on long peduncles, globose, densely many-flowered; bracteas subulate, equalling the heads; receptacle naked; calyx pubescent, straight: teeth subulate, soft, villous, about equal in length to the tube. ♄. S. Native of Brazil, in the woods called Carrascos, in that part of the province of Minas Geraes called Minas Novas. This species differs from *H. incìsa*, in the longer, petiolate, complicate leaves. Corollas purplish. The whole herb is clammy and fetid.

Long-peduncled Hyptis. Pl. 2 to 3 feet.

39 H. A'LBIPES (St. Hil. mss. ex Benth. lab. p. 88.) hairs adpressed, woolly; stems procumbent; leaves nearly sessile, ovate-lanceolate, acute, serrately crenated, cuneated at the base, clothed with soft villi on both surfaces; heads on long peduncles, globose, densely many-flowered; bracteas subulate, equalling the heads; receptacle naked; calyx villous, with soft villous teeth, which are rather shorter than the tube. ♃.? S. Native of Brazil, in the province of Minas Geraes, in fields near Salgado. Leaves 1 to $1\frac{1}{2}$ inch long: lower ones petiolate. Heads of the preceding.

White-peduncled Hyptis. Pl. procumbent.

40 H. ELONGA'TA (Benth. lab. p. 88.) clothed with soft pili; leaves on short petioles, oblong, acute, remotely and deeply crenated or serrated, narrowed at the base, clothed with soft hoary villi on both surfaces; heads on long peduncles, globose, densely many-flowered; receptacle nearly naked; bracteas linear-subulate, exceeding the calyxes; calyx densely villous: teeth subulate, clothed with very soft villi, longer than the tube. ♄. S. Native of Peru, in various places, Ruiz. et Pav. and Mathews. Stem woody at the base, procumbent. Branches erect, nearly terete. Leaves glandular beneath. Corolla scarcely exceeding the calyx.

Elongated Hyptis. Pl. 1 foot.

SECT. VII. ERIOSPHÆ'RIA (from εριον, *erion*, wool; and σφαιρα, *sphaira*, a sphere; in allusion to heads of flowers being woolly.) Benth. lab. p. 88. Heads semiglobose, densely many-flowered. Bracteas numerous, adpressed, lanceolate, or linear; those of the fruit bearing heads, spreading, not reflexed on the peduncles, clothed with silky tomentum or wool. Receptacle very villous or woolly. Calyx campanulate, straight, almost glabrous near the base, very villous or woolly at top; teeth generally short, straight. Corolla hardly exceeding the calyx.—Herbs or subshrubs, generally hard. Heads of flowers usually on short peduncles, few towards the tops of the branches, clothed with soft silky tomentum or woolly villi.

41 H. LEUCOCE'PHALA (Mart. mss. ex Benth. lab. p. 89.) suffruticose, procumbent at the base; branches ascending, clothed with hoary pubescence above, and glabrous below; leaves nearly sessile, lanceolate, bluntly serrated, narrowed at the base, wrinkled, clothed with hoary tomentum beneath; heads small, on long peduncles, nearly globose, densely many-flowered, clothed with white wool; receptacle woolly; bracteas equalling the heads, and are, as well as the calycine teeth, which are subulate, clothed with soft villi. ♄. S. Native of Brazil, in sandy fields near Joazeiro, along the river San Francisco, in the province of Bahia. Corolla exceeding the calyx a little, rose-coloured. Plant aromatic. With the exception of this species, which has many of the characters of the sections *Cyanocéphalus* and *Cephalohýptis*, the rest of them form a very natural section.

White-headed Hyptis. Shrub procumbent.

42 H. PASSERI'NA (Mart. mss. ex Benth. lab. p. 89.) shrubby, divaricate; branches clothed with silky tomentum; leaves nearly sessile, small, obovate-oblong, obtuse, quite entire, undulated, narrowed at the base, veinless, clothed with silky tomentum; heads small, semiglobose, densely many-flowered, on short peduncles; receptacle villous; bracteas lanceolate, obtuse, clothed with silky tomentum, about equal in length to the heads; calyx campanulate, clothed with silky villi: teeth short, lanceolate. ♄. S. Native of Brazil, on Serra de Piedade, in the province of Minas Geraes. Nearly allied to *H. Sellòi*, but differs in the ovate undulated leaves.

Sparrow Hyptis. Shrub.

43 H. SELLÒI (Benth. lab. p. 89.) stem shrubby, procumbent; branches clothed with silky tomentum; leaves sessile, linear, obtuse, quite entire, flat, narrowed at the base, veinless, clothed with hoary tomentum; heads small, semiglobose, densely many-flowered, on short peduncles; receptacle villous; bracteas lanceolate, clothed with silky tomentum, about equal in length to the heads; calyx campanulate, clothed with silky villi: teeth short, lanceolate. ♄. S. Native of the South of Brazil. Shrub divaricate. Branches nearly terete. Corolla glabrous, exceeding the tube of the calyx a little.

Sello's Hyptis. Shrub.

44 H. ANGUSTIFÒLIA (Pohl, icon. ined. ex Benth. lab. p. 89.) stem shrubby, erectish; branches clothed with silky tomentum; leaves nearly sessile, linear, acute, toothed at top, quite entire at the base, and narrowed a long way, veined, clothed with silky tomentum on both surfaces; peduncles longer than the heads, which are semiglobose and densely many-flowered; receptacle villous; bracteas lanceolate, clothed with silky tomentum, equalling the heads; calyx campanulate, clothed with silky villi: teeth short, very soft, lanceolate. ♄. S. Native of Brazil, on Serra de Ourada, in the province of Goyaz. Allied to *H. Sellòi*, and as if it was intermediate between it and *H. velutìna*. Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long: floral ones exceeding the head.

Narrow-leaved Hyptis. Shrub.

45 H. SAXA'TILIS (St. Hil. mss. ex Benth. lab. p. 90.) suffruticose; branches clothed with silky tomentum; leaves nearly sessile, oblong-lanceolate, acute, toothed at apex, quite entire at the base, and narrowed, veiny, clothed with silky tomentum on both surfaces; peduncles longer than the heads; heads semiglobose, densely many-flowered; receptacle villous; bracteas lanceolate, clothed with silky tomentum, about equal in length to the heads; calyx campanulate, clothed with silky wool: teeth short, lanceolate. ♄. S. Native of Brazil, in the province of Goyaz. Allied to *H. angustifòlia*, but differs in the form of the leaves.

Rock Hyptis. Shrub 1 to 2 feet.

46 H. HILA'RII (Benth. lab. p. 90.) herbaceous? hard, clothed with long, loose, silky wool; leaves nearly sessile, ovate-roundish, obtuse, crenulated, rounded at the base, thick, stiff; heads semiglobose, densely many-flowered, on short peduncles; receptacle very villous; bracteas ovate-lanceolate, about equal in length to the head; calyx clothed with woolly villi: teeth short, acute. ♃.? S. Native of Brazil, in the southern part of the province of Goyaz, on the stony mountain called Morro de Tisao. Stems nearly simple, 1 to $1\frac{1}{2}$ foot long. Leaves 1 to $1\frac{1}{2}$ inch long.

St. Hilaire's Hyptis. Shrub 1 to $1\frac{1}{2}$ foot.

47 H. VELUTI'NA (Pohl, icon. ined. ex Benth. p. 90.) herbaceous; the whole plant velvety from silky hairs; leaves oblong-lanceolate, obtuse, crenated, narrowed a long way into the petioles; heads semiglobose, densely many-flowered, on short peduncles; receptacle very villous; bracteas ovate or lanceolate, about equal in length to the heads; calyx very villous: teeth subulate, shorter than the tube. ♃. S. Native of Brazil, not far from Villa Boa, &c., in the province of Goyaz; and

near Paracatu, in the province of Minas Geraes. Habit of *Bupthálmum aquáticum*. Corolla pale purplish violet.

Velvety Hyptis. Pl. 1 to 2 feet.

48 H. origanoi'des (Pohl, icon. ined. ex Benth. lab. p. 91.) suffruticose, procumbent, clothed with adpressed pubescence; leaves oblong-ovate, obtuse, crenated, narrowed a short way into the petioles at the base; heads semiglobose, densely many-flowered, on short peduncles; receptacle villous; bracteas lanceolate-linear, about equal in length to the head; calyx very villous: teeth subulate, shorter than the tube. ♄. S. Native of Brazil, in the province of Goyaz, on the tops of the mountains called Chapado do Serra San Marcos, and elsewhere in the same province. Allied to *H. velutìna*, but differs in being less woolly, and in the stem being procumbent, &c.

Marjoram-like Hyptis. Shrub procumbent.

49 H. dictyoi'dea (Pohl, icon. ined. ex Benth. lab. p. 91.) branches stiff, panicled above, clothed with hoary villi; leaves on short petioles, oval, obtuse, crenately toothed, roundly cuneated at the base, scabrous above, reticulated beneath, and lacunosely wrinkled, pubescent on the nerves: upper ones acute, canescent beneath; heads pedunculate, semiglobose; receptacle woolly; bracteas ovate-lanceolate, villous, equalling the heads; calyx villous: teeth subulate, stiffish, villous, rather shorter than the tube. ♄.? S. Native of Brazil, at Fazenda Dios and Caldas; and on Serra San Felix, in the province of Goyaz.

Net-like Hyptis. Shrub.?

50 H. Adama'ntum (St. Hil. mss. ex Benth. lab. p. 91.) suffruticose, the whole plant velvety from silky hairs; leaves sessile, oval, acute, a little toothed, rounded at the base; heads semiglobose, densely many-flowered, on short peduncles; receptacle villous; bracteas lanceolate, acute, about equal in length to the head; calyx clothed with woolly villi: teeth short, lanceolate-subulate. ♄. S. Native of Brazil, in the province of Minas Geraes, in the diamond district, on the banks of the rivulet called Corrego Novo. Leaves hardly half an inch long. Corolla rose-coloured.

Diamond-district Hyptis. Shrub 2 to 2½ feet.

51 H. cæru'lea (St. Hil. mss. ex Benth. lab. p. 91.) herbaceous; stems procumbent, branched, villous; leaves small, numerous, sessile, ovate, obtuse, crenated, cordate at the base, wrinkled, pubescent; heads semiglobose, densely many-flowered; peduncles rather longer than the heads; bracteas lanceolate-linear, recurved, equal in length to the head; receptacle woolly; calyx very villous; teeth short, subulate. ♃.? S. Native of Brazil, in the province of Minas Geraes, on the mountain called Serra da Canastra. Herb much branched, humble, procumbent. Corollas blue.

Blue-flowered Hyptis. Pl. procumbent.

52 H. alpe'stris (St. Hil. mss. ex Benth. lab. p. 92.) herbaceous; stems ascending or erect, sparingly branched, clothed with rufous villi; leaves numerous, sessile, ovate-oblong, obtuse, crenated, cordately stem-clasping at the base, reflexed, wrinkled, clothed with velvety pubescence; heads semiglobose, densely many-flowered; peduncles about equal in length to the heads; bracteas lanceolate-linear, equalling the head; receptacle woolly; calyx very villous, with short subulate teeth. ♃.? S. Native of Brazil, in humid grassy places near Serra da Canastra, in the province of Minas Geraes. All parts of the plant are larger than in *H. cærùlea* and *H. gratiolæfòlia*.

Alp Hyptis. Pl. elongated.

53 H. gratiolæfòlia (St. Hil. mss. ex Benth. lab. p. 92.) herbaceous; stems erect, branched at the base; branches twiggy, clothed with rufous villi; leaves small, numerous, sessile, ovate-obtuse, crenated, cordate at the base, wrinkled, clothed with rufous pubescence; heads semiglobose, densely many-flowered; peduncles equal in length to the heads; receptacle woolly; bracteas lanceolate-linear, rather longer than the head, recurved at top; receptacle woolly; calyx very villous: teeth subulate, about equal in length to the tube. ♃.? S. Native of Brazil, in elevated plains in the western parts of the province of Minas Geraes. Very like *H. cærùlea*, in stature, leaves, and heads, but differing in the bracteas and calycine teeth being longer. Heads few, approximating into a terminal corymb.

Gratiola-like Hyptis. Pl. 2 to 3 feet.?

54 H. Goyave'nsis (St. Hil. mss. ex Benth. lab. p. 92.) herbaceous or suffruticose? ascending or erect; branches densely villous; leaves sessile, ovate-elliptic, obtuse, crenated, cordate at the base, wrinkled, villous; heads semiglobose, densely-many-flowered; peduncles shorter than the heads; bracteas linear, straight, equalling the heads; receptacle woolly; calyx very villous: teeth short, subulate. ♄.? S. Native of Brazil, in fields near Laage, in the southern region of the province of Goyaz. Plant with a hard or shrubby base. Corollas azure blue, downy. Differs from *H. cærùlea* in the form of the leaves and habit; and from *H. crenàta* in the mutic bracteas and short calycine teeth.

Goyaz Hyptis. Shrub 1 foot.

55 H. ova'ta (Pohl, icon. ined. ex Benth. lab. p. 92.) stem herbaceous, erect, stiff, villous; leaves sessile, ovate, obtuse, crenated, cordate at the base, reticulately wrinkled, clothed with tomentose pubescence on both surfaces; heads semiglobose, densely many-flowered, on short peduncles; receptacle very villous; bracteas lanceolate at the base, and are, as well as the calyxes, very villous; teeth of calyx long-subulate, glabrous. ♃.? S. Native of Brazil, between Allegres and Trinidada, in the province of Minas Geraes. Differing from *H. crenàta*, in the broader smoother leaves, &c.

Ovate-leaved Hyptis. Pl. 1 to 2 feet.?

56 H. crena'ta (Pohl, icon. ined. ex Benth. lab. p. 93.) herbaceous; stem erect, stiff, villous; leaves sessile, oblong-ovate, obtuse, crenated, rounded at the base, villous on both surfaces, reticulately wrinkled; heads semiglobose, densely many-flowered; receptacle woolly; bracteas lanceolate at the base, long-subulate at apex, exceeding the calyxes; calyx densely villous, with villous subulate teeth, which are hardly longer than the tube. ♃.? S. Native of Brazil, in the provinces of Minas Geraes, Goyaz, and Bahia, &c. A very polymorphous species, beset with long spreading hairs, and more or less clothed with rusty tomentum. It is distinguished from its nearest ally, *H. cærùlea*, by the bracteas ending in long subulate points.

Crenated-leaved Hyptis. Pl. 1 foot.

57 H. turneræfòlia (Mart. mss. ex Benth. lab. p. 93.) suffruticose; branches pubescent; leaves nearly sessile, oblong-lanceolate, obtuse, a little crenated, rounded at the base or cordate, clothed with soft adpressed villi, pale beneath; heads semiglobose, densely many-flowered, on short peduncles; receptacle woolly; bracteas lanceolate-linear, equal in length to the head; calyx very villous at top: teeth subulate, shorter than the tube. ♄. S. Native of Brazil, in the province of Minas Geraes, at Serro Frio, &c. Habit of *Pulicària dyssentérica*. Leaves rather tomentose beneath. Corolla hardly longer than the calyx, white: the upper lip marked with purple.

Turnera-leaved Hyptis. Shrub 1 to 2 feet.?

58 H. asteroi'des (St. Hil. mss. ex Benth. lab. p. 93.) stems erect, lanceolate, obtuse, crenated, cordate at the base, with revolute edges, wrinkled, villous; heads pedunculate, globose, densely many-flowered; bracteas lanceolate-subulate, about equal in length to the head; receptacle woolly; calyx very

villous at top: teeth subulate, longer than the tube. ♃.? S. Native of Brazil. Stems numerous. Habit of *A'ster*, section *Galatélla*. Leaves like those of *Myosòtis láppula*. Heads like those of *H. crenàta*, but the calycine teeth are less recurved.

Aster-like Hyptis. Pl. 1 foot.

Sect. VIII. Ooce'phalus (from *ωον*, *oon*, an egg; and *κεφαλη*, *kephale*, a head; in allusion to the ovoid or egg-shaped heads of flowers.) Benth. lab. p. 94. Heads ovoid, dense, few-flowered. Bracteas numerous, adpressed, ovate. Calyx tubularly campanulate, straight: teeth subulate, clothed with soft villi, longer than the tube.—Subshrubs or shrubs. Heads peduncled, panicled at the tops of the branches.

59 H. halimifòlia (Mart. mss. ex Benth. lab. p. 94.) suffruticose?; branches ascending, hoary; leaves nearly sessile, ovate, obtuse, quite entire, rounded at the base, hoary on both surfaces; heads pedunculate, ovate, hoary, densely many-flowered; receptacle naked; bracteas ovate, bluntish, about equal in length to the head; calyx tubular, with villous subulate teeth. ♄. S. Native of Brazil, in high stony fields at Villa do Rio de Contas, in the province of Bahia. Colour of plant that of *A'triplex Hálimus*. Corolla exserted a little.

Halimum-leaved Hyptis. Shrub.

60 H. crassifòlia (Mart. mss. ex Benth. lab. p. 94.) suffruticose; branches densely and tomentosely hispid; leaves numerous, sessile, rounded, very blunt, cordately stem-clasping at the base, very hairy on both surfaces, with revolute edges; heads on short peduncles, ovate-globose, dense, 6-10-flowered; receptacle naked; bracteas lanceolate, equal in length to the heads, very hispid; calycine teeth subulate, very villous, about equal in length to the tube. ♄. S. Native of Brazil, in rocky places at Villa do Rio de Contas, in the province of Bahia. A humble shrub, with a divaricate base. Leaves hardly $\frac{1}{2}$ an inch long. Corolla exserted, downy outside.

Thick-leaved Hyptis. Shrub dwarf.

61 H. lacunòsa (Pohl, icon. ined. ex Benth. lab. p. 94.) shrubby; branches clothed with soft villi; leaves nearly sessile, ovate, bluntish, scarcely crenated, cordate at the base, wrinkled, rufescent beneath, or canescent, tomentosely pubescent; heads pedunculate, ovate, densely few-flowered; receptacle naked; bracteas ovate, adpressed, one half shorter than the calycine teeth; calyx villous, with subulate, softly villous teeth, which are longer than the tube. ♄. S. Native of Brazil, in the province of Minas Geraes, in various places. Heads 4-10-flowered. Corolla hardly exceeding the calycine teeth.

Lacunose Hyptis. Shrub.

Sect. IX. Trichosphæ'ria (from *θριξ τριχος*, *thrix trichos*, a hair; and *σφαιρα*, *sphaira*, a sphere; in allusion to the plumose calycine teeth, which gives a hair-like appearance to the heads of flowers.) Benth. lab. p. 95. Heads globose, densely many-flowered. Bracteas numerous, adpressed, subulate, reflexed on the peduncle in the fructiferous heads. Receptacle naked. Calyx campanulate, straight: teeth filiform, softly plumose, much longer than the tube. Corolla shorter than the calycine teeth.—Shrubs or subshrubs, usually clothed with tomentum. Heads numerous, on long peduncles, amply panicled, usually bluish.

62 H. crini'ta (Benth. lab. p. 95.) stem shrubby; branches clothed with hoary tomentum; leaves nearly sessile, oblong-lanceolate, acutish, quite entire or somewhat serrated, narrowed at the base, clothed with hoary tomentum, a little wrinkled; floral leaves shorter than the peduncles; heads globose, densely many-flowered; bracteas linear or subulate, shorter than the head; receptacle naked; calyx villous. ♄. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Leaves opposite or 3 in a whorl. Corollas pale red.

Var. β, polycéphala (Benth. lab. p. 95.) leaves smaller, and more tomentose; heads numerous. ♄. S. Native of Brazil.

Long-haired Hyptis. Shrub 2 to $2\frac{1}{2}$ feet.

63 H. spiræfòlia (Mart. mss. ex Benth. lab. p. 95.) shrubby; branches clothed with hoary tomentum; leaves on short petioles, cuneate-oblong or obovate, obtuse or mucronulate, crenated, cuneated at the base, clothed with hoary tomentum beneath, stiffish; panicle ample; heads on short peduncles, globose, densely many-flowered; bracteas subulate, about equal in length to the head; calyx villous. ♄. S. Native of Brazil, in the province of Minas Geraes, in desert fields, on Serro Frio, at the river Jequitinhonha. Branches tetragonal. Leaves 3 in a whorl.

Spiræa-leaved Hyptis. Shrub 2 to 3 feet.

64 H. Martiu'sii (Benth. lab. p. 95.) shrubby; branches finely tomentose; leaves petiolate, ovate-oblong, obtuse, crenated, roundly cuneated at the base, a little wrinkled above, and pubescent, but clothed with hoary tomentum beneath; heads globose, densely many-flowered, pedunculate, panicled; bracteas subulate, rather shorter than the head; fructiferous calyx elongated, with an inflated tube. ♄. S. Native of Brazil, in the province of Bahia, in woods between Santa Anna and Santo Antonio das Quebradas. Corollas white.

Martius's Hyptis. Shrub 5 to 6 feet.

65 H. eriophy'lla (Pohl, icon. ined. ex Benth. lab. p. 96.) shrubby; branches clothed with white or rufous wool; leaves nearly sessile, oval, obtuse, crenated, rounded at the base, villous or tomentose above, but clothed with hoary tomentum, or floccose wool beneath: heads densely globose, many-flowered, pedunculate, panicled; bracteas linear-subulate, rather shorter than the head. ♄. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Corollas blue.

Var. β, coriifòlia (Benth. l. c.) plant less tomentose. ♄. S.

Woolly-leaved Hyptis. Shrub 2 to 3 feet.

66 H. brachyphy'lla (Mart. mss. ex Benth. lab. p. 96.) shrubby; leaves petiolate, broad-ovate, obtuse, crenated, rounded at the base, wrinkled, clothed with short, rather rufous tomentum; heads globose, densely many-flowered, pedunculate, panicled; bracteas subulate, rather shorter than the head; fructiferous calyx elongated, with an inflated tube. ♄. S. Native of Brazil, in the province of Minas Geraes, in fields at Serro Frio. Nearly allied to *H. eriophýlla*, but differs in the leaves being shorter and broader.

Short-leaved Hyptis. Shrub.

67 H. multiflòra (Pohl, icon. ined. ex Benth. lab. p. 96.) shrubby; branches clothed with hoary tomentum; leaves on short petioles, ovate-roundish, sharply crenated, clothed with white tomentum beneath, coriaceous, stiff; panicle very ample; heads on short peduncles, globose, densely many-flowered; bracteas subulate, about equal in length to the head; calyx villous. ♄. S. Native of Brazil, in the provinces of Minas Geraes and Bahia.

Many-flowered Hyptis. Shrub.

Sect. X. Xanthiophæ'a (from *ξανθος*, *xanthos*, yellow; and *φαιος*, *phaios*, brown; so called probably from the colour of the plants.) Mart. mss. ex Benth. lab. p. 97. Heads globose, densely many-flowered. Bracteas numerous, adpressed, subulate. Calyx turbinately campanulate, membranous in the fructiferous state, inflated in the middle, and contracted at the mouth; teeth subulate, stiff, erect, or spreading. Tube of corolla equal in length, or rather longer than the calyx.

—Procumbent or divaricate herbs, with the heads of flowers on long peduncles.

68 H. sideri'tis (Mart. mss. ex Benth. lab. p. 97.) herbaceous, procumbent; branches ascending, very pilose; lower leaves petiolate: rameal ones nearly sessile, ovate, acute, sharply serrated, rounded or cordate at the base, stiff, green on both surfaces, and pilosely hispid; heads few, pedunculate, globose, densely many-flowered; bracteas equal in length to the heads; receptacle naked; calyx hispid, with 5-10 unequal, subulate, stiff, divaricate teeth. ♃.? S. Native of Brazil, in the province of Minas Geraes, in places which are inundated during the winter. Herb pale green. Corolla violaceous, twice as long as the calyx.

Sideritis-like Hyptis. Pl. procumbent.

69 H. loba'ta (St. Hil. mss. ex Benth. lab. p. 97.) herbaceous, procumbent, pilosely pubescent; leaves broad-ovate, acute, sinuately lobed, crenated, cordate at the base, green on both surfaces; heads on long peduncles, globose, densely many-flowered; bracteas about equal in length to the head; receptacle naked; calyx hispid, with 5-6 nearly equal, subulate, stiff, pubescent teeth, which are shorter than the tube. ♃.? S. Native of Brazil, in pastures near San Joze, in the province of St. Paul. Stems usually rooting at the nodi. Leaves like those of *Althæ'a hirsùta*: floral ones sessile. Corolla blue. Odour fetid.

Lobed-leaved Hyptis. Pl. procumbent.

70 H. lagena'ria (St. Hil. mss. ex Benth. lab. p. 98.) herbaceous; branches ascending, nearly glabrous; leaves petiolate, ovate, acuminated, acute, doubly toothed, rounded at the base, green, pubescent; heads pedunculate, panicled, nearly globose, densely many-flowered; receptacle naked; bracteas about equal in length to the head; calyx glabrous, with subulate teeth, which are shorter than the tube. ♃.? S. Native of Brazil. Bracteas, as well as the teeth of the calyx, generally hooked at top. Calyx usually 5-toothed.

Bottle-shaped-calyxed Hyptis. Pl. ascending.

Sect. XI. Cephalohy'ptis (from κεφαλη, *kephale*, a head; and *Hýptis*.) Benth. lab. p. 98. Heads semi-globose, or at length globose, densely many-flowered. Bracteas numerous, adpressed, ovate, lanceolate, linear, rarely subulate. Receptacle glabrous, rarely villous. Calyx campanulate or tubular, straight, glabrous, pubescent, or villously hispid, never woolly: teeth subulate or lanceolate at the base, rarely very short and obtuse. Corolla exceeding the calyx a little.—Herbs or subshrubs, with axillary, pedunculate, or nearly sessile heads of flowers.

§ 1. Gnidiæfòlia (from *Gnidia and fòlia*; in reference to the leaves resembling those of the genus *Gnìdia*.) Benth. lab. p. 98. *Leaves small, quite entire, cordate at the base, with revolute edges. Fructiferous heads globose, villous. Bracteas ovate, or lanceolate.*

71 H. imbrica'ta (Pohl, icon. ined. ex Benth. lab. p. 98.) branches erect or ascending, twiggy, pilose; leaves sessile, erect, adpressed to the stem, imbricate, with revolute ciliated edges, dilately cordate at the base, glabrous; heads globose, densely many-flowered; peduncles rather shorter than the leaves; bracteas ovate, acute, stiff, rather longer than the head; calyx campanulate, hispid, glabrous at the base, with subulate villous teeth, which at length spread. ♃. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Corolla with the 2 upper segments red, the lower one rose-coloured, and the lateral ones yellowish. Receptacle glabrous.

Imbricate-leaved Hyptis. Pl. ascending.

72 H. ditassoi'des (Mart. mss. ex Benth. lab. p. 99.) suffruticose; branches villous; leaves small, sessile, numerous, spreading, very blunt, quite entire, with revolute edges, cordately stem-clasping at the base, blistered, and quite glabrous above, one-nerved, and villous beneath; heads densely globose, many-flowered, on very short peduncles; bracteas lanceolate, villous; calyx nearly glabrous at the base, elongated, with very villous subulate teeth. ♄. S. Native of Brazil, in the province of Minas Geraes, on Serro Frio. Habit of *Penæ'a* or *Ditássa*. Receptacle very pilose.

Ditassa-like Hyptis. Shrub.

§ 2. Lavandula'ceæ (so called from the leaves being like those of Lavender.) Benth. lab. p. 99. *Leaves narrowed at the base, and quite entire, a little toothed at top. Fructiferous heads globose, villous. Bracteas lanceolate, or linear.*

73 H. linarioi'des (Pohl, icon. ined. ex Benth. lab. p. 99.) suffruticose; branches erect, strict, tall, somewhat canescent; leaves sessile, linear, almost quite entire, clothed with fine hoary pubescence; heads nearly globose, densely many-flowered, on long peduncles; bracteas lanceolate, clothed with white tomentum: exteror ones exceeding the head; receptacle nearly naked; calyx villous, with subulate, erect, softly villous teeth, which are about equal in length to the tube. ♄. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes, in fields. Corollas white, spotted with purple. Very nearly allied to *H. strictíssima*, and only differs in the heads being larger and more villous, &c.

Linaria-like Hyptis. Shrub.

74 H. stricti'ssima (Pohl, icon. ined. ex Benth. lab. p. 99.) suffruticose; branches erect, strict, tall, clothed with short adpressed pubescence; leaves sessile, linear, almost quite entire, narrowed at the base, clothed with fine hoary pubescence; heads nearly globose, densely many-flowered, on long peduncles; bracteas linear: exterior ones about equal in length to the head; receptacle naked; calyx tubularly campanulate, villous: teeth subulate, erect, one half shorter than the tube. ♄. S. Native of Brazil, in the provinces of Goyaz, on the tops of the mountains called Chapada do Serra San Marcos.

Very-strict Hyptis. Shrub.

75 H. densifòlia (Pohl, icon. ined. ex Benth. lab. p. 100.) suffruticose; branches erect, clothed with short adpressed pubescence; leaves sessile, oblong, quite entire, or denticulated at top, narrowed at the base, veiny, nearly glabrous, or clothed with fine tomentose pubescence; heads globose, densely many-flowered, on long peduncles; bracteas lanceolate: outer ones longer than the heads, obtuse; receptacle naked; calyx tubularly campanulate, villous: teeth subulate, erect, much shorter than the tube. ♄. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Habit of *H. linarioìdes*, from which it appears to differ only in the broader leaves.

Dense-flowered Hyptis. Shrub.

76 H. veronicæfòlia (Pohl, icon. ined. ex Benth. lab. p. 100.) stem procumbent, pubescent; leaves sessile, oval, toothed at top, rounded at the base, cuneated, nearly glabrous on both surfaces; heads on long peduncles, nearly globose, densely many-flowered; bracteas lanceolate, obtuse, about equal in length to the head; receptacle naked; calyx tubular, villous: teeth subulate, erect, one half shorter than the tube. ♃.? S. Native of Brazil, in the province of Goyaz, at Engenho, near San Sebastian.

Speedwell-leaved Hyptis. Pl. procumbent.

§ 3. Pedunculòsæ (so called from the heads being supported by long peduncles.) Benth. lab. p. 100. *Heads of flowers*

semi-globose, on long peduncles. Bracteas subulate. Calyx glabrous, or pubescent : teeth subulate.

77 H. TETRAGÒNA (Pohl, icon. ined. ex Benth. lab. p. 100.) stem erect, nearly glabrous : angles acute, pubescent; leaves on short petioles, oval, obtuse, crenated, narrowed at the base, wrinkled, rather scabrous above, but clothed with rusty pubescence beneath; peduncles elongated : lower ones branched; heads nearly globose, densely many-flowered; bracteas subulate, equal in length to the calyxes; calyx tubularly campanulate, rather villous : teeth lanceolate, stiff, nearly glabrous. ♃.? S. Native of Brazil, in the province of Goyaz, at Engenho dos Boys.

Tetragonal-stemmed Hyptis. Pl.?

78 H. MULTIBRACTEA'TA (Benth. lab. p. 100.) herbaceous, glabrous or pubescent at top, pilose on the nodi; leaves on short petioles, ovate, acuminated, serrated, rounded at the base, or running down the petioles, very villous, wrinkled; peduncles tomentose, rather longer than the heads, which are semiglobose, and densely many-flowered; bracteas very numerous, linear, somewhat radiant, rather longer than the head; calyx nearly glabrous, with short, linear, lanceolate, stiff teeth. ♃.? S. Native of Brazil, in the provinces of Bahia, Rio Janeiro, and Minas Geraes. Allied to *H. lantanæfòlia*, from which it differs in the petiolate leaves, and in all the bracteas being linear-subulate. Leaves 1 to 1½ inches long.

Many-bracted Hyptis. Pl.?

§ 4. LATIBRACTEA'TÆ (so named on account of the broad bracteas.) Benth. lab. p. 401. *Heads of flowers semi-globose. Bracteas broad-ovate. Calyx glabrous, or pubescent, with subulate teeth.*

79 H. PETIOLA'RIS (Pohl, icon. ined. ex Benth. lab. p. 101.) herbaceous, erect; stem nearly glabrous : angles hispid; leaves on long petioles, broad-ovate, acute, doubly serrated, glabrous or hispid above; heads semiglobose, on long peduncles, densely many-flowered; bracteas ovate, acute, veiny, ciliated, nearly glabrous, equal in length to the head; calyx nearly glabrous : teeth lanceolate-subulate, stiff, equalling the tube. ♃.? S. Native of Brazil, in the province of Goyaz, at Aldeja Maria.

Long-*petioled* Hyptis. Pl. 1 to 2 feet.?

80 H. LANTANÆFÒLIA (Poit. in ann. mus. 7. p. 468. t. 29. f. 1.) herbaceous, villous; leaves nearly sessile, ovate or oblong, serrately crenated, narrowed at the base, wrinkled, tomentose beneath; heads globose, densely many-flowered, on long peduncles; bracteas ovate, acuminated : outer ones very broad, rather longer than the calyxes; receptacle villous; calyx pubescent at the base, with lanceolate, subulate, acute, stiff teeth, which are rather spiny. ♃. S. Native of tropical America, from Mexico to the province of Minas Geraes, in Brazil, Trinidad, and Porto Rico. Stem creeping and rooting at the base. Branches ascending. Corolla hardly longer than the calyx, white : upper lip spotted with purple.

Lantana-leaved Hyptis. Pl. 2 feet.

81 H. ATRORU'BENS (Poit. ann. mus. 7. p. 466. t. 27. f. 2.) stem creeping and rooting at the base; branches ascending, pilosely pubescent; leaves petiolate, ovate, crenated, roundly cuneated at the base, hispid above, but pale, glabrous, or pilose beneath; heads pedunculate, globose, densely many-flowered; bracteas broad-ovate, membranous, veiny, hardly shorter than the heads; calyx membranous, tubular, truncate, with subulate, strict teeth. ♃. S. Native of tropical America, in shady places, from Mexico to Maranham, in Brazil; St. Domingo, Martinica, St. Vincent, &c. H. procúmbens, Schiede et Deppe, in Linnæa, 5. p. 101. Plant beset with long spreading hairs. Corolla white : 2 upper segments spotted with red : lower ones pale brown, pubescent outside.

Dark-red Hyptis. Pl. procumbent.

§ 5. MARRUBIA'STRÆ (so called from the plants having the appearance or habit of *Marrùbium*, or Horehound.) Benth. lab. p. 102.) *Heads of flowers at length globose. Bracteas linear. Calyx campanulate, membranous at the base, glabrous, generally villous at top : teeth lanceolate-subulate. Leaves more or less sinuated.*

82 H. MÓLLIS (Pohl, icon. ined. ex Benth. lab. p. 102.) herbaceous, clothed with rufous villi; leaves on short petioles, ovate, obtuse, irregularly serrate-crenated, rounded at the base, cuneated or cordate, clothed with soft, rufous, adpressed villi, on both surfaces; peduncles equal in length to the heads, which are nearly globose, and densely many-flowered; receptacle pilose; calyx campanulate, with a very villous mouth, and lanceolate-subulate teeth, which are shorter than the tube. ♃. S. Native of Brazil, in the province of Minas Geraes. Leaves 1 to 1½ inch long.

Soft Hyptis. Pl. 2 feet.

83 H. MARRUBIA'STRA (Pohl, icon. ined. ex Benth. lab. p. 102.) herbaceous; stem erect, clothed with rufous villi; leaves on short petioles, irregularly toothed, somewhat sinuated, roundedly cordate at the base, villous on both surfaces; peduncles villous, longer than the heads, which are nearly globose, and densely many-flowered; calyx membranous, nearly glabrous : teeth subulate, villous, longer than the tube. ♃. S. Native of Brazil, in the province of Goyaz, Pohl.; and towards Cochabamba, in Peru.

Horehound-like Hyptis. Pl. 2 feet.?

84 H. ANGULÒSA (Schott. mss. Pohl, icon. ined. ex Benth. lab. p. 102.) herbaceous; stem erect, clothed with rufous villi; leaves petiolate, ovate, acute, somewhat hastate, deeply serrated or irregularly and sinuately lobed, roundly truncate at the base, villous above and on the nerves beneath, or at length glabrous; peduncles villous, shorter than the heads, which are nearly globose, and densely many-flowered; bracteas lanceolate or oblong-linear : outer ones hardly exceeding the heads; receptacle naked; calyx campanulate, nearly glabrous, with short lanceolate teeth, which spread at length in a stellate manner. ♃.? S. Native of Brazil, in the provinces of Rio Janeiro and Minas Geraes. Stem more or less beset with rufous hairs. Leaves 2-4 inches long.

Angular-stemmed Hyptis. Pl. 4 to 5 feet.

85 H. SINUA'TA (Pohl, icon. ined. ex Benth. lab. p. 103.) herbaceous; stem erect, glabrous; leaves petiolate, ample, broad-ovate, acute, sinuately lobed, crenated, truncate at the base, or subcordate, hispid above, and on the nerves beneath; peduncles nearly glabrous, about equal in length to the heads, which are nearly globose, and densely many-flowered; bracteas lanceolate or oblong-linear, about twice as long as the heads; receptacle nearly naked; calyx campanulate : teeth lanceolate-subulate, at length spreading in a stellate manner. ♃.? S. Native of Brazil, in the provinces of Minas Geraes and Goyaz.

Sinuated-leaved Hyptis. Pl. 3 to 4 feet.

§ 6. GENUI'NÆ (so called on account of the species contained in this section being supposed to be legitimate.) Benth. lab. p. 103. *Heads of flowers at length globose. Bracteas lanceolate. Calyx tubular, or campanulate, usually elongated after the time of flowering : teeth subulate, glabrous.*

86 H. LAPPA'CEA (Benth. lab. p. 103.) herbaceous, erect; branches glabrous, or clothed with adpressed pubescence;

leaves petiolate, oblong-lanceolate, acuminated, irregularly serrated, narrowed at the base, a little wrinkled, pubescent on both surfaces; heads at length globose, densely many-flowered, on short peduncles, subcorymbose at the tops of the branches; bracteas lanceolate, acuminated, about equal in length to the calyxes; calyx campanulate: teeth lanceolate at the base, rigidly and subulately awned. ♃. S. Native of Brazil, in the province of Entre Rios, Parker; in humid pastures from San Joze, in the province of Rio Grande to Santa Borja, in the missions of the Uruguay, &c. Stem acutely tetragonal. Leaves 1-3 inches long. Corolla white, hardly exceeding the calyx. Nearly allied to *H. radiàta*.

Burdock Hyptis. Pl. 2 to 3 feet.?

87 H. INVOLUCRA'TA (Benth. lab. p. 103.) herbaceous, erect, glabrous, or clothed with fine down; leaves sessile, elliptic or lanceolate, acute, serrated, cordate at the base; peduncles longer than the heads; heads semiglobose, densely many-flowered; bracteas broad-lanceolate, acute, much exceeding the head; receptacle naked; calyx campanulate, pubescent: teeth subulate, equalling the tube in length. ♃.? S. Native of Mexico, at Saltepec, Karwinski. Nearly allied to *H. capitàta* and *H. radiàta*.

Involucrated-headed Hyptis. Pl. 2 to 3 feet.?

88 H. LAPPULA'CEA (Mart. mss. ex Benth. lab. p. 104.) herbaceous, ascending, glabrous or pubescent; leaves petiolate, oblong-ovate, acute, serrated, cuneated at the base, or narrowed; peduncles longer than the heads; heads semiglobose, densely many-flowered; bracteas lanceolate or linear, equal in length to the head; fructiferous calyx campanulate: teeth subulate, stiff, longer than the tube. ♃. S. Native of Brazil, in marshy parts of woods, in the provinces of St. Paul and Rio Janeiro.

Lappula-like Hyptis. Pl. 2 to 3 feet.?

89 H. RAMÒSA (Pohl, icon. ined. ex Benth. lab. p. 104.) erect, glabrous; leaves petiolate, oblong-ovate, deeply serrated, or irregularly and sinuately toothed, quite entire at the base, cuneated or narrowed; peduncles longer than the heads, which are densely many-flowered; bracteas lanceolate-linear, obtuse, exceeding the head; calyx tubularly campanulate: teeth lanceolate, subulate, stiff, shorter than the tube. ♃. S. Native of Brazil, at Fazenda Allegres, in the province of Minas Geraes.

Branched Hyptis. Pl. 2 to 3 feet.?

90 H. INAMÆ'NA (Benth. lab. p. 104.) herbaceous, erect, glabrous; leaves nearly sessile, broad-ovate, bluntish, crenated, cuneately narrowed at the base; heads few, on long peduncles, globose, densely many-flowered; bracteas lanceolate, obtuse, equal in length to the heads; receptacle naked; calyx glabrous, tubular: teeth lanceolate-subulate, shorter than the tube. ♃. S. Native of Brazil, in fields at Rio Doce, Maximilian.—An inelegant plant, with the habit of *Verbesìna*.

Inelegant Hyptis. Pl. 2 to 3 feet.

91 H. CAPITA'TA (Jacq. icon. rar. 1. t. 114.) herbaceous, erect, nearly glabrous; leaves petiolate, oblong-ovate, deeply serrated, quite entire at the base, and cuneated or narrowed, glabrous on both surfaces, or hispid from a few pili; peduncles longer than the heads, which are globose and densely many-flowered; bracteas ovate-lanceolate or linear, shorter than the fructiferous heads; receptacle naked; fructiferous calyx elongated, tubular, truncate: teeth subulate, strict at length, shorter than the tube. ♃. S. Native of America, and of Mexico, West India Islands, &c.; also in Manilla, ex Cham. Poit. ann. mus. 7. p. 464. t. 27. f. 1. Clinopòdium capitàtum, Swartz, prod. fl. ind. occ. p. 88. Clinopòdium rugòsum, Lin. spec. 822. ex Jamaica.—Siderìtis, &c., Sloan. hist. jam. 1. p. 174. t. 109. f. 2. Stem bluntly tetragonal. Corollas white, tinged with red.

Capitate-flowered Hyptis. Fl. June, July. Clt. 1714. Shrub 3 to 4 feet.

92 H. BRE'VIPES (Poit. ann. mus. 7. p. 465.) stem nearly glabrous at the base, pubescent above; leaves petiolate, ovate-oblong or lanceolate, acute, irregularly serrated, narrowed at the base, rather hispid above, nearly glabrous beneath, rarely on both surfaces; peduncles shorter, or hardly longer than the heads, which are globose, and densely many-flowered; bracteas lanceolate-linear, acute, exceeding the head a little; calyx pubescent, truncate: teeth erect, subulate, strict, rather longer than the tube. ♃. S. Native of tropical America, from Mexico to Rio Janeiro, Philippines, Manilla, Celebes, &c., in humid places by the sides of rivers or rivulets. H. globífera, Meyer, esseq. p. 207.? H. acùta, Benth. in Linnæa, 6. p. 82. Stem tetragonal; angles hairy. Heads size of cherries. Corolla hardly longer than the calyx, white.

Var. β; plant more glabrous; calycine teeth stiffer, and more blunt. ♃. S. Native of Demerara and Orinoco. H. radiàta, H. B. et Kunth, nov. gen. amer. 2. p. 318.

Short-peduncled Hyptis. Fl. June, Aug. Clt. 1820. Pl. 2 to 3 feet.

93 H. GAUDICHAU'DI (Benth. in Linnæa, 6. p. 77. lab. p. 106.) herbaceous, erectish, glabrous, or clothed with fine pubescence: leaves petiolate, ovate, acute, irregularly serrate-crenated, or a little cut, rounded or cuneated at the base, or the upper ones are narrowed, rather hispid above, and nearly glabrous beneath; peduncles rather shorter than the heads, which are globose and densely many-flowered; bracteas lanceolate, about equal in length to the head; calyx rather membranous, tubular: teeth linear, erect, much shorter than the tube. ♃.? S. Native of Brazil, in grassy places at Rio Janeiro. Habit of *H. capitàta*, but smaller.

Gaudichaud's Hyptis. Pl. 1 to 2 feet.

94 H. LANCEOLA'TA (Poir. dict. suppl. 3. p. 114.) plant nearly glabrous; leaves petiolate, oblong-lanceolate or linear, narrowed at both ends, remotely serrated, quite entire at the base; peduncles shorter than the heads of flowers, which are globose and densely many-flowered; outer bracteas oblong-lanceolate, bluntish, longer than the head; fructiferous calyx smoothish, elongated, truncate: teeth subulate, strict, shorter than the tube. ♃. S. Native of Brazil, in Maranham.

Lanceolate-leaved Hyptis. Pl. 2 to 3 feet.

95 H. LONGIFÒLIA (Pohl, icon. ined. ex Benth. lab. p. 106.) stem erect, pubescent; leaves petiolate, oblong-lanceolate, acuminated, irregularly toothed, narrowed at the base, glabrous above, and rather villous beneath; peduncles longer than the heads, which are densely many-flowered; bracteas linear, exceeding the heads; calyx tubularly campanulate: teeth subulate, longer than the tube. ♃.? S. Native of Brazil, in the province of Goyaz, at Rio Trahiras, and on Serra San Felix. Hardly distinct from *H. lacústris*.

Long-leaved Hyptis. Pl. 2 to 3 feet.?

96 H. LANCEÆFÒLIA (Schum. pl. guin. in acad. hafn. 4. p. 35.) stem herbaceous, pubescent; leaves on short petioles, oblong-lanceolate, acutish, coarsely serrated, narrowed at the base, and quite entire; peduncles shorter than the heads, which are globose and densely many-flowered; bracteas lanceolate, obtuse, about equal in length to the head; calyx ovate, subinflated: teeth lanceolate-subulate, stiff, erect. ♃. S. Native of tropical Africa, in marshes about the Gambia. Stem procumbent at the base. Peduncles hispidly villous. Bracteas pubescent. Probably the same as *H. lacústris*. Branches bluntly tetragonal.

Lance-leaved Hyptis. Pl.

97 H. LACU'STRIS (St. Hil. mss. ex Benth. lab. p. 107.) glabrous; leaves petiolate, oblong-lanceolate, or the lower ones are ovate, acuminated, irregularly serrate-crenated, narrowed at the base, glabrous on both surfaces; peduncles longer than the heads, which are globose and densely many-flowered; bracteas lanceolate, obtuse, about equal in length to the head; fructiferous calyx membranous: teeth linear, shorter than the tube; upper tooth the broadest. ♃.? S. Native of Brazil, in water, in the province of St. Paul; and in humid places near Lake das Couchas, in the province of Rio Grande do Sul. Habit of *H. lanceolàta*. This species approaches the section *Plagiòtis*, in the upper calycine teeth being the longest.

Lake Hyptis. Pl. 2 to 3 feet.?

98 H. HOMALOPHY'LLA (Pohl, icon. ined. ex Benth. lab. p. 107.) branches clothed with rufous hairs; leaves on short petioles, oblong, or oblong-lanceolate, obtuse, cuneated or narrowed at the base, crenated, wrinkled, villous; heads on short peduncles, semiglobose, densely many-flowered; bracteas lanceolate, equalling the calyx; fructiferous calyx tomentose, elongated, inflated at the base: teeth very short, lanceolate, acute. ♃.? S. Native of Brazil, in elevated fields in the province of Minas Geraes, &c. Allied to *H. hirsùta*. Corolla white, spotted with purple.

Equal-leaved Hyptis. Pl. 1 to 1½ foot.

§ 7. BRACHYODÓNTES (from *βραχυς, brachys*, short; and *οδους οδοντος, odous odontos*, a tooth; in allusion to the short calycine teeth.) Benth. lab. p. 107. *Heads semiglobose, and at length hardly globose. Bracteas ovate or lanceolate. Calyx campanulate, with short, ovate, obtuse teeth.*

99 H. OBTUSIFLÒRA (Presl, mss. ex Benth. lab. p. 107.) suffruticose?; branches clothed with adpressed pubescence; leaves petiolate, ovate, or oblong-lanceolate, bluntish, crenated, narrowed at the base, hispid on both surfaces, or at length glabrous; peduncles shorter than the heads, which are nearly globose and densely many-flowered; bracteas ovate, striated, equalling the heads. ♄. S. Native of Peru, on Mount Huanuco, Hænke. Hairs on the younger branches and lower surfaces of the leaves rufescent. Corolla hardly exceeding the calyx.

Blunt-flowered Hyptis. Shrub.

100 H. PARKE'RI (Benth. lab. p. 108.) stem pubescent at top; leaves sessile, oblong-elliptic, or oblong-linear, acute, coarsely serrated, narrowed at the base, nerved, nearly glabrous; peduncles longer than the leaves; heads globose, densely many-flowered; bracteas lanceolate, linear, obtuse, rather longer than the head; calyx glabrous. ♃.? S. Native of Demerara. Peduncles pubescent. Leaves an inch long. Fructiferous calyx elongated, inflated at the base.

Parker's Hyptis. Pl. 2 to 3 feet.?

§ 8. XYLODÓNTES (from *ξυλον, xylon*, wood; and *οδους οδοντος, odous odontos* a tooth; in allusion to the teeth of the calyx being hard, and rather spiny.) Benth. lab. p. 108. *Heads of flowers semiglobose. Bracteas lanceolate or linear, subulate or very acute at apex. Calyx campanulate: teeth lanceolate at the base, subulate, stiff, glabrous, usually somewhat spinose.*

101 H. RADIA'TA (Willd. spec. 3. p. 84.) glabrous, herbaceous; leaves petiolate, ovate-lanceolate, acuminated, crenated, cuneated at the base, or narrowed; heads globose, densely many-flowered, pedunculate; bracteas oblong-lanceolate, obtuse, longer than the head; teeth of calyx rather spinose. ♃.? S. Native of the southern parts of North America, as of Carolina, Louisiana, and Mexico, at the Hacienda de La Laguna. Poit. ann. mus. 7. p. 466. t. 27. f. 2. Clinopòdium rugòsum, Lin. spec. 822.—Dill. hort. elth. 1. p. 88. t. 75. fig. 86. Stem acutely tetragonal. Leaves 1-3 inches long. Allied to *H. angustifòlia* and *H. capitàta*. Corolla pale purple.?

Rayed Hyptis. Fl. June, July. Clt. 1690. Pl. 4 to 5 feet.

102 H. RUBIGINÒSA (Benth. lab. p. 108.) suffruticose; branches divaricate, clothed with rubiginose tomentum; leaves on short petioles, ovate-oblong, very blunt, serrately crenated, cuneated at the base; heads semiglobose, densely many-flowered, on short peduncles; outer bracteas broad-ovate, rather exceeding the head; calyx villous, with stiff teeth. ♄. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes, &c., in fields. Leaves 1½ inch long, pubescent above, and tomentose beneath, and rusty like the whole plant. Corolla white, spotted with purple.

Rusty Hyptis. Shrub 2 to 2½ feet.

103 H. LUTE'SCENS (Pohl, icon. ined. ex Benth. lab. p. 109.) herbaceous, procumbent?, clothed with rusty villi; leaves on short petioles, ovate, obtuse, serrately crenated, cuneated at the base, rather scabrous above, and clothed with rufous pubescence beneath; heads semiglobose, densely many-flowered, on short peduncles; bracteas ovate-lanceolate, rather exceeding the head; calyx nearly glabrous, with stiff teeth, which are equal in length to the tube. ♃.? S. Native of Brazil, in the provinces of Goyaz, Minas Geraes, and Bahia. Very nearly allied to *H. rubiginòsa*.

Var. β, hirsùta (Benth. lab. p. 712.) heads numerous, axillary, on short peduncles. ♃.? S. Native of Rio Grande.

Yellowish Hyptis. Pl. procumbent.

104 H. AFFI'NIS (Benth. lab. p. 109.) erect,? clothed with rufous tomentum; leaves on short petioles, ovate, bluntish, narrowed at the base, wrinkled; heads semiglobose, densely many-flowered: superior ones panicled; peduncles rather shorter than the heads; bracteas ovate, acute, about equal in length to the heads; calyx villous, with stiff teeth, which are glabrous at top. ♃.? S. Native of Peru. Ruiz. et Pav. and Tafalla. Allied to *H. rubiginòsa*.

Allied Hyptis. Pl. 2 to 3 feet.?

105 H. FERRUGINÒSA (Pohl, icon. ined. ex Benth. lab. p. 109.) plant ascending, clothed with dense rubiginose tomentum; leaves on short petioles, roundish, very blunt, crenated, truncate at the base or cordate, very thick, wrinkled, hispid above and tomentose beneath; heads semiglobose, densely many-flowered: lower ones pedunculate: upper ones nearly sessile; outer bracteas ovate, acute, shorter than the calyxes; calyx villous, with stiff erectish teeth. ♃.? S. Native of Brazil, in the province of Goyaz, at Rio Pillocas. Allied to *H. rubiginòsa*.

Ferruginous Hyptis. Pl.

106 H. LU'CIDA (Pohl, icon. ined. ex Benth. lab. p. 109.) shrubby, glabrous; leaves nearly sessile, oval, acutish, scarcely toothed, cuneately rounded at the base, coriaceous, stiff, shining above and veiny beneath: floral ones equal in length to the head; heads ovoid, at length semiglobose, densely many-flowered; bracteas lanceolate, stiff, equalling the heads; calyx villous, with stiff, nearly glabrous teeth. ♄. S. Native of Brazil, in the province of Goyaz, at Serra Chrystais.

Shining Hyptis. Shrub.

107 H. PROTEOI'DES (St. Hil. mss. ex Benth. lab. p. 110.) shrubby? erect, stiff; branches clothed with short rufous tomentum; leaves on very short petioles, broad-ovate, obtuse, crenated, roundly subcordate at the base, coriaceous, stiff, shining above, pubescent on the veins beneath; heads few, subcorymbose, pedunculate, semiglobose, densely many-flowered; bracteas lanceolate, and are, as well as the calycine teeth, stiff

and glabrous. ♄. S. Native of Brazil. Leaves 1 to 1½ inches long. Corolla very villous outside.

Protea-like Hyptis. Shrub.

108 H. CORDA'TA (Pohl, icon. ined. ex Benth. lab. p. 110.) herbaceous, clothed with rufous villi; leaves nearly sessile, ovate-roundish, very blunt, crenated, roundly subcordate at the base, wrinkled, scabrously hispid above, and clothed with rufous villi on the nerves beneath; heads pedunculate, semiglobose, densely many-flowered; bracteas lanceolate, quite entire, equalling the head; calyx nearly glabrous, with erectish stiff teeth. ♃.? S. Native of Brazil.

Cordate-leaved Hyptis. Pl.

109 H. REMÒTA (Pohl, icon. ined. ex Benth. lab. p. 110.) herbaceous, tall, clothed with short rufous villi; leaves on short petioles, broad-ovate, very blunt, crenated, roundly cuneated at the base, wrinkled, scabrous above, and clothed with rufous villi at the nerves beneath; heads pedunculate, semiglobose, densely many-flowered, somewhat proliferous; bracteas ovate, quite entire, acute, equalling the head; calyx villous at the base, with erectish, stiff, glabrous teeth. ♃. S. Native of Brazil, in the province of Minas Geraes, on Serra Santa Isabel, at Paracatu. Perhaps only a variety of *H. cordàta*.

Remote Hyptis. Pl.

110 H. VILLÒSA (Pohl, icon. ined. ex Benth. lab. p. 110.) herbaceous? densely clothed with rufous villi; leaves sessile, roundish, very blunt, crenated, roundedly cordate at the base, very thick, wrinkled, scabrously hispid above, but clothed with rufous villi beneath; heads semiglobose, densely many-flowered, pedunculate; outer bracteas broad-ovate, foliaceous, toothed, exceeding the calyx; calyx villous, with stiff, nearly glabrous teeth. ♃.? S. Native of Brazil, in the province of Goyaz.

Var. β, *reticulàta* (Pohl, l. c.) stem more humble, the leaves more reticulately wrinkled, and the heads larger. ♃.? S. Native of the province of Minas Geraes, at Padrocino.

Villous Hyptis. Pl. 2 feet.

111 H. ORBICULA'TA (Pohl, icon. ined. ex Benth. lab. p. 111.) herbaceous, clothed with rufous villi; leaves sessile, rounded, very blunt, roundly cordate at the base, wrinkled, scabrously hispid above, and pubescent beneath; heads sessile, nearly globose, densely many-flowered; bracteas ovate-lanceolate, quite entire, equalling the head; calyx nearly glabrous, with stiff erect teeth. ♃.? S. Native of Brazil, in the province of Minas Geraes, on the summits of the mountains called Chapada do Serra San Marcos.

Orbicular-leaved Hyptis. Pl.

112 H. NIGRE'SCENS (Pohl, icon. ined. ex Benth. lab. p. 111.) herbaceous, procumbent? blackish, pubescent; leaves sessile, ovate, obtuse, crenated, cordate at the base, scabrous on both surfaces, lacunosely wrinkled beneath, and pubescent on the nerves; heads few, on very short peduncles, semiglobose, densely many-flowered; outer bracteas ovate, obtuse, wrinkled, shorter than the head: inner ones lanceolate, obtuse, longer than the head; calyx villous, with stiff teeth. ♃. S. Native of Brazil, in the province of Goyaz, between Rio Corumba and Rio San Marcos.

Blackish Hyptis. Pl. procumbent.?

113 H. COMPLICA'TA (St. Hil. mss. ex Benth. lab. p. 111.) shrubby; branches clothed with long silky pili; leaves numerous, sessile, broad-roundish, obtuse, a little crenated, cordately stem-clasping at the base, complicate, stiff, rather scabrous above, and lacunosely veined beneath; heads few, nearly sessile, semiglobose, densely many-flowered; bracteas lanceolate, acute, equalling the head; calyx pilose at the base, with stiff teeth, which are at length somewhat recurvedly spreading. ♄. S. Native of Brazil, in the province of Minas Geraes, in fields near Sabara. Habit of *H. rotundifòlia*, but very different in the form of the leaves, &c.

Complicate-leaved Hyptis. Shrub.

114 H. ROTUNDIFÒLIA (Benth. lab. p. 111.) stem shrubby, clothed with villous tomentum; leaves petiolate, ovate-roundish, crenated, rounded at the base, much wrinkled, stiff, scabrous, rather villous on both surfaces; heads semiglobose, densely many-flowered, pedunculate: upper ones fastigiate; bracteas linear, longer than the calyxes; calyx very villous at the base, with stiff teeth, which are at length somewhat recurvedly spreading. ♄. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes, &c. Shrub much branched, densely leafy. Leaves generally 3-4 in a whorl. Corolla hardly longer than the calyx.

Round-leaved Hyptis. Shrub 1 to 2½ feet.

115 H. MONTI'COLA (Mart. mss. ex Benth. lab. p. 111.) shrubby; branches clothed with rubiginose villi; leaves small, petiolate, ovate, obtuse, crenated, cuneated at the base, coriaceous, rather scabrous above, and reticulated and clothed with rufous pubescence beneath; peduncles about equal in length to the leaves, stiff; heads semiglobose, densely many-flowered; bracteas lanceolate, stiff, equalling the head; calyx tubular, villous at the base, with short stiff teeth. ♄. S. Native of Brazil, in the provinces of Rio Janeiro, Minas Geraes, and Goyaz, in sandy places. Shrub much branched. Corolla pale red, downy. Calycine teeth at length somewhat recurved.

Mountain Hyptis. Shrub 5 to 6 feet.

116 H. TRICE'PHALA (St. Hil. mss. ex Benth. lab. p. 112.) suffruticose; branches twiggy, villous; leaves petiolate, ovate-elliptic, obtuse, crenated, cuneately-rounded at the base, coriaceous, scabrous above, and clothed with rufous pubescence beneath; peduncles equal in length to the leaves; heads semiglobose, densely many-flowered; bracteas lanceolate, stiff, equalling the head; calyx tubular, villous, with stiff glabrous teeth. ♄. S. Native of Brazil, on Serra da Caraca, in the province of Minas Geraes. Allied to *H. monticola*; but the stems are elongated and less branched; the leaves larger and longer, and the calycine teeth shorter.

Three-headed Hyptis. Shrub 2 to 3 feet.

117 H. CONFE'RTA (Pohl, icon. ined. ex Benth. lab. p. 112.) erect, tall, clothed with rubiginose tomentum; leaves petiolate, ovate-elliptic, obtuse, crenated, cuneated at the base, wrinkled, scabrous above, but clothed with rubiginose tomentum beneath; heads pedunculate, large, semiglobose, densely many-flowered; bracteas ovate, quite entire, foliaceous, villous, exceeding the head; calyx villous, with stiff, rather spreading teeth. ♄.? S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Leaves 3-4 inches long. Corolla very villous, white, tipped with rose-colour.

Crowded-flowered Hyptis. Shrub 4 to 6 feet.

118 H. ALUTA'CEA (Pohl, icon. ined. ex Benth. lab. p. 112.) herbaceous, erect or ascending, humble, villous; leaves nearly sessile, oval, obtuse, crenated, cuneated at the base, wrinkled, scabrously hispid above, villous beneath; heads on long peduncles, large, hemispherical, densely many-flowered; bracteas exceeding the head, lanceolate: outer ones broader, villous; calyx villous, with stiff erect teeth. ♃.? S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Habit of *Péltodon hùmilis*. Leaves 2 inches long. Corolla pale red.

Tanned Hyptis. Pl. ½ foot.

119 H. FERRUGI'NEA (Benth. lab. p. 113.) erect, clothed with rufous tomentum; leaves nearly sessile, oblong, serrate-crenated, cuneated at the base, wrinkled; heads globose, densely many-flowered, rather panicled; peduncles longer than the heads; bracteas ovate, acute, equalling the heads; calycine teeth stiff. ♃.? S. Native of New Spain, Moçino et Sesse.

Stem bluntly tetragonal. Leaves 2-3 inches long. Bracteas densely villous.

Rusty Hyptis. Pl.

120 H. xanthioce'phala (Mart. mss. ex Benth. lab. p. 113.) herbaceous, ? erect, or ascending, quite glabrous; leaves on short petioles, ovate, serrated, roundly cuneated at the base, coriaceous, quite glabrous on both surfaces, shining above; peduncles stiff, compressed, longer than the leaves; heads semi-globose, densely many-flowered; bracteas ovate-lanceolate, stiff, outer ones cuneated, a little serrated; calyx woolly at base, with stiff, glabrous teeth. ♃. ? S. Native of Brazil, in fields in the province of Minas Geraes, in the Diamond district. Heads size of those of *H. conférta* and *H. ferrugínea*.

Yellow-headed Hyptis. Pl.

121 H. anómala (Benth. lab. p. 113.) branches clothed with tomentose pubescence; leaves petiolate, ovate, obtuse, crenated, rounded at the base, or cuneated, wrinkled, tomentose beneath; heads semi-globose, densely many-flowered, on short peduncles, somewhat panicled at the tops of the branches; bracteas ovate, acute, about equal in length to the calyxes; calycine teeth stiffly and subulately awned. ♃. ? S. Native of the South of Brazil, Sello. Stems many feet high, bluntly tetragonal. Leaves 1½ inch long. Bracteas tomentose. Calyx villous. Genitals a little exserted.

Anomalous Hyptis. Pl. tall.

122 H. cæspitòsa (St. Hil. mss. ex Benth. lab. p. 113.) stems numerous, erect, beset with rufous hairs; leaves sessile, ovate, bluntish, coarsely and unequally serrated, rounded at the base, or narrowed, rather coriaceous, nerved, nearly glabrous; heads semi-globose, densely many-flowered, on long peduncles; bracteas lanceolate, exceeding the head; calyx villous: teeth ovate at the base, and stiffly and subulately awned at apex. ♃. ? S. Native of Brazil, in the province of St. Paul, and in the South, among bushes, and in fields. Stem nearly simple, tetragonal. Leaves 1 inch long. Corolla pale red, rather shorter than the calycine teeth.

Tufted Hyptis. Pl. 1 foot.

Sect. XII. Polyde'smia (from πολυς, *polys*, many; and δεσμη, *desme*, a bundle; in reference to the many heads of flowers.) Benth. lab. p. 114. Heads of flowers nearly sessile, rarely on long peduncles, numerous, disposed in paniculately branched racemes, rarely in simple racemes, dense, sometimes many-flowered and depressed, or irregularly sub-globose, and sometimes ovoid and few-flowered. Bracteas numerous, adpressed, ovate, lanceolate, rarely linear. Fructiferous calyx sometimes increased into a cylindrical tube, which is truncate at apex, with setaceous, strict, rarely obsolete teeth, sometimes (in some of the species with ovoid heads) tubularly campanulate, with lanceolate, acute teeth. Tube of corolla generally exserted.—Herbs or undershrubs, usually many-flowered.

123 H. vestìta (Benth. lab. p. 114.) stem shrubby; branches clothed with floccose tomentum; leaves petiolate, roundish, obtuse, or hardly acuminated, erosely crenated, truncately cordate at the base, very much wrinkled, villous on both surfaces; heads sessile; whorls approximate, racemose; racemes panicled; bracteas ovate, or lanceolate, obtuse, equalling the calyxes; fructiferous calyx tubularly inflated, glabrous, with a truncate mouth, and obsolete teeth: throat naked inside. ♄. S. Native of Brazil, in woods in the provinces of Minas Geraes and St. Paul, &c. Shrub many feet high. Branches bluntly tetragonal. Corolla blue, glabrous. Genitals exserted. In Brazil the plant is called *Erva de Santa Anna*, *Ervo do Pape*, and *Berbena*, where it is used as a vulnerary.

Clothed Hyptis. Shrub tall.

124 H. duplica'to-denta'ta (Pohl, icon. ined. ex Benth. lab. p. 114.) shrubby; branches rather tomentose; leaves petiolate, ovate, bluntish, erosely crenated, rounded or cuneated at the base, scabrous above, and clothed with hoary tomentum beneath; heads sessile; whorls approximate, fasciculately racemose; racemes panicled; bracteas lanceolate, obtuse, thick, tomentose, exceeding the calyxes a little; fructiferous calyx tubularly inflated, villous, with a truncate mouth, and short, unequal, or obsolete teeth. ♄. S. Native of Brazil, in the provinces of Minas Geraes and Goyaz, in open parts of woods.

Var. β, *viréscens* (Pohl, l. c.) ♄. S. Native of Minas Geraes, at Manuel Pareira.

Doubly-toothed-leaved Hyptis. Shrub.

125 H. althææfòlia (Pohl, icon. ined. ex Benth. lab. p. 115.) shrubby; branches clothed with floccose tomentum; leaves petiolate, broad-ovate, bluntish, erosely crenated, truncately cordate at the base, wrinkled, tomentose on both surfaces; heads sessile; whorls approximate, fasciculately racemose; racemes panicled; bracteas lanceolate, thick, tomentose, exceeding the calyxes; fructiferous calyx tubularly inflated, glabrous, with an obsoletely or irregularly toothed mouth: throat naked inside. ♄. S. Native of Brazil, in the province of Minas Geraes, in humid places. Allied to the two preceding.

Althæa-leaved Hyptis. Shrub.

126 H. barba'ta (Schranck, in densk. bot. gesell. regensb. 2. p. 52. Benth. lab. p. 115.) stem shrubby; branches tomentose; leaves petiolate, broad-ovate, acuminated, deeply toothed, truncate at the base, thick, wrinkled, clothed with soft villi; heads sessile; whorls loose, approximate, somewhat racemose; racemes panicled; bracteas ovate, acute, equalling the calyxes; calyx tomentose, campanulate, with a truncate mouth, and strict, subulate teeth, which are equal in length to the tube. ♄. S. Native of Brazil. Habit of *H. vestìta*, but the tomentum is softer, and lower surfaces of the leaves rather silky.

Bearded Hyptis. Shrub.

127 H. obvalla'ta (Spreng. ex Benth. lab. p. 115.) stem shrubby; branches tomentose; leaves on short petioles, ovate, acutish, erosely crenated, truncately cordate at the base, thick, much wrinkled, tomentose on both surfaces; heads sessile; whorls distinct, fasciculately racemose; racemes panicled; bracteas numerous, ovate-lanceolate, acute, 2-3 times longer than the calyxes; calyx villous, with a truncate mouth, and subulate, strict teeth, which are about equal in length to the tube. ♄. S. Native of Brazil, in the province of Goyaz, and in the South. Allied to *H. vestìta* and *H. barbàta*. Corolla pubescent.

Environed Hyptis. Shrub.

128 H. carpinifòlia (Benth. lab. p. 115.) stem shrubby; branches clothed with rufous villi; leaves sessile, ovate-roundish, obtuse, or acuminated, toothed, cordate at the base, coriaceous, nearly glabrous above, rugosely veined beneath, tomentose, at length glabrous; heads sessile; whorls approximate, distinct, fasciculately racemose; racemes panicled; bracteas ovate-lanceolate, acuminated, exceeding the calyxes; fructiferous calyx tubular, glabrous, with a truncate, ciliated mouth, and subulate, strict teeth, which are about equal in length to the tube. ♄. S. Native of Brazil, in the provinces of Goyaz, Minas Geraes, &c.; and of Peru, in dry fields and hills. Corolla blue, downy outside. Branches bluntly tetragonal. Odour very aromatic.

Hornbeam-leaved Hyptis. Shrub 3 to 5 feet.

129 H. aqua'tica (Pohl, icon. ined. ex Benth. lab. p. 116.) shrubby; branches beset with spreading hairs; leaves nearly sessile, ovate-oblong, bluntish, toothed, cordate at the base, coriaceous, nearly glabrous above, rugosely veined beneath, and tomentose, but at length glabrous; heads sessile; whorls approximate, distinct, fasciculately racemose; racemes somewhat panicled; bracteas ovate-lanceolate, subulately acuminated, ex-

ceeding the calyxes; fructiferous calyx tubular, with a truncate ciliated mouth, and subulate, unequal, strict teeth. ♄. S. Native of Brazil, in the province of Minas Geraes, at Rio da Prata. Nearly allied to the preceding.

Water Hyptis. Shrub 3 to 4 feet.?

130 H. A'RIDA (St. Hil. mss. ex Benth. lab. p. 116.) branches erect, twiggy, beset with spreading pili; leaves sessile, ovate-lanceolate, acute, serrated, roundedly cordate at the base, glabrous, scabrous above; floral leaves broad-heart shaped; heads sessile; whorls equal, interruptedly racemose; racemes simple, or a little panicled; bracteas ovate, bluntish, coloured, about equal in height to the calyxes; calyx tubular, with linear, unequal teeth, which are shorter than the tube. ♄. S. Native of Brazil, in dried up marshes in the southern deserts of the province of Minas Geraes. Corollas pale purple.

Arid Hyptis. Shrub 2 to 3 feet.

131 H. VIOLA'CEA (Pohl, icon. ined. ex Benth. lab. p. 116.) branches erect, twiggy, villous at apex, at length glabrous; leaves nearly sessile, ovate-lanceolate, or ovate, acute, doubly serrated, rounded at the base: or the lower ones are cordate, very scabrous on both surfaces, green, coriaceous; heads nearly sessile; whorls secund, interruptedly racemose; racemes short, simple, or a little panicled; bracteas ovate, acutish, membranous, coloured, exceeding the calyxes a little; calyx tubular, nearly glabrous, with subulate teeth. ♄.? S. Native of Brazil, in the province of Goyaz, at Trahiras.

Violaceous-flowered Hyptis. Shrub.

132 H. GLOMERA'TA (Mart. ex Schranck, in syll. pl. bot. ratisb. 2. p. 55.) branches clothed with fine pubescence; leaves on short petioles, or sessile, ovate-oblong, or lanceolate, acutish, serrated, rounded at the base, pubescent on both surfaces; heads nearly sessile, ovoid-globose, few-flowered; whorls interruptedly racemose; raceme elongated, a little panicled; bracteas ovate, acute, twice as long as the calyxes; calyx tubular, nearly glabrous, with lanceolate, acute teeth, which are about 3 times shorter than the tube. ♄. S. Native of Brazil, in the provinces of Minas Geraes, and Goyaz, and the South, in humid places. Stem herbaceous,? bluntly tetragonal, usually purplish. Corolla hardly exceeding the calyx, pubescent outside.

Glomerate-flowered Hyptis. Pl.?

133 H. PAUCIFLÒRA (Pohl, icon. ined. ex Benth. lab. p. 117.) herbaceous, pubescent; leaves petiolate, ovate, bluntish, serrated, rounded at the base, or cordate, clothed with soft hairs above, and nearly glabrous beneath, and somewhat canescent; heads ovate-globose, few-flowered, pedunculate, racemose; raceme elongated, loose; bracteas broad-ovate, membranous, a little coloured, longer than the calyxes; calyx tubular, membranous, nearly glabrous, with lanceolate, acute teeth, which are shorter than the tube. ♃. S. Native of Brazil, in the province of Goyaz. Leaves like those of *H. pectinàta*, and the heads like those of *H. glomeràta*, but smaller, few-flowered, and pedunculate.

Few-flowered Hyptis. Pl.

134 H. FOLIÒSA (St. Hil. mss. ex Benth. lab. p. 117.) shrubby;? branches ascending, clothed with rufous villi; leaves on short petioles, broad-ovate, obtuse, crenated, rounded at the base, or cordate, green on both surfaces, and clothed with viscid pubescence, or villous; racemes sub-secund, leafy, somewhat panicled; bracteas ovate-lanceolate, exceeding the calyxes; calyx tubular, with lanceolate, erect, acute teeth. ♄.? S. Native of Brazil. Leaves 1-2 inches long.

Leafy Hyptis. Shrub 1 to 2 feet.

135 H. PETRÆ'A (St. Hil. mss. ex Benth. lab. p. 117.) shrubby; branches erect, tomentose; leaves petiolate, ovate, obtuse, crenated, cuneated at the base, wrinkled, clothed with soft, rufous tomentum on both surfaces; heads ovoid, few-flowered, on short peduncles, crowded into a short, dense raceme; bracteas ovate-lanceolate, acute, coloured, exceeding the calyxes; calyx tubular, nearly glabrous, with lanceolate, acute, erect teeth. ♄. S. Native of Brazil, in the province of Minas Geraes, in the western desert, among rocks near Taioba. Shrub slender, naked at the base. Bracteas and calyxes reddish, glandular. Racemes sub-secund.

Rock Hyptis. Shrub.

136 H. SUBROTU'NDA (Pohl, icon. ined. ex Benth. lab. p. 118.) shrubby; branches erect, twiggy, clothed with fine pubescence; leaves small, sessile, oval-rounded, obtuse, crenated, broadly rounded at the base, obtuse, stiff, coriaceous, veiny, green on both surfaces, rather scabrous: floral ones similar; heads ovoid, few-flowered, racemose; racemes nearly simple; bracteas coloured, lanceolate, acutish, ciliated, exceeding the calyxes; fructiferous calyx tubular, with a truncate, ciliated, hardly toothed mouth. ♄. S. Native of Brazil, in the province of Goyaz, at Pontefeite.

Roundish-leaved Hyptis. Shrub.

137 H. LYTHROÌDES (Pohl, icon. ined. ex Benth. lab. p. 118.) shrubby; branches erect, twiggy, pubescent; leaves small, sessile, oval, obtuse, rounded at the base, rather scabrous on both surfaces, and clothed with rufous pubescence; heads ovoid, few-flowered, racemose; raceme elongated, simple; bracteas lanceolate, acute, coloured, pubescent, longer than the calyx; calyx tubularly campanulate, with a truncate mouth, and subulate teeth, ? which are about equal in length to the tube. ♄. S. Native of Brazil, in the province of Goyaz, at Fazenda Agua Fria. Differs from *H. subrotúnda* in the calyx.

Lythrum-like Hyptis. Shrub.

138 H. PARVIFÒLIA (Pohl, icon. ined. ex Benth. lab. p. 118.) shrubby; branches erect, twiggy, finely pubescent; leaves small, petiolate, oval, toothed at top, narrowed at the base, quite entire, stiff, coriaceous, veiny, green on both surfaces, rather scabrous: floral ones similar; heads ovoid, few-flowered, racemose; raceme nearly simple; bracteas lanceolate-linear, coloured, clothed with adpressed villi, longer than the calyxes; fructiferous calyx tubular, with a truncate, ciliated, hardly toothed mouth. ♄. S. Native of Brazil, in the province of Goyaz. Nearly allied to *H. subrotúnda*.

Small-leaved Hyptis. Shrub.

139 H. RUBICU'NDA (Pohl, icon. ined. ex Benth. lab. p. 118.) branches nearly glabrous, with scabrous angles; leaves petiolate, broad-ovate, shortly acuminated, doubly serrated, cuneately rounded at the base, scabrous above, and tomentose beneath, and more particularly on the nerves; heads ovoid, few-flowered, on short peduncles, paniculately racemose; bracteas lanceolate, coloured, twice as long as the calyxes; calyx tubular, with a truncate mouth, and setaceous, strict teeth, which are about equal in length to the tube. ♄. S. Native of Brazil, in several places of the province of Minas Geraes. The whole plant generally purplish. Leaves 1½ to 2 inches long.

Reddish Hyptis. Pl. 1½ to 2½ feet.

140 H. MURICA'TA (Schott, mss. ex Benth. lab. p. 119.) herbaceous;? stem nearly glabrous, with scabrous angles; leaves petiolate, broad-ovate, acuminated, doubly serrated, cuneately rounded at the base, rather scabrous above, and nearly glabrous beneath; heads depressed, nearly globose, few-flowered, almost sessile; whorls secund: upper ones approximate: lower ones remote; bracteas broad-ovate, acute, villous, exceeding the calyxes; fructiferous calyx tubular, pubescent, with a truncate mouth, and strict, setaceous teeth, which are shorter than the

tube. ♃.? S. Native of Brazil, at Rio Janeiro, and at Rio Abaite, in the province of Minas Geraes. Plant many feet high. Bracteas often coloured.

Muricated Hyptis. Pl. tall.

141 H. INODÒRA (Schranck, in syll. pl. soc. ratisb. 2. p. 56. Benth. lab. p. 119.) herbaceous; stem erect, glabrous, or bifariously pubescent, with smooth angles; leaves petiolate, broad-ovate, acutish, unequally serrated, broadly cuneated, or rounded at the base, thin, glabrous on both surfaces, pale beneath; heads depressed, nearly globose, few-flowered, almost sessile; whorls rather secund: upper ones approximate: lower ones remote; bracteas ovate-lanceolate, pubescent, equalling the calyx; fructiferous calyx tubular, pubescent, with a truncate mouth, and setaceous, strict teeth, which are much shorter than the tube. ♃. S. Native of Brazil, in humid places. Plant many feet high, pale green. Heads 6-10-flowered. Corollas white. Allied to *H. muricàta*, and probably only a variety of it.

Scentless Hyptis. Pl. tall.

142 H. SYLVULA'RUM (St. Hil. mss. ex Benth. lab. p. 119.) branches clothed with tomentose pubescence; leaves petiolate, broad-ovate, acute, doubly serrated, or cut, rounded at the base, green on both surfaces, wrinkled, villous, or clothed with tomentose pubescence; heads ovoid, few-flowered, nearly sessile, racemose; racemes panicled; bracteas ovate, or lanceolate, villous, exceeding the calyxes a little; calyx tubular, pubescent, with a truncate mouth, and setaceous, strict teeth, which are shorter than the tube. ♃. S. Native of Brazil, in the province of Minas Geraes, in cut down woods. Allied to *H. canéscens*, but greener. Bracteas green, or coloured at top.

Small-wood Hyptis. Pl. 2 to 3 feet.

143 H. POLYSTA'CHYA (H. B. et Kunth, nov. gen. amer. 2. p. 321.) branches pilosely pubescent, with rough angles; leaves petiolate, ovate, acute, doubly serrated, or cut, rounded at the base, rather pubescent above, and clothed with hoary tomentum beneath; heads ovoid, few-flowered, nearly sessile, secund; whorls racemose; racemes loosely panicled; bracteas ovate, acute, exceeding the floriferous calyxes, but shorter than the fructiferous calyxes; calyx pubescent, with setaceous, strict teeth, which are shorter than the tube. ♃. S. Native of Mexico, Trinidad, &c. Branches tetragonal. Corolla twice as long as the calyx.

Var. β, longiflòra (Benth. lab. p. 120.) calyxes at length twice as long as the bracteas. ♃. S.

Many-spiked Hyptis. Pl. 2 to 3 feet.?

144 H. CANE'SCENS (H. B. et Kunth, nov. gen. amer. 2. p. 321.) branches clothed with tomentose pubescence; leaves petiolate, rhomboid-ovate, acute, doubly serrated, or cut, rounded at the base, narrowed into the petioles, clothed with hoary tomentum beneath, or on both surfaces; heads ovoid, few-flowered, nearly sessile, rather secund, racemose; racemes panicled; bracteas ovate, acute, equalling the floriferous calyxes, but shorter than the fructiferous calyxes; calyx villous, elongated after florescence, with a truncate mouth, and strict, setaceous teeth, which are much shorter than the tube. ♃.? S. Native of New Spain, and Caraccas. Teùcrium rhombifòlium, Willd. Nearly allied to *H. polystàchya*. Angles of stem hardly rough. Corolla glabrous.

Var. β, arvénsis (Benth. lab. p. 712.) leaves hardly canescent. ♃.? S. Native of Peru, at Pariahuanca, Mathews. H. arvénsis, Poppig, pl. chil. exsic.

Canescent Hyptis. Pl. 1½ foot.

145 H. MICRA'NTHA (Pohl, icon. ined. ex Benth. lab. p. 120.) branches clothed with short pubescence, with smooth angles; leaves petiolate, ovate, acute, irregularly serrate-crenated, rounded and rather unequal at the base, pubescent above, pale, or clothed with hoary tomentum beneath; heads small, few-flowered, racemose; peduncles equalling the heads; racemes strict, elongated, panicled; bracteas ovate-lanceolate, acuminated, somewhat exceeding the calyxes; calyx pubescent, with a truncate mouth, and strict, setaceous teeth, which are rather shorter than the tube. ♃.? S. Native of Brazil, in the province of Goyaz, at Villa Boa. Allied to *H. polystàchya*, but more green, and less tomentose, and the heads much smaller.

Small-flowered Hyptis. Pl.

146 H. SPICA'TA (Poit. ann. mus. 7. p. 474. t. 28. f. 2.) branches nearly glabrous, with scabrous, prickly edges; leaves petiolate, ovate, acute, unequally serrate-crenated, roundedly cuneated at the base, nearly glabrous on both surfaces, or pubescent above; heads semi-ovoid, loosely racemose; peduncles equal in length to the fructiferous heads; racemes panicled; bracteas ovate, rather membranous, one-half shorter than the fructiferous calyx; calyx glabrous, elongated in the fructiferous state, inflated at the base, with a truncate mouth, and strict, setaceous teeth, which are shorter than the tube. ♂. S. Native of Tropical America, on the east coast, from Mexico to the provinces of Minas Geraes, and Cisplatin in Brazil; also of St. Domingo, Martinica, Mariane Island, &c. Népeta mutàbilis, Rich. in act. soc. hist. nat. par. Leaves 1-2 inches long. Corollas small, violaceous.

Spicate-flowered Hyptis. Fl. July, Aug. Clt. 1820. Pl. 4 to 6 feet.

147 H. ROSTRA'TA (Salzm. pl. bras. exs. ex Benth. lab. p. 121.) branches glabrous, with rough, prickly angles; leaves petiolate, ovate, acute, unequally serrate-crenated, roundly cuneated at the base, glabrous; heads globose at the base, loosely racemose; peduncles rather shorter than the fructiferous heads; bracteas ovate, membranous, glabrous, 3-4 times shorter than the fructiferous calyxes; fructiferous calyx glabrous, inflated at the base, long-beaked, with a truncate mouth, and short, setaceous, strict teeth. ♂. S. Native of Brazil, in shady places near Bahia. Stems branched. Whorls distant, secund.

Beaked-calyxed Hyptis. Pl. 4 to 5 feet.

148 H. TENUIFLÒRA (Benth. lab. p. 121.) branches bifariously pubescent, with smooth angles; leaves petiolate, ovate, acute, unequally serrated, roundly cuneated at the base, glabrous; heads ovoid, few-flowered, loosely racemose; peduncles twice as long as the fructiferous heads; racemes panicled; bracteas ovate, membranous, one-half shorter than the fructiferous calyxes; fructiferous calyx glabrous, elongated, inflated at the base, with a truncate mouth, and strict, setaceous teeth, which are much shorter than the tube. ♂.? S. Native of Brazil, Leandro di Sacramento. Allied to *H. spicàta*.

Thin-flowered Hyptis. Pl. 3 to 4 feet.?

149 H. EXPA'NSA (Pohl, icon. ined. ex Benth. lab. p. 122.) nearly glabrous; angles of branches roughish; leaves petiolate, ovate, acuminated, unequally serrated, cuneated at the base, rather hispid above and on the nerves beneath; heads ovoid, few-flowered, loosely racemose; peduncles shorter than the fructiferous heads; racemes divaricately panicled; bracteas ovate, acute, membranous, ciliated; fructiferous calyxes nearly glabrous, scarcely longer than the bracteas, with a truncate mouth, and strict, setaceous teeth, which are one-half shorter than the tube. ♃.? S. Native of Brazil. Allied to *H. spicàta*, but differs in the shorter calyxes, and longer teeth, &c.

Expanded Hyptis. Pl.?

150 H. DU'BIA (Pohl, icon. ined. ex Benth. lab. p. 122.) pubescent; angles of branches smooth; leaves on short petioles, ovate, acute, doubly crenated, cuneated at the base, scabrously hispid above, and pubescent on the veins beneath, wrinkled; heads ovoid, few-flowered, racemose; peduncles very short; racemes a little branched; bracteas lanceolate, acuminated,

longer than the fructiferous calyxes, pubescent, ciliated; calycine teeth setaceous, strict, one-half longer than the tube. ♃.? S. Native of Brazil, in the province of Minas Geraes, at Rio Abaite. Allied to *H. expánsa*, but is less branched, and more villous, and the bracteas are narrower and longer.

Doubtful Hyptis. Pl.?

Sect. XIII. Mesophæ'ria (from *μεσος*, *mesos*, the middle; and *σφαιρα*, *sphaira*, a globe; in reference to the heads of flowers being semi-globose.) Benth. lab. p. 122. Heads rather loose, few-flowered. Bracteas sometimes minute, or scarcely any, sometimes subulate, about equal in length to the calyxes. Calyxes nearly sessile in the heads, obliquely campanulate in the fructiferous state, with a truncate mouth, and subulate, strict teeth; the throat closed inside by hairs, or more or less ciliated, with 5 fascicles of hairs, which are disposed between the teeth. Tube of corolla inclosed, or a little exserted.—Herbs, rarely shrubs, for the most part pilose. Heads pedunculate: lower ones rarely all from the axils of the leaves: cauline ones conforming, solitary, or in fascicles: the superior ones usually disposed into a loose panicle.

151 H. plectranthoìdes (Benth. lab. p. 122.) stem herbaceous, erect, clothed with long hairs, with smooth angles; leaves on very short petioles, broad-ovate, or roundish, obtuse, crenately serrated, rounded at the base, or subcordate, pilose; heads few-flowered, loosely racemose, pedunculate; racemes loose, panicled; bracteas lanceolate, acute, shorter than the calyxes, villous: teeth equalling the tube. ♃.? S. Native of the South of Brazil, Sello. Stem generally purplish. Leaves an inch long. Corolla twice as long as the calyx. Stamens exserted.

Plectranthus-like Hyptis. Pl.

152 H. pu'mila (Pohl, icon. ined. ex Benth. lab. p. 122.) herbaceous, humble, erect; stem beset with spreading pili; leaves on very short petioles, broad-ovate, roundish, serrately crenated, rounded, or subcordate at the base, green, pilose; heads loosely few-flowered, pedunculate, racemose; bracteas loose, subulate, shorter than the calyxes; fructiferous calyx sessile: throat villous inside. ♃.? S. Native of Brazil, in the province of Goyaz, on Serra de Chrystais. Very nearly allied to *H. commùnis*, but smaller, and more pilose, and the leaves are broader.

Dwarf Hyptis. Pl. ½ foot.

153 H. commu'nis (St. Hil. mss. ex Benth. lab. p. 123.) herbaceous, humble, glabrous, or more or less villous; leaves on short petioles, rounded, ovate, or oblong, crenated, cuneated, or narrowed at the base; heads loosely few-flowered, pedunculate, racemose; bracteas loosely subulate; calyxes sessile, villous: throat woolly inside. ♃. S. Native of Brazil, in the province of Minas Geraes, in elevated fields, and among rubbish on the mountains. H. flabellàta, Pohl, icon. ined. Stems often rooting at the base. Corolla blue, nearly glabrous outside.

Common Hyptis. Pl. ½ to 1 foot.

154 H. fruticòsa (Salzm. pl. bras. exsic. ex Benth. lab. p. 123.) branches divaricate, tomentose while young; leaves on short petioles, ovate, obtuse, crenated, cuneated at the base, much wrinkled, pale beneath; peduncles solitary, axillary, longer than the leaves; heads loosely few-flowered, nearly globose; bracteas loose, subulate; fructiferous calyx rather gibbous above the base, with an oblique, villous mouth, and spreading teeth. ♄. S. Native of Brazil, in the provinces of Bahia, Minas Geraes, in fields and woods. Corolla blue, scarcely pubescent, equalling the calycine teeth. Genitals inclosed.

Shrubby Hyptis. Shrub 4 to 6 feet.

155 H. melissoìdes (H. B. et Kunth, nov. gen. amer. 2. p. 320.) suffruticose; branches clothed with rufous villi; leaves on short petioles, ovate, acute, serrately crenated, rounded at the base, villous above, and densely clothed with hoary tomentum beneath; peduncles very short, axillary, usually twin; heads many-flowered, rather loose, secund; bracteas minute, setaceous; calyx pubescent, ovate, strict in the ripe state: throat villous inside: teeth short, setaceous, villous. ♄. S. Native of Tropical America, in bushy places in New Granada, on the banks of the river Juanambu. Shrub much branched, aromatic. Corolla white, downy.

Melissa-like Hyptis. Shrub 4 to 6 feet.

156 H. pilòsa (Benth. lab. p. 124.) branches rather pilose; leaves petiolate, ovate, acute, serrulated, cordate at the base, rather canescent; peduncles rather longer than the leaves; heads 6-10-flowered, nearly globose; bracteas minute, setaceous; fructiferous calyx much increased, ovate-tubular, equal, truncate, very hairy: teeth shorter than the breadth of the calyx. ♄. S. Native of Peru, Pavon. Leaves an inch long.

Pilose Hyptis. Shrub.

157 H. suave'olens (Poit. ann. mus. par. 7. p. 472. t. 29. f. 2.) stem herbaceous, erect, pilose; leaves petiolate, broad-ovate, sinuately serrated: lower ones cordate at the base: upper ones rounded, or cuneated, pubescent, villous, or tomentose; peduncles rather shorter than the few-flowered heads, solitary, or 2-3-together in the axils, racemose; racemes panicled; bracteas minute, setaceous; mouth of calyx truncate, villous. ⊙. S. Native of Tropical America, from Mexico to Rio Janeiro, Peru; also of several of the West India Islands; Philippines, Manilla, Moluccas, about Madras, Java, &c. Ballòta suavèolens, Lin. spec. 815. Jacq. hort. vind. 3. p. 24. t. 42. Bystropògon suavèolens, Lher. sert. angl. 19. Hyptis Plumièri, Poit. ann. mus. 7. p. 473. H. ebracteàta, R. Br. in Ait. hort. kew. ed. 2. vol. 3. p. 391. Bystropògon gravèolens, Blum. bijdr. p. 824.?—Plum. icon. t. 163. f. 1.—Browne, jam. 257. t. 18 f. 3.—Sloan. hist. 1. p. 171. t. 102. f. 2. Herb annual, branched. Leaves 1-2 inches long. Corollas blue.

Sweet-scented Hyptis. Fl. July, Aug. Clt. 1800. Pl. 2 to 6 feet.

158 H. grave'olens (Salzm. pl. bras. exsic. ex Benth. lab. p. 125.) stem herbaceous, erect, rather pilose, with smooth angles; leaves petiolate, ovate, acute, sinuately serrated, cordate at the base, wrinkled, clothed with clammy pubescence on both surfaces; peduncles axillary, many times longer than the few-flowered fascicles: superior ones irregularly panicled; bracteas minute. ⊙. S. Native of Brazil, on the sea-shore near Bahia. Nearly allied to *H. suavèolens*. Odour heavy and aromatic.

Heavy-scented Hyptis. Pl. 4 to 6 feet.

159 H. umbròsa (Salzm. pl. bras. exsic. ex Benth. lab. p. 125.) stem herbaceous, erect, villous, with scabrous angles, and nearly naked axils; leaves petiolate, broad-ovate, acute, irregularly serrated, or deeply lobed, rounded at the base, rather pilose above, pale and pubescent beneath, or at length glabrous; peduncles axillary, filiform, sub-fasciculate, much longer than the loose, 3-10-flowered heads; bracteas minute, setaceous; calyx pubescent: mouth villous. ⊙. S. Native of Brazil, in woods near Bahia; also very common in the provinces of Rio Janeiro, Minas Geraes, Goyaz, and St. Paul, in shady places; and of Peru, at Huanuco and Tarma, Mathews. H. gravèolens, Schranck, in syll. pl. ratisb. 2. p. 56.? Nearly allied to *H. víscida*, but the hairs are less clammy. Corollas bluish lilac.

Shaded Hyptis. Pl.

160 H. polya'ntha (Poit. ann. mus. 7. p. 470.) stem herbaceous, erect, pubescently villous; the axils very pilose; leaves petiolate, ovate, acutish, irregularly crenate-serrated, rounded,

or cordate at the base, scabrous from pili above, and clothed with white tomentum beneath; panicle ample; peduncles filiform, much longer than the loosely 5-20-flowered heads; bracteas minute, setaceous; calyx pubescent, with a villous mouth. ⊙.? S. Native of Peru, near Quito, Loxa, and Gonzanama. Bystropògon sidæfòlium, Lher. sert. angl. 19.? Herb sweet-scented. Leaves 1½ to 2 inches long. Corollas minute, pubescent, violaceous.

Many-flowered Hyptis. Fl. July, Aug. Clt. 1819. Pl. 4 to 6 feet.

161 H. LILA'CINA (Schiede, et Deppe, in Linnæa, 5. p. 101.) clothed with soft pubescence; leaves petiolate, ovate, or elliptic, acute, doubly serrated, cuneated at the base, or narrowed, pubescent above, canescently tomentose beneath; heads loosely few-flowered, axillary, opposite, pedunculate, small; bracteas loose, setaceous, scarcely shorter than the calyx; calyx villous, ovate, with spreading, subulately acuminated teeth. ⊙.? S. Native of Mexico, about Jalapa, &c., among bushes. Nearly allied to the preceding, but differs in the leaves and calyx, &c. Corolla lilac, puberulous.

Lilac-flowered Hyptis. Pl. 2 to 3 feet.

162 H. URTICOÌDES (H. B. et Kunth, nov. gen. amer. 2. p. 320.) stem herbaceous, erect, downy, with rather rough angles; leaves petiolate, ovate, acute, serrated, cuneated at the base, rather hispid above, and pubescent beneath; heads loosely few-flowered, on long peduncles, disposed in secund, panicled racemes; bracteas minute, setaceous; calyx pubescent, with a villous mouth. ⊙.? S. Native of Mexico, at the foot of Mount Macultipec, near Jalapa. Branches tetragonal. Corollas minute. An intermediate species between *H. polyántha* and *H. pectinàta*.

Nettle-like Hyptis. Pl.

163 H. RACEMULÒSA (Mart. mss. ex Benth. lab. p. 126.) stem herbaceous, erect, clothed with rufous pubescence, with smooth angles; leaves petiolate, ovate, acute, doubly serrated, rounded at the base, and running into the petioles, rather villous above, and clothed with rufous tomentum beneath; cymes capitate, few-flowered, on very short peduncles, disposed in subsecund, axillary racemes; bracteas minute, setaceous; calyx clothed with rufous tomentum: mouth villous: teeth shorter than the tube. ⊙. S. Native of Brazil, in the provinces of Minas Geraes and Rio Janeiro, in elevated pastures and woods. Habit of *H. polystàchya*, but the bracteas and calyxes are very distinct. Corolla pale violet, ex St. Hil., pale red, spotted with purple, ex Mart.

Racemulose Hyptis. Pl. 2 to 3 feet.

164 H. LAMIIFÒLIA (Weinm. in syll. pl. ratisb. 1. p. 226. ex Benth. lab. p. 127.) stem branched, pilose, radicant; leaves cordate-ovate, acuminated, crenately toothed, scabrous from pili, petiolate, whitish beneath; heads axillary, pedunculate, shorter than the internodes; bracteas setaceous, equalling the heads; calyx short, tubular, with equal, acuminated teeth. ♃. S. Native of Brazil. Stem acutely tetragonal. Leaves 1-2 inches long. Heads size of peas. Corolla small, white, spotted with violet.

Dead-nettle-leaved Hyptis. Pl. procumbent.

SECT. XIV. PECTINA'RIA (from *pecten*, a comb; so called from pectinate, unilateral cymes.) Benth. lab. p. 127. Cymes at first almost capitate, but at length elongated, unilateral, and pectinate. Bracteas loose, setaceous. Calyxes nearly sessile, tubular in the fructiferous state, with strict, setaceous teeth, and the throat closed by villi inside.

165 H. PECTINA'TA (Poit. ann. mus. 7. p. 474. Benth. lab. 127.) glabrous, or downy; leaves petiolate, ovate, crenately-serrated, rounded at the base, pale beneath; cymes many-flowered, rather loose, paniculately racemose, at length elongated and incurved; bracteas shorter than the calyxes?; teeth of calyx shorter than the tube. ♃. S. Native of Tropical America, common in cretaceous, sandy places from Mexico to Rio Janeiro; Peru; most of the West India Islands; Guinea; Madagascar; East Indies, at Madras; Arabia, at Sennaar, Bovè. Méntha perilloìdes, Lin. syst. ed. 13. p. 445, but not of others. Népeta pectinàta, Lin. spec. 799. Bystropògon pectinàtum, Lher. sert. angl. p. 19. Népeta aristàta, Rich. act. soc. hist. nat. par. p. 110. Brotèra Pérsica, Spreng. in Lin. trans. 6. p. 151. t. 4. Hýptis Pérsica, Poit. ann. mus. 7. p. 471. Ballòta dísticha, Rodsch. obs. p. 35. Meyer, esseq. p. 209, but not of Lin. Ballòta suavèolens, Rodsch. bald. diar. fasc. 28. p. 79. ex Meyer, l. c. but not of Lin. Hýptis racemòsa, Zucc. in act. acad. taur.? Bystropògon coarctàtum, Thonn. et Schum. in act. acad. hafn. 4. p. 34. Stem rather woody at the base. Leaves variable in form and size. Corolla small, pale purple, or yellow, spotted with purple.

Pectinate Hyptis. Fl. year. Clt. 1776. Pl. 2 to 5 feet.

SECT. XV. MENTHÍDIUM (so called from the habit of the species being that of Mentha, or Mint.) Benth. lab. p. 128. Flowers sessile, or on short pedicels, disposed usually in many-flowered whorls. Bracteas minute, or hardly any, or loose and setaceous. Calyx campanulate, equal; throat naked inside. Corolla hardly exceeding the calyx.—Herbs often panicled at apex.

166 H. PULEGIOÌDES (Pohl, icon. ined. ex Benth. lab. p. 128.) herbaceous, procumbent at the base; branches ascending, clothed with adpressed pubescence; leaves on short petioles, lanceolate, acute, serrated, narrowed at the base, wrinkled, very villous: floral ones conform, smaller; whorls all distinct, and globose, densely many-flowered; bracteas subulate, shorter than the calyx; calyx tubular, with a villous base, and lanceolate, subulate, erect, short teeth. ♃.? S. Native of Brazil, in the province of Minas Geraes, at Fazenda do Pari. This species is intermediate between the present section and sect. *Apodòtes*.

Penny-Royal-like Hyptis. Pl.?

167 H. A'LBIDA (H. B. et Kunth, nov. gen. amer. 2. p. 319.) shrubby, clothed with floccose wool; leaves nearly sessile, ovate, obtuse, or the upper ones are subulately acuminated, crenated, roundly cuneated at the base, wrinkled; whorls loose, globose, distinct; racemes sub-panicled; bracteas short, setaceous; fructiferous calyx nearly globose, densely woolly: teeth very soft, setaceous, about equal in length to the tube. ♄. S. Native of Mexico, at Lake Cusco, in the valley of St. Jago, and near Valladolid. Corollas hardly longer than the calyx.

Whitish Hyptis. Fl. July, Aug. Clt. 1824. Shrub 2 to 3 feet.

168 H. PUBE'SCENS (Benth. lab. p. 129.) suffruticose, clothed with tomentose pubescence; leaves nearly sessile, oblong, acutish, serrated, rounded at the base, a little wrinkled, pale beneath; whorls small, globose, many-flowered, remote; racemes panicled; bracteas short, setaceous; calyx villous: teeth stiff, subulate, equalling the tube, at length spreading in a stellate manner. ♄. S. Native of New Spain. Branches bluntly tetragonal. Corolla a little longer than the calycine teeth.

Pubescent Hyptis. Shrub.

169 H. MOCINIA'NA (Benth. lab. p. 129.) suffruticose, pubescent; leaves on short petioles, cordate-ovate, doubly serrated, wrinkled; whorls globose, many-flowered, distinct, racemose; racemes panicled; bracteas short, setaceous; calyx villous: teeth stiff, subulate, glabrous, twice as long as the tube, spreading

in a stellate manner. ♄.? S. Native of New Spain, Moçino et Sesse. Plant clothed with rubiginose pubescence. Leaves 1 to 1½ inch long. Corolla shorter than the calycine teeth.

Moçino's Hyptis. Shrub.

170 H. spinulòsa (Benth. lab. p. 129.) suffruticose, clothed with fine pubescence; leaves petiolate, ovate, acuminated, serrulately crenated, cordate at the base; whorls globose, many-flowered, distinct, racemose; racemes panicled; bracteas short, setaceous; calyx ovate, pubescent: teeth stiff, subulate, glabrous, shorter than the tube, spreading in a stellate manner. ♄. S. Native of New Spain, Moçino et Sesse. Stem clothed with rufous pubescence.

Spinulose-calyxed Hyptis. Shrub.

171 H. stellula`ta (Benth. lab. p. 129.) herbaceous; branches clothed with rusty villi; leaves on short petioles, ovate, acute, serrately crenated, rounded at the base, wrinkled, villous; racemes panicled; whorls densely globose; bracteas small, setaceous; calyx ovate, villous, with subulate, stellately spreading teeth. ⊙.? S. Native of Mexico, at Cuernavaca and Toluco, Berlandier. Corolla pubescent, hardly longer than the calyx.

Starry-calyxed Hyptis. Pl. 4 to 5 feet.

172 H. scopa`ria (Poit. ann. mus. 7. p. 475. t. 31. f. 2.) shrubby; branches glabrous, with prickly angles; leaves on short petioles, linear, obtuse, quite entire, or a little denticulated, glabrous; whorls loose, remote, 2-10-flowered; calyx nearly glabrous, with ovate, erect, obtuse teeth. ♄. S. Native of Porto Rico and St. Dominica. Saturèia Americàna, Poir. dict. 6. p. 571. Saturèia Condæ`a, Juss. ex Poir. l. c. Corolla glabrous, hardly exceeding the calyx. Leaves minutely glandular.

Broom Hyptis. Fl. June, Aug. Clt. 1825. Shrub.

173 H. verticilla`ta (Jacq. icon. rar. 2. t. 113.) suffruticose; branches erect, pubescent or pilose; leaves on short petioles, lanceolate, acute, serrated, roundly narrowed at the base, clothed with fine pubescence; whorls rather loose, many-flowered, distinct, racemose; calyx ovate, glabrous, with erect, ovate-lanceolate teeth. ♄. S. Native of Mexico, on waysides near Papantla; and of St. Dominica. Stàchys pàtens, Swartz, nov. gen. et spec. p. 88. Angles of stem smooth. Leaves 1-2 inches long. Corolla white, tinged with red, hardly exceeding the calyx.

Whorled-flowered Hyptis. Shrub 3 to 4 feet.

174 H. fascicula`ta (Benth. lab. p. 130.) herbaceous, glabrous, or clothed with fine down; leaves petiolate, ovate, acute, serrated, a little wrinkled, green on both surfaces; racemes elongated, panicled; whorls loose, many-flowered; bracteas minute, setaceous; fructiferous calyx inclosed, glabrous: teeth ovate, acute, much shorter than the tube. ♃.? S. Native of Brazil, near habitations, in humid places in the provinces of Minas Geraes, Rio Janeiro, &c.; and of Buenos Ayres, at Parano. Corollas minute, purplish.

Fascicled-flowered Hyptis. Pl. 1 to 3 feet.

175 H. fastigia`ta (Benth. lab. p. 130.) herbaceous, ascending; leaves petiolate, ovate, acute, doubly serrated, rounded at the base, green above and villous, but clothed with hoary pubescence beneath; racemes fastigiately panicled; whorls loose, few-flowered; bracteas minute, setaceous; fructiferous calyx increased, glabrous: teeth ovate, acute, much shorter than the tube. ♃.? S. Native of Brazil, Sello. Nearly allied to the preceding.

Fastigiate-flowered Hyptis. Pl. 1 to 3 feet.?

176 H. erioca`lyx (St. Hil. mss. ex Benth. lab. p. 131.) herbaceous; stem ascending, clothed with rufous tomentum; leaves petiolate, ovate, serrately crenated, wrinkled at the base, villous above, and clothed with rufous tomentum beneath; racemes elongated, panicled; whorls loose, few-flowered; bracteas minute, setaceous; fructiferous calyx woolly, increased: teeth ovate, acute, much longer than the tube. ⊙. S. Native of Brazil, in the province of Minas Geraes, at the rivulet called Simeon Pareira. Habit of *H. fasciculàta*, but the characters are different.

Woolly-calyxed Hyptis. Pl.

177 H. vepretòrum (Mart. mss. ex Benth. lab. p. 131.) shrubby; leaves petiolate, small, ovate, obtuse, somewhat crenated, rounded at the base, rather coriaceous, smoothish, shining above, but pale and reticulated beneath; whorls 2-6-flowered, secund, axillary; fructiferous calyx tubular, glabrous, with short, ovate-lanceolate teeth. ♄. S. Native of Brazil, in desert fields between Minas Novas and Rio de St. Francisco, in the province of Minas Geraes. Branches downy. Corolla exceeding the calyx a little.

Bramble Hyptis. Shrub.

178 H. vesiculòsa (Benth. lab. p. 131.) stem tall, branched, clothed with fine rusty tomentum; leaves on short petioles, oblong-elliptic, acute, cuneated at the base, crenulated, wrinkled, clothed with hoary tomentum beneath; whorls few-flowered, rather secund, distinct, racemose; racemes panicled; bracteas minute; fructiferous calyx campanulate, inflated, membranous, veiny, with a contracted mouth, and short setaceous teeth. ♄.? S. Native of Guayaquil, Tafalla. Leaves like those of *Búddlea salvifòlia*, 4-6 inches long and 1½ broad. Fructiferous calyx size of a pea, bladdery.

Bladdery-calyxed Hyptis. Shrub.?

179 H. ca'lida (Mart. mss. ex Benth. lab. p. 131.) shrubby; branches pubescent; leaves on short petioles, roundish, very blunt, a little crenated, wrinkled, canescent beneath: floral ones minute; cymes sessile, loose, approximating into a dense, rather branched raceme; calyxes pedicellate, tubular, with an equal, truncate mouth, and subulate, strict teeth, which are shorter than the tube. ♄. S. Native of Brazil, in the province of Minas Geraes, at Serro Frio. Branches divaricate. Whorls 10-15-flowered. This species is intermediate between sect. *Menthìdium* and sect. *Pectinària*.

Hot Hyptis. Shrub.

Sect. XVI. Buddleioi`des (from *Búddlea*, and *idea*, similar. Plants with the habit of species of that genus.) Benth. lab. p. 132. Cymes pedunculate, capitate, many-flowered, numerous, panicled. Bracteas minute. Calyxes almost sessile, tubular, campanulate, with short teeth and naked throat. Tube of corolla exserted, tomentose outside.—Tall shrubs, with the habit of species of *Búddlea*.

180 H. membrana`cea (Benth. lab. p. 132.) shrubby, clothed with rufous tomentum; leaves petiolate, oblong-elliptic, roundly cuneated at the base, very rough above, and clothed with rufous tomentum beneath; fascicles of flowers pedunculate, loose, numerous, many-flowered, widely panicled; calyxes on short pedicels, urceolate, clothed with rufous tomentum, with very short equal teeth. ♄. S. Native of Brazil, in the province of Minas Geraes; and south of Brazil, in woods. Branches bluntly tetragonal. Achenia compressed, girded by a very broad membranous wing. Leaves 4-5 inches long.

Membranous-winged-seeded Hyptis. Shrub 7 to 8 feet.

181 H. Tafa'llæ (Benth. lab. p. 132.) shrubby, tomentose; leaves petiolate, oblong-lanceolate, cordate at the base, wrinkled above, shining and glabrous, and clothed with hoary tomentum beneath; fascicles of flowers pedunculate, loose, many-flowered, panicled; calyxes on short pedicels,

elongated, tubularly campanulate, equally 5-toothed, tomentose; corolla about twice as long as the calyx. ♄. S. Native of Peru, Tafalla. Corollas tomentose outside. Achenia oblong, obtuse, flat, wingless. Leaves 4 inches long.

Tafalla's Hyptis. Shrub 4 to 6 feet.

SECT. XVII. UMBELLA'RIA (from *umbella*, an umbel; cymes umbel-formed.) Benth. lab. p. 133. Cymes pedunculate, umbel-formed, many-flowered. Bracteas minute, setaceous. Calyxes pedicellate, tubular, with lanceolate or setaceous teeth, and the throat naked inside. Tube of corolla inclosed or exserted.—Species dissimilar in habit.

182 H. RHABDOCA'LYX (Mart. mss. ex Benth. lab. p. 133.) shrubby; branches tomentosely pubescent; leaves on short petioles, roundish, sharply serrated, cordate at the base, wrinkled, clothed with soft pubescence on both surfaces: floral ones similar; cymes axillary, stiff, few-flowered; calyx pubescent; corolla equalling the teeth of the calyx. ♄. S. Native of Brazil, in the province of Rio Janeiro, in grassy places. Leaves 6-9 lines long.

Twig-calyxed Hyptis. Shrub.

183 H. TOMENTÒSA (Poit. ann. mus. 7. p. 469.) suffruticose; branches clothed with floccose tomentum; leaves on short petioles, ovate-oblong, obtuse, crenated, rounded at the base, wrinkled, tomentose on both surfaces; cymes axillary, many-flowered; calyx clothed with white wool, with equal acuminated teeth. ♄. S. Native of Mexico, near Actopan and Acapulco. Tomentum whitish or yellowish. Leaves 1 to 1½ inch long. Corolla pubescent outside.

Tomentose Hyptis. Shrub 1½ to 2 feet.

SECT. XVIII. SIAGONA'RRHEN (from *σιαγων, siagon*, the cheek-bone; and *αρρην, arrhen*, a male; application not evident.) Mart. ex Benth. lab. p. 133. Cymes regularly dichotomous, many-flowered, racemose, rarely difformed, disposed in an elongated, contracted panicle. Bracteas setaceous. Calyxes nearly sessile, tubularly-campanulate, incurved, with an oblique mouth, lanceolate, acute, rarely obtuse teeth, and the throat naked inside. Corollas blue: tube for the most part a little exserted. Filaments very villous.—Shrubs, rarely tall herbs, generally clothed more or less with white tomentum, having the habit of species of *Anisómelis*.

184 H. LEUCOPHY'LLA (Pohl, icon. ined. ex Benth. lab. p. 134.) branches glabrous at the base, and floccosely tomentose at top; leaves on short petioles, ovate-oblong, obtuse, crenulated, rounded at the base; cymes pedunculate; bracteas 3 times shorter than the calyx; calyx clothed with white wool, with lanceolate, acute teeth. ♄. S. Native of Brazil, in the province of Minas Geraes. Branches bluntly tetragonal. Corolla red, villous outside: tube a little exserted. Leaves 1-2 inches long.

White-leaved Hyptis. Shrub.

185 H. LAURIFÒLIA (St. Hil. mss. ex Benth. lab. p. 134.) shrubby; branches erect, rather tomentose; leaves petiolate, oblong-lanceolate, acute, crenulated, cuneated at the base, green on both surfaces, or the upper ones are rather tomentose beneath; cymes pedunculate; calyx clothed with white wool, with lanceolate, acute teeth. ♄. S. Native of Brazil, in sandy places near Penha, in the province of Minas Geraes. Habit of *H. leucophýlla*; but the racemes are more loose; the whorls remote, and the flowers smaller and fewer. Corollas pale blue.

Laurel-leaved Hyptis. Shrub.

186 H. SCA'BRA (Benth. lab. p. 134.) shrubby; branches tomentose; leaves on short petioles, ovate or elliptic, roundly cordate at the base, wrinkled, very scabrous above, and clothed with white tomentum beneath, and the floral ones on both surfaces; cymes pedunculate; calyx clothed with white tomentum: teeth equal, lanceolate, acute. ♄. S. Native of Brazil, in the provinces of Minas Geraes and Rio Janeiro, &c., on the margins of woods. Branches bluntly tetragonal. Leaves 3-4 inches long. Corollas downy outside, pale blue. Habit of *Gomphostémma*.

Scabrous Hyptis. Shrub 5 to 6 feet.

187 H. CA'NA (Pohl, icon. ined. ex Benth. lab. p. 135.) branches floccosely tomentose; leaves on short petioles, oval-roundish, very blunt or emarginate, mucronulate, scarcely crenulated, rounded at the base, clothed with scabrous tomentum above, and hoary tomentum beneath, but the floral ones are clothed with hoary tomentum on both surfaces; cymes loose, few-flowered; calyx clothed with white wool: teeth lanceolate, acute. ♄. S. Native of Brazil, in the province of Minas Geraes, at Rio Abaite. Lower leaves 4 inches long. Corolla deeply lobed.

Hoary Hyptis. Shrub.

188 H. SÓRDIDA (Pohl, icon. ined. ex Benth. l. c. p. 135.) branches clothed with floccose tomentum; leaves on short petioles, oval-roundish, very blunt, mucronate, scarcely crenated, rounded at the base or cordate, tomentose on both surfaces, whitish beneath; calyx clothed with white wool: teeth lanceolate, acute. ♄. S. Native of Brazil, in the province of Minas Geraes. Allied to *H. càna*, but the flowers are more dense, and the calyxes longer.

Sordid Hyptis. Shrub.

189 H. ALTÍSSIMA (St. Hil. mss. ex Benth. lab. p. 135.) shrubby, tall; branches somewhat floccosely tomentose; leaves petiolate, oblong, bluntish, finely crenulated, rounded at the base, wrinkled, clothed with hoary tomentum; raceme ample; calyx clothed with clammy pubescence: teeth lanceolate, acute. ♄. S. Native of Brazil, in the province of Goyaz, in fields near Meiaponte, and elsewhere. Shrub much branched; branches twisted. Corolla purplish blue.

Very-tall Hyptis. Shrub 15 feet.

190 H. LATIFÒLIA (Mart. mss. ex Benth. lab. p. 135.) shrubby; branches clothed with soft velvety pubescence; leaves petiolate, broad-ovate, obtuse, crenated, rounded at the base, somewhat complicate, very thick, stiff, velvety above, and clothed with white tomentum beneath; panicle coarctate, dense-flowered; flowers sessile; bracteas lanceolate, deciduous; calyx clothed with white villi: teeth short, bluntish. ♄. S. Native of Brazil, in the province of Minas Geraes, at Serro Frio. Leaves 3-4 inches long. Corolla downy outside.

Broad-leaved Hyptis. Shrub.

191 H.? SALVIÆFÒLIA (Pohl, icon. ined. ex Benth. lab. p. 136.) shrubby; branches clothed with soft adpressed pubescence; leaves petiolate, oblong-elliptic, obtuse, crenated, rounded at the base, wrinkled, clothed with soft villi on both surfaces, whitish beneath; panicle contracted, raceme-formed, secund, with a pubescent axis; flowers solitary, approximate, nearly sessile; calyx clothed with white villi, with an oblique mouth, and short, very blunt, truncate teeth. ♄. S. Native of Brazil, in the province of Minas Geraes, at Calumbis. Leaves 3 inches long. Calyx bilabiate, as in *Erìope*, and the corolla is almost the same. This species is apparently intermediate between the sections *Hypènia*, *Siagonarrhén*, and the genus *Erìope*.

Sage-leaved Hyptis. Shrub tall.

SECT. XIX. HYPE'NIA (from *ὑπηνη, hypene*, a beard; in reference to the filaments being very villous.) Mart. mss. ex Benth. lab. p. 136. Flowers almost solitary, nearly sessile, or

often pedicellate, disposed along the branches of the panicle, which is sometimes very wide and divaricate, and sometimes coarctate and raceme-formed, with cyme-formed or spike-formed branches. Bracteas twin under the calyx, minute, rarely setaceous, loose, about equal in length to the calyx. Calyx tubularly campanulate, equal, rarely incurved, increased in the fructiferous state: teeth lanceolate, acute, rarely obtuse. Tube of corolla inclosed, or much exserted, usually scarlet. Filaments very villous.—Herbs or subshrubs, for the most part tomentose or pilose at the base, panicled, nearly naked, and quite glabrous and glaucous at top, with subcoriaceous leaves. Hardly distinct from the last section.

192 H. densiflòra (Pohl, icon. ined. ex Benth. lab. p. 137.) stem tall, scarcely pilose at the base; leaves petiolate, ovate-lanceolate, acutish, crenated, rounded at the base, thick, rather scabrous above, reticulately wrinkled, and clothed with tomentose pubescence beneath; panicle raceme-formed, coarctate, quite glabrous, glaucous; branches spike-formed; flowers nearly sessile, densely approximate; calyx tubular, incurved, with lanceolate, acute teeth; tube of corolla inclosed. ♄. S. Native of Brazil, in the province of Goyaz, at Caretao, &c. Leaves 1-2 inches long. Calyx nearly glabrous. Corolla glabrous.

Dense-flowered Hyptis. Shrub.

193 H. brachy'stachys (Pohl, icon. ined. ex Benth. lab. p. 137.) stem pilosely hispid at the base; leaves small, nearly sessile, ovate-obtuse, crenated, cordate at the base, wrinkled, rather tomentose or villous; floral leaves and bracteas minute, ovate, or setaceous, acute; panicle coarctate, quite glabrous, glaucous, with spike-formed branches; flowers nearly sessile, approximate; calyx pubescent, tubular, incurved, reticulated, with short obtuse teeth; tube of corolla hardly exserted. ♃. ? S. Native of Brazil, in the province of Goyaz, on the road from Rio Crixas to Rio Maranhao, &c. Corollas pale violet, downy outside.

Short-spiked Hyptis. Pl. 3 feet.

194 H. melochioi'des (St. Hil. mss. ex Benth. lab. p. 137.) stem pilose at the base; leaves petiolate, ovate-oblong or lanceolate, acutish, serrate-crenated, rounded, cuneated at the base, thick, wrinkled, pubescent above, and clothed with hoary tomentum beneath: floral ones and bracteas small, lanceolate-subulate; panicle coarctate, raceme-formed, quite glabrous, glaucous; flowers nearly sessile, approximate; calyx pubescent, tubularly campanulate, with lanceolate-subulate increased teeth; tube of corolla hardly exserted. ♄. ? S. Native of Brazil. Habit of the preceding.

Melochia-like Hyptis. Pl. tall.

195 H. pruinòsa (Pohl, icon. ined. ex Benth. lab. p. 137.) stem tall; branches pilosely hispid at the base, and clothed with rusty tomentum; leaves sessile, roundish, obtuse, crenated, cordate at the base, thick, scabrous above, and lacunosely wrinkled beneath; panicle much branched, quite glabrous, glaucous; flowers pedicellate, approximate towards the tops of the branches; bracteas minute, subulate; calyx tubular, incurved, with an oblique mouth, and lanceolate, acuminated teeth: increasing in the fructiferous state, veined, and transversely wrinkled; tube of corolla hardly exserted. ♃. ? S. Native of Brazil, in the province of Goyaz, on Serra San Felix. Corolla downy outside.

Pruinose Hyptis. Pl. tall.

196 H. Blanche'ti (Benth. lab. p. 712.) stem pilose at the base?; leaves petiolate, oblong-elliptic, obtuse, crenated, coriaceous, glabrous on both surfaces; panicle loose, branched, quite glabrous, glaucous; flowers approximate towards the tops of the branches; bracteas minute, subulate; calyx tubularly campanulate, incurved, with an oblique mouth, and broad, acuminated teeth, much increased in the fructiferous state; tube of corolla hardly exserted. ♃. ? S. Native of Brazil, near Bahia, Blanchet. Habit of *H. pruinòsa*, but differs in the form of the leaves.

Blanchet's Hyptis. Pl. tall.

197 H. si'mplex (St. Hil. mss. ex Benth. lab. p. 138.) stem tall, tomentosely villous at the base; leaves nearly sessile, ovate, obtuse, crenated, rounded or subcordate at the base, thick, wrinkled, tomentose on both surfaces, or villous above; panicle loose, much branched, glabrous, rather glaucous; peduncles filiform, 1-flowered; bracteas minute, setaceous; calyx campanulate, erectish, with short acute teeth; tube of corolla almost inclosed. ♃. ? S. Native of Brazil, in the province of Goyaz, among rocks on Serra Dourada. Leaves 1 inch long.

Simple Hyptis. Pl. tall.

198 H. Salzma'nni (Benth. lab. p. 138.) shrubby; branches leafy, spreadingly pilose; leaves petiolate, ovate, obtuse, erosely crenated, wrinkled, pubescent, pale beneath; panicle very loose, nearly naked, quite glabrous, glaucous, with elongated branches; peduncles filiform, 1-3-flowered; calyx campanulate, veiny, with equal acute teeth; tube of corolla hardly exserted. ♄. S. Native of tropical Brazil, in sandy places near Bahia, and in many other places in the same province, as well as of Minas Geraes. Corolla pale blue.

Var. β, tomentòsa (Benth. lab. p. 138.) leaves tomentose on both surfaces, white beneath.

Salzmann's Hyptis. Shrub 3 feet.

199 H. calophy'lla (St. Hil. mss. ex Benth. lab. p. 138.) plant tall; branches panicled above, quite glabrous, scarcely glaucous; leaves petiolate, large, ovate, acuminated, sinuately lobed, crenated, deeply cordate at the base, scabrous above, and clothed with white wool beneath; panicle very loose, with filiform branches; peduncles very short, 1-flowered; bracteas minute, setaceous; fructiferous calyx much increased, glabrous, membranous, rather glaucous, obliquely campanulate, with a very short 5-toothed mouth; tube of corolla scarcely exserted. ♃. ? S. Native of Brazil, on a mountain called Morro d'Andaia, in Minas Novas. Leaves 4-6 inches long. Corollas very small.

Beautiful-leaved Hyptis. Pl. 5 feet.

200 H. vitifòlia (Pohl, icon. ined. ex Benth. lab. p. 138.) branches pilosely hispid at the base, panicled, quite glabrous and glaucous at top; leaves petiolate, broad-ovate, acuminated, irregularly crenated, and sinuately lobed, deeply cordate at the base, scabrous above, and clothed with white tomentum beneath; panicle loosely divaricate, with filiform, 1-flowered peduncles; calyx glabrous, membranous, much increased in the fructiferous state, obliquely campanulate, with a very short, 5-toothed mouth; tube of corolla much exserted. ♄. ? S. Native of Brazil, in the province of Goyaz, at Santa Cruz. Floral leaves and bracteas minute. Corollas scarlet.

Vine-leaved Hyptis. Shrub tall.

201 H. crispa'ta (Pohl, icon. ined. ex Benth. lab. p. 139.) stem tall, scarcely pilose at the base; leaves petiolate, oblong, with undulately crenated margins, rounded at the base, very thick, stiff, hairy above, and clothed with soft villi beneath; upper leaves lanceolate—linear: floral leaves and bracteas small, lanceolate; panicle quite glabrous and glaucous; flowers solitary, opposite, along the branches, on short peduncles; calyx tubularly campanulate, clothed with soft villi: teeth broad-lanceolate. ♄. ? S. Native of Brazil, in the province of Goyaz, on Serra Dourada. Allied to *H. calycìna*. Corolla villous, twice as long as the calyx.

Curled-leaved Hyptis. Shrub tall.

202 H. cocci'nea (Mart. mss. ex Benth. lab. p. 139.) stem tall, pubescent at the base, and ciliated with a few hairs; leaves petiolate, ovate-lanceolate or oblong, irregularly toothed, rounded or subcordate at the base, thick, villous above, and clothed with tomentose pubescence beneath; panicle very loose, almost naked, quite glabrous, glaucous; branches and peduncles generally 1-flowered, elongated; bracteas elongated; fructiferous calyx elongated, a little inflated, with lanceolate, acute teeth. ♃. S. Native of Brazil, in the provinces of Minas Geraes and Bahia, in stony fields. Leaves 2-3 inches long. Corolla scarlet, a little shorter than that of *H. laxiflòra*.

Scarlet-flowered Hyptis. Pl. 5 to 6 feet.

203 H. panicula'ta (Benth. lab. p. 139.) branches villous at the base; leaves on short petioles, ovate, obtuse, crenated, rounded at the base, thick, wrinkled, densely clothed with villous tomentum on both surfaces; panicle very loose, nearly naked, quite glabrous, glaucous, with elongated branches; peduncles filiform, 1-flowered, rather shorter than the calyxes, which are pubescent. ♄. S. Native of the south of Brazil, Sello. Shrub clothed with rusty tomentum and spreading villi. Corolla scarlet, downy outside.

Panicled Hyptis. Shrub.

204 H. laxiflòra (Mart. mss. ex Benth. lab. p. 139.) branches villous at the base; leaves petiolate, roundish, obtuse, crenated, rounded at the base, thick, wrinkled, clothed with tomentose pubescence on both surfaces, reticulated and whitish beneath; panicle very loose, nearly naked, quite glabrous, glaucous; bracteas small, ovate; branches elongated; peduncles filiform, 1-flowered, more than twice as long as the calyxes; tube of corolla twice as long as the calyx. ♄. S. Native of Brazil, in the province of Minas Geraes, in fields at Villa Rica, and elsewhere in the same province. Habit of *H. paniculàta*, but the leaves are much smaller. Corolla showy scarlet, downy outside.

Loose-flowered Hyptis. Shrub.

205 H. calyci'na (Pohl, icon. ined. ex Benth. lab. p. 140.) stem tall, scarcely pilose at the base; leaves petiolate, oblong-elliptic, obtuse, crenated, rounded at the base, very thick, tomentosely villous on both surfaces; superior leaves narrower; panicle very loose, nearly naked, quite glabrous, glaucous, with the branches and 1-flowered peduncles elongated; bracteas cordate, stem-clasping; fructiferous calyx long-campanulate, glabrous, with lanceolate, acute teeth. ♄.? S. Native of Brazil, in the province of Goyaz, on Serra do Chrystais and Trahiras. Fructiferous calyx 7-8 lines long. Corolla more than an inch, glabrous, scarlet.

Large-calyxed Hyptis. Shrub.?

206 H. macra'ntha (St. Hil. mss. ex Benth. lab. p. 140.) stem tall, furnished with spreading hairs at the base; leaves petiolate: lower ones oval: superior ones oblong-elliptic or lanceolate, serrately crenated, cuneated at the base, coriaceous, green on both surfaces, and rather scabrous, glabrous or spreadingly pilose; panicle loose, nearly naked, quite glabrous, rather glaucous; branches elongated; peduncles a little longer than the calyxes; bracteas small, ovate-lanceolate; fructiferous calyxes elongated: teeth lanceolate, acute; corolla 4 times as long as the calyx. ♄.? S. Native of Brazil, in the province of Minas Geraes, near Paracatu. Intermediate between *H. calycìna* and *H. longiflòra*. Corolla 1½ inch long.

Large-flowered Hyptis. Shrub 2 to 4 feet.

207 H. longiflòra (Pohl, icon. ined. ex Benth. lab. p. 140.) branches pilose at the base; leaves petiolate, ovate-oblong or rounded, obtuse, crenated, rounded at the base, thick, scabrous above, and reticulated, wrinkled beneath, and clothed with rufous pubescence; panicle very loose, nearly naked, quite glabrous, glaucous; branches elongated; peduncles filiform, elongated, 1-flowered; bracteas small, subulate; calyxes campanulate, increased in the fructiferous state, membranous, reticulated, with lanceolate, acute teeth. ♄.? S. Native of Brazil, in the province of Goyaz, in fields from Barbacena to Paracatu. Calyx very villous inside, and pubescent outside, at length glabrous. Corolla villous outside, 3 times longer than the calyx.

Long-flowered Hyptis. Shrub.?

208 H. reticula'ta (Mart. mss. ex Benth. lab. p. 141.) stems pubescent at the base, rather pilose; leaves petiolate, ovate, oblong, or lanceolate, doubly serrated, cuneated at the base, or rounded, coriaceous, glabrous and rather scabrous above, reticulately much veined beneath, and tomentosely pubescent on the veins; panicle very loose, nearly naked, quite glabrous, glaucous; branches and 1-flowered peduncles elongated; bracteas subulate; fructiferous calyx campanulate: teeth lanceolate, acutish. ♃.? S. Native of Brazil, in the province of Minas Geraes, in several places. Stem sub-tetragonal at the base, and terete at top. Leaves 2-3 inches long. Corollas of *H. coccìnea*, but a little shorter.

Reticulated-leaved Hyptis. Pl. 1 to 2½ feet.

209 H. glau'ca (St. Hil. mss. ex Benth. lab. p. 141.) stem tall, scarcely pilose at the base; leaves petiolate, ovate, undulately crenated, cuneated at the base, thick, coriaceous, green on both surfaces, scabrous and nearly glabrous above, reticulated, and loosely tomentose beneath; panicle large; flowers on short pedicels along the elongated, strict branches; bracteas small, lanceolate; calyxes campanulate, nearly glabrous, with broad-lanceolate, obtuse teeth; tube of corolla much exserted. ♃.? S. Native of Brazil, in the provinces of Minas Geraes and St. Paul, near habitations. Intermediate between *H. crispàta* and *H. reticulàta*.

Glaucous Hyptis. Pl.?

N.B. H. menthodòra, Schranck. in syll. pl. soc. ratisb. 2. p. 56. H. Nepalénsis, Lehm. sem. hort. hamb. 1830. H. obtusifòlia, R. Br. in salt. abyss. app. H. Pohliàna, Jacq., and H. marathrósma, Spreng. are very little known, or not described.

Cult. Very few of the species of *Hyptis* are worth cultivating for ornament, they are, therefore, seldom seen in gardens. The shrubby and perennial herbaceous kinds should be treated like other common stove plants, and they are readily increased from cuttings. The annual kinds should be treated like other tender annual plants, by being reared on a hot-bed, &c.

XVI. ERI'OPE (probably derived from *εριον, erion*, wool; and *οπη, ope*, a hole; because the throat of the calyx is closed with wool.) Humb. et Bonpl. mss. ex Benth. lab. p. 142.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx turbinate, spreading, and equally 5-toothed in the floriferous state, but increased and nutant in the fructiferous state, having the 3 superior teeth membranously dilated into a lip; the 2 lower teeth hardly increased, dejected into a lower lip; throat closed with dense white wool inside. Corolla declinate; tube a little exserted, much dilated at the throat; the 4 upper lobes of the limb oblong, nearly equal; the 2 uppermost of these erect, and the 2 lateral ones spreading: lower one abruptly dejected, saccate, acuminated, and somewhat bidentate at apex. Stamens 4, didynamous, declinate: lower ones the longest; filaments densely villous at the base; anthers ovate-reniform, with confluent cells. Style almost equally bifid at apex; stigmas almost confluent. Achenia oblong, somewhat compressed, smooth.—Shrubs, or sub-shrubs, rarely perennial herbs. Flowers solitary, opposite, along the axils of a simple or paniculately-branched raceme. Floral leaves minute, bractea-formed, soon

falling off. Bracteas 2, very minute under the calyx. Nearly allied to *Hyptis*, section *Hypènia*, but the habit is peculiar.

1 E. HYPENOÌDES (Mart. mss. ex Benth. lab. p. 142.) shrubby; stem pilose at the base, quite glabrous above, and glaucous; leaves on short petioles, ovate, or oblong, acute, rounded at the base, or cuneated, white beneath; panicle ample, branched. ♄. S. Native of Brazil, in the province of Bahia, in elevated fields at Rio da Contas. Branches terete. Leaves serrulated, or crenulated. Peduncles tomentose. Calyx villous. Corollas pale, bluish red.

Hypenia-like Eriope. Shrub 6 feet.

2 E. MONTÍCOLA (Mart. mss. ex Benth. lab. p. 143.) suffruticose; stem clothed with hoary tomentum at the base, glabrous, and bluish above; leaves on short petioles, ovate-roundish, coriaceous, glabrous above and shining, but rather scabrous and canescent beneath, with ciliated edges; panicle branched. ♄. S. Native of Brazil, in the province of Bahia, in elevated fields at Sincora. Branches terete, or scarcely tetragonal at the base. Leaves toothed, ½ inch long. Corolla pale blue, downy outside. Young branches, peduncles, and calyxes tomentose.

Mountain Eriope. Shrub 3 feet.

3 E. OBTUSA`TA (Benth. lab. p. 143.) suffruticose; stem tomentosely pubescent; leaves nearly sessile, oval, obtuse, crenated a little, coriaceous, rather wrinkled above, and tomentose beneath, with ciliated margins; racemes branched. ♄. S. Native of Brazil, in the province of Bahia. Racemes more villous than the preceding.

Blunt-leaved Eriope. Shrub 1 to 2 feet.

4 E. POLYPHY´LLA (Mart. mss. ex Benth. lab. p. 143.) suffruticose; stem tomentosely pubescent; leaves on short petioles, ovate, or lanceolate, acute, serrated, coriaceous, shining above, rather tomentose beneath, with ciliated edges; racemes elongated, nearly simple. ♄. S. Native of Brazil, in the province of Bahia, at Rio da Contas, and Cayes. An humble shrub.

Many-leaved Eriope. Shrub.

5 E. CRASSIFÒLIA (Mart mss. ex Benth. lab. p. 143.) shrubby; branches pubescent; leaves sessile, sub-imbricate, broad-ovate, acute, serrated, thick, coriaceous, glabrous on both surfaces, with naked margins; racemes simple. ♄. S. Native of Brazil, in the province of Bahia, in Serra das Lages, and at Sincora. Habit of *E. polyphýlla*. Corolla pale violet, as in the preceding.

Thick-leaved Eriope. Shrub 1 to 2 feet.

6 E. PARVIFÒLIA (Mart. mss. ex Benth. lab. p. 144.) suffruticose; branches tomentosely pubescent; leaves nearly sessile, ovate, acute, complicate, green on both surfaces, clothed with soft tomentum, with naked edges; racemes numerous, a little branched. ♄. S. Native of Brazil, in the province of Bahia, in the woods of Catingas, at Sincora. Shrub much branched. Peduncles and calyxes clothed with short, velvety tomentum. Corollas as in *E. crassifòlia*.

Small-leaved Eriope. Shrub.

7 E. NUDIFLÒRA (H. B. et Kunth, mss. ex Benth. lab. p. 144.) suffruticose; branches very hairy; leaves on short petioles, oblong, acutish, callously serrated, cuneated at the base, glabrous, coriaceous, wrinkled, with rather ciliated margins; racemes simple. ♄. S. Native of Guiana, at Maypure. Humb. et Bonpl. Leaves 1½ inch long. Corolla violet. Whorls 4-flowered. Pedicels glabrous.

Naked-flowered Eriope. Shrub.

8 C. CRA´SSIPES (Benth. lab. p. 144.) suffruticose; branches erect, nearly simple, pubescent; leaves nearly sessile, ovate, obtuse, crenated, or lanceolate, acute, serrated, nearly glabrous; racemes elongated, simple. ♄. S. Native of Brazil, in the province of Goyaz, in pastures near San Jose.

Var. β, acutifòlia (Benth. lab. p. 144.) leaves lanceolate, roughish, for the most part glabrous, or furnished with a few hairs. ♄. S. Native of Rio Janeiro.

Thick-peduncled Eriope. Shrub.

9 E. TEUCRIOÌDES (St. Hil. mss. ex Benth. lab. p. 144.) herbaceous, ? procumbent; branches spreadingly pilose at the base, pubescent at top; leaves on short petioles, ovate, bluntish, subcrenated, glabrous, somewhat ciliated; racemes elongated, nearly simple. ♃. ? S. Native of Brazil, in the province of Minas Novas, in woods. Racemes like those of *E. nudicaúlis*. Corollas blue.

Germander-like Eriope. Pl.

10 E. COMPLICA`TA (Mart. mss. ex Benth. lab. p. 144.) shrubby; branches elongated, tomentose, and spreadingly pilose; leaves petiolate, broad-ovate, obtuse, crenated, rounded at the base, wrinkled, villous on both surfaces, rather hoary beneath; racemes simple, clothed with white tomentum. ♄. S. Native of Brazil, in the provinces of Minas Geraes and Bahia, in several places. Racemes 1-3-flowered, terminal. Leaves ½ an inch long. Corolla small, bluish-violet.

Complicate Eriope. Shrub 5 to 6 feet.

11 E. FŒ`TIDA (St. Hil. mss. ex Benth. lab. p. 145.) shrubby; branches divaricate, beset with spreading hairs at the base, and tomentose pubescence at top; leaves petiolate, ovate, acutish, serrately crenated, almost glabrous, coriaceous; racemes paniculately branched. ♄. S. Native of Brazil, in the provinces of Minas Geraes and Goyaz. Leaves 1½ to 3 inches long, often clammy. Corolla purplish. Odour fetid.

Fetid Eriope. Shrub 2 to 3 feet.

12 E. ALPE´STRIS (Mart. mss. ex Benth. lab. p. 145.) shrubby; branches and petioles clothed with spreading pili; leaves petiolate, oval, obtuse, crenated, cuneately rounded at the base, wrinkled, villous on both surfaces, hardly canescent beneath; racemes paniculately branched. ♄. S. Native of Brazil, in the province of Bahia, on the top of Mount Itambe.

Alp Eriope. Shrub 3 to 4 feet.

13 E. MACROSTA`CHYA (Mart. mss. ex Benth. lab. p. 145.) shrubby; branches pubescent, or villous; leaves petiolate, ovate-lanceolate, acute, denticulated, rounded at the base, or subcordate, wrinkled, villous on both surfaces; panicle ample, branched. ♄. S. Native of Brazil, in the provinces of Minas Geraes, Rio Janeiro, &c., in elevated fields, and on the banks of rivers. Leaves 1½ to 3 inches long. Corolla bluish purple, pubescent outside.

Var. β, villòsa (Benth. lab. p. 145.) stem clothed with rufous tomentum, and spreading pili. Leaves clothed with rufous villi beneath, and more wrinkled than in the species.

Long-spiked Eriope. Shrub tall.

Cult. Plants of easy culture. A light, rich soil will suit them, and cuttings will strike root readily in the same kind of earth.

XVII. LAVA´NDULA (from *lavo*, to wash; from its use in fomentations and baths.) Tourn. inst. 93. Lin. gen. no. 711. Schreb. gen. no. 965. Gært. fruct. 1. p. 320. t. 66. Juss. gen. 113. ed. Usteri, p. 127. Benth. lab. p. 146. Stœ`chas, Tourn. inst. 95. Fabrícia, Adans, fam. 188. Chætóstachys, Benth. in Wall. pl. rar. asiat. 2. p. 19.

LIN. SYST. *Didynàmia*, *Gymnospérmia*. Calyx ovate-tubular, nearly equal, 1-3, or rarely 15-nerved, shortly 5-toothed; the 4 lower teeth nearly equal, or the two lowest ones are narrower: the upper one, (and sometimes the lateral ones are broader,) sometimes drawn out at the apex into a dilated appendage. Corolla with an exserted tube, a somewhat dilated throat, and an oblique, bilabiate limb: upper lip 2-lobed: lower one 3-lobed:

lobes all nearly equal, spreading. Stamens 4, didynamous: lower ones the longest, inclosed, declinate; filaments glabrous, free, toothless; anthers ovate-reniform, confluent, 1-celled. Style shortly bifid at apex: lobes flattened, rather connate, with stigmatiferous margins. Disk concave, furnished with 4 fleshy scales on the margin in front of the achenia. Achenia glabrous, smooth, adnate behind to the scales of the disk.—Under shrubs, shrubs, or perennial, herbaceous plants. Stems leafy at the base, and usually naked under the spikes. Floral leaves bractea-formed, with 1-5 flowers on both sides, opposite, rarely alternate. Flowers approximate into terminal, simple spikes, which are sometimes branched at the base. Bracteas small, setaceous, or wanting.

SECT. I. STŒ'CHAS (the Latin name of *French Lavender;* because it grows wild in the Stoechade Islands.) Benth. lab. p. 147. Floral leaves 3-5-flowered, disposed in an imbricated, dense spike: the upper floral leaves sterile, and comose. Upper tooth of calyx dilately appendiculate. Small trees, with quite entire, or pinnately toothed leaves.

1 L. STŒ'CHAS (Lin. spec. p. 800.) leaves oblong-linear, quite entire, with revolute edges, clothed with hoary tomentum on both surfaces; spikes dense, comose; whorls 6-10-flowered; calyxes ovate, hoary, shorter than the tube of the corolla. ♄. H. Native of the South of Europe and North of Africa, in many places; also of Teneriffe. Sibth. et Smith, fl. græc. 6. t. 549. Stœ'chas officinàrum, Mill. dict. no. 1. Stœ'chas purpùrea, Tourn. inst. 201. t. 95.—Blackw. icon. t. 241. Stœ'chas vulgàris, Park. theatr. 67. Leaves about ½ an inch long. Corolla dark purple; tube a little exserted. Spike tetragonal, with a tuft of purple leaves at top. The whole plant has a strong aromatic, agreeable flavour.

Var. β, macrostàchya (Ging. hist. lav. p. 130.) spikes thicker, octagonal, with a tuft of coloured leaves at top; leaves broader. ♂. F. Native of Corsica, Sicily, Naples, and Teneriffe. Floral leaves 4 in a whorl.

French Lavender. Fl. May, July. Clt. 1568. Shrub 2 to 3 feet.

2 L. PEDUNCULA'TA (Cav. præl. p. 70.) leaves lanceolate, quite entire, with revolute edges, clothed with hoary tomentum on both surfaces; spikes dense, comose; whorls 6-10-flowered; calyxes elongated, pubescent, equalling the tube of the corolla. ♄. F. Native of Spain, Portugal, among heath on the banks of the Tagus, but rare; but more common between Lamego and Viseu; also of Madeira, Masson. L. Stœ'chas, β, Lin. spec. p. 800. Stœ'chas pedunculàta, Mill. dict. no. 2. —Ger. emac. p. 568. f. 4. Spikes thicker, more loose, and on longer peduncles than *L. Stœ'chas*, &c., and the odour weaker.

Long-peduncled Lavender. Fl. May, July. Clt.? Shrub 2 to 3 feet.

3 L. VI'RIDIS (Ait. hort. kew. 2. p. 288.) leaves oblong-linear, quite entire, with revolute edges, green on both surfaces, villous; spikes rather loose, and somewhat comose at top; whorls 6-10-flowered; calyx tubular, rather villous, equalling the tube of the corolla. ♄. F. Native of Portugal, and Madeira. Lher. sert. angl. 19. t. 21. Hoffm. et Link, fl. port. 1. p. 91. t. 4. Stœ'chas víridis, Ray. hist. 1. p. 514. Lavándula Massònii, Cels, ex Ging. hist. lav. p. 137. This species differs from *L. Stœ'chas*, in the leaves being villous, and in the spike and coma being green; the spikes are looser, and the upper tooth of calyx is furnished with a longer appendage.

Green Lavender. Fl. May, July. Clt. 1777. Shrub 2 to 3 feet.

4 L. DENTA'TA (Lin. spec. p. 800.) leaves oblong, linear, or lanceolate, bluntly and pinnately toothed, pubescent, hoary beneath, with revolute edges; spikes loose, rather tufted at apex; calyx oblong, pubescent, about equal in length to the tube of the corolla. ♄. F. Native of the South of Europe, and Africa, in the region of the Mediterranean; Spain, Balearic Islands, Naples, Sicily, Zante; Island of Madeira. Curt. bot. mag. t. 400. Stœ'chas dentàta, Mill. dict. no. 3.—Barrel. icon. 797. Bauh. hist. 3. p. 279. f. 2. Branches ascending, tetragonal, tomentosely pubescent. Leaves 1 to 1½ inch long. Spike interrupted at the base. Whorls 6-10-flowered. Corollas like those of *L. Stœ'chas*. Spike terminated by a few purplish leaves.

N.B. L. heterophýlla, Poir. suppl. 2. p. 308. includes 2 garden varieties, the one probably a hybrid between *L. dentàta* and *L. vèra;* the other between *L. dentàta* and *L. spìca*.

Toothed-leaved Lavender. Fl. June, Sept. Clt. 1597. Shrub 1 to 2 feet.

SECT. II. SPI'CA (from *spica*, an ear of corn; from the similarity of a spike of lavender to an ear of wheat.) Benth. lab. p. 148. Floral leaves 3-5-flowered, approximate into a loose spike: superior ones shorter than the calyxes, fertile. Upper tooth of calyx dilately appendiculate.—Shrubs. Branches naked at top. Leaves quite entire.

5 L. VE'RA (D. C. fl. fr. 5. p. 398.) leaves oblong-linear, or lanceolate, quite entire, hoary in the young state, with revolute edges; spikes interrupted; whorls 6-10-flowered; floral leaves rhombeo-ovate, acuminated, membranous, all fertile: upper ones shorter than the calyxes; bracteas almost wanting. ♄. H. Native of the South of Europe, and North of Africa, in the region of the Mediterranean, on sterile hills and declivities. L. spìca, var. α, Lin. spec. p. 800. L. spìca, Lin. spec. 800. Schkuhr, handb. 2. t. 157. Lois. fl. gall. 2. p. 346. Woodv. med. bot. p. 150. t. 55. Sabb. hort. rom. 3. t. 72.—Berg. 2. p. 233. L. spìca, α, angustifòlia, Mill. dict. no. 2. Garid. aix. t. 60. L. officinàlis, Clairv. in Vill. dauph. 2. p. 363. L. vulgàris, α, Lam. fl. fr. 2. p. 403. L. angustifòlia, Mœnch. meth. 389. Shrub much branched; branches tetragonal, rather tomentose, leafy at bottom, and naked at top. Calyxes bluish. Corollas blue, seldom white. Lavender is a plant which has long been celebrated for its virtues in nervous disorders. According to Dr. Cullen it is, "whether used externally or internally, a powerful stimulant to the nervous system, and amongst others of this order, named cephalics, the lavender has the best title to it, and it appears to me probable that it will seldom go farther than exciting the energy of the brain to a fuller impulse of the nervous power into the nerves of the animal function, and seldom into the vital." The officinal preparations of Lavender are the essential oil, a simple spirit, and a compound tincture. The essential oil has been used for stimulating paralytic limbs, and for several external purposes, but it is only now used as a perfume. Imitation scent-bottles are made of the fragrant spikes of Lavender. They are also put in paper bags, and placed among linen to perfume it. Lavender water, a well-known perfume, is distilled from the flowers, for which purpose the plant is cultivated extensively in different places, but more especially at Mitcham in Surrey, and Maidenhead in Berkshire.

Lavender is propagated by slips and cuttings, like rosemary; it likes a dry soil, and may be planted either in distinct plants two feet asunder, or to form a sort of hedge-row, in one or more lines, especially where large supplies of flowers are required for distilling. The plants will advance in a close, branchy growth, and when established will produce plenty of flowers in July and August. Gather them while in perfection, cutting the spikes off close to the stem; then give the plants occasional trimmings, taking off the gross and rampant shoots of

the year, and the decayed flower spikes. In dry gravelly, or poor soil its flowers have a more powerful odour, and the severity of our winters has little effect on it; while in rich garden soil, although it grows strongly, it is apt to be killed, and the flowers have less perfume.

True Lavender. Fl. July, Sept. Clt. 1568. Shrub 1 to 2 feet.

6 L. spìca (D. C. fl. fr. 5. p. 397.) leaves oblong-lanceolate, somewhat spatulate, quite entire, narrowed a long way at the base, with somewhat revolute margins, hoary on both surfaces; spikes somewhat interrupted; whorls 6-10-flowered; floral leaves lanceolate, or linear, all fertile: upper ones shorter than the calyxes; bracteas linear-subulate, shorter than the calyxes. ♄. H. Native of the South of Europe, and North of Africa, in the region of the Mediterranean. L. spìca, β, Lin. spec. 800. L. vulgàris, β, Lam. fl. fr. 2. p. 403. L. latifòlia, Vill. dauph. 2. p. 363. L. spìca, Mill. dict. no. 1.—Ger. emac. p. 583. f. 1, 2.—Park. theatr. p. 73. f. 1. Calyxes bluish. Corollas blue, rarely white. Habit of *L. vèra*, but more humble, and the aspect more hoary; the leaves at the base of the branches more crowded; the spikes more dense and shorter: the floral leaves different in form, and the bracteas present. The flowers of both this and the preceding have a fragrant, agreeable smell, and a warm, pungent, bitterish taste; and this species yields by distillation thrice as much essential oil as the preceding; hence in the southern parts of France, where both kinds grow wild, this only is used for the distillation of what is called oil of spike.

Spica, or Broad-leaved Lavender. Fl. July, Sept. Clt. 1568. Shrub 1 to 2 feet.

Sect. III. Pterόstachys (from πτερον, *pteron*, a wing; and σταχυς, *stachys*, a spike.) Ging. hist. lav. p. 158. Benth. lab. p. 149. Floral leaves 1-flowered, opposite, disposed in a loose spike: the upper ones not comose. Calyx 13-nerved, sub-bilabiate; upper lip tridentate: middle tooth broader, not appendiculate: lower lip bidentate.—Perennial herbs rather woody at the base. Leaves toothed, or deeply multifid.

7 L. rotundifòlia (Benth. lab. p. 150.) leaves petiolate, broad-ovate, deeply toothed, rounded at the base, glabrous on both surfaces; spikes elongated, slender; flowers solitary, opposite. ♄. G. Native of the Island of St. Nicolas, one of the Cape Verds. Habit and spike of *L. abrotanoìdes*. Branches pubescent, or glabrous. Leaves 1 to 1½ inch long. Calycine teeth lanceolate, acute.

Round-leaved Lavender. Shrub.

8 L. pinna'ta (Lin. fil. diss. lav. p. 55.) plant clothed with very short, hoary tomentum; leaves pinnate, or bipinnate, or pinnatifid: lobes quite entire, obtuse, very blunt; floral leaves ovate, acutish; spikes elongated, slender, usually by threes, hoary; flowers solitary, opposite. ♄. G. Native of the Canary Islands, on rocks by the sea-side. Jacq. icon. rar. 1. t. 106. Curt. bot. mag. t. 401. Spike tetragonal, 2-3 inches long, loose. Floral leaves rather longer than the calyxes. Corollas purple; tube about twice as long as the calyx.

Var. β, *pubéscens* (Benth. lab. p. 150.) plant less hoary; spike more loose. ♄. G. L. formòsa, Dietr. lex. naschtr. 4. Link. enum. 1. p. 103. Ging. hist. lav. p. 153.

Pinnate-leaved Lavender. Fl. April, Aug. Clt. 1777. Shrub 1 to 2 feet.

9 L. abrotanoìdes (Lam. dict. 3. p. 429.) green, rather pilose; leaves bipinnate: lobes entire, bluntish; floral leaves ovate-lanceolate, very acute; spikes elongated, slender, branched; flowers solitary, opposite. ♄. G. Native of the Canary Islands. L. Canariénsis, Mill. dict. no. 4. L. élegans, Desf. hort. par. p. 71. Mirb. ann. mus. 15. t. 5. f. 5.—Comm. rar. t. 27. This differs from *L. pinnàta* in its superfices being green, not hoary, in the stem being pubescent at the base, in the leaves being more deeply cut, in the segments being narrower, in the spikes being usually 5 together, longer, and more loose, and in the floral leaves being more acute. Corollas purple, rarely white.

Southernwood-like Lavender. Fl. June, Sept. Clt. 1699. Shrub 1 to 2 feet.

10 L. multífida (Lin. spec. p. 800.) green, pilose; stems leafy; leaves bipinnatifid: lobes rather cuneated, acute: floral leaves cordately dilated, acuminated, about equal in length to the calyxes; spike rather dense; calyxes tomentose. ♂. G. Native of the South of Europe, and North of Africa, in the region of the Mediterranean.—Barrel. icon. 795.—Bauh. hist. 3. p. 281. f. 2.—Lob. icon. 432. Very nearly allied to the preceding, but differs in the spikes being shorter, and usually simple, in the floral leaves being broad, and villous outside, and in the calyxes being tomentose, and in the peduncles being one-half shorter. Corollas purple, rarely white.

Multifid-leaved Lavender. Fl. July, Sept. Clt. 1597. Shrub 1½ foot.

11 L. pube'scens (Decaisne, in ann. sc. nat. par. 1834. 2. p. 246.) hairy; stems strict; leaves pinnate: segments linear, entire, or a little cut; floral leaves membranous, about equal in length to the calyxes; spikes slender; flowers solitary, opposite. ♄.? G. Native on Mount Sinai, N. Bovè. This species appears intermediate between *L. multífida* and *L. coronopifòlia*, but differs in hairiness, in the stems being more leafy, in the spikes being more dense, and in the floral leaves being larger.

Downy Lavender. Shrub 1 to 2 feet.

12 L. coronopifòlia (Poir. dict. 2. p. 308.) glabrous; stems nearly naked; leaves pinnate: segments linear, entire; floral leaves very short, ovate, very acute; spikes slender; flowers solitary, opposite, remote. ♄.? G. Native of the East of Africa, and West of Asia; in Egypt, near Val de L' Egarement, in the desert of Suez, Delile; Persia, Burmann. Leaves 1-2 inches long, rather fleshy. Calyx rather cinereous. Corolla bluish; tube about twice as long as the calyx.

Buckhorn-leaved Lavender. Shrub.

Sect. IV. Chætόstachys (from χαιτη, *chaite*, a head of hair; and σταχυς, *stachys*, a spike.) Benth. in Wall. pl. asiat. rar. 2. p. 19. Lab. p. 151. Floral leaves 1-flowered, alternate, disposed in a rather loose branched spike: the upper ones not comose. Calyx 15-nerved, almost equally 5-toothed. Leaves deeply multifid.

13 L. Burma'nni (Benth. lab. p. 151.) clothed with fine pubescence; stems leafy; leaves bipinnate: segments linear, quite entire; floral leaves membranous, dilated at the base, setaceously acuminated; spikes rather dense; flowers solitary, alternate, approximate. ♃.? S. Native of the East Indies, Burmann, Klein, &c.; in the North of India, about Indor, Aurungabad, Drolulabad, and Ellora, Jacquemont. L. mutàbile, Burm. ind. 126. icon. t. 38. f. 1. but not of Lin. Bysteròpogon bipinnàtus, Roth. nov. spec. p. 225. Chætóstachys multífida, Benth. in Wall. pl. rar. asiat. 2. p. 19. Stem herbaceous, tetragonal. Margins of the segments of the leaves revolute. Spike generally branched. Corolla slender, exceeding the calyx.

Burmann's Lavender. Pl.?

Cult. All the species of Lavender are of easy culture and propagation, increasing readily either by seeds or cuttings. *L. vèra* and *L. spìca* are the only truly hardy species, all the rest requiring the protection of a greenhouse, or frame during winter. The *L. vèra* and *L. spìca* abide longer in a dry, gravelly, or poor soil, than in a rich earth, although in such

a soil they grow stronger; nor are the plants so strong scented, or fit for medicinal uses, as those which grow in barren, rocky places.

Tribe II.

MENTHOI'DEÆ (from *mentha*, mint; and *idea*, similar; so called from the plants contained in this tribe agreeing with the genus *Méntha* in the characters given below.) Benth. lab. p. 152. Corolla somewhat campanulate, or funnel-shaped; tube shorter than the calyx, or scarcely longer; limb 4-5-cleft; lobes nearly equal. Stamens distant, straight, or diverging, not approximate by pairs, nearly equal, or the lower ones are longest; the superior ones sometimes abortive; anthers confluently 1-celled, or somewhat parallelly 2-celled.

XVIII. POGOSTE'MON (from *πωγων*, *pogon*, a beard; and *στημων*, *stemon*, a stamen; in allusion to the filaments being generally bearded in the middle.) Desf. mem. mus. 2. p. 154. Benth. lab. p. 152. Méntha species, Roxb.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx ovate-tubular, equal, 5-toothed; throat naked inside. Corolla with an inclosed tube, and a quadrifid, somewhat bilabiate limb: upper lip trifid: lower one entire: lobes all entire, nearly equal, spreading. Stamens 4, exserted, straight, or a little declinate; filaments bearded in the middle, or naked; anthers terminal, 1-celled, dehiscing by a transverse chink. Style almost equally bifid: lobes subulate; stigmas minute, terminal.—Herbs. Leaves opposite, petiolate, entire, toothed, or cut. Whorls many-flowered, equal, or secund, sometimes propped by bracteas, glomerately spiked, the spikelets racemosely panicled: sometimes loosely approximate into simple, spike-formed racemes. This genus differs from *Dysophýlla* in the greater irregularity of the corolla; and from the other, *Menthoideæ*, in the unilocular anthers, and slight declination of the stamens.

§ 1. Panicula'tæ. *Flowers paniculately branched,* ex Benth.

1 P. panicula'tum (Benth. in Wall. pl. rar. asiat. 1. p. 30. lab. p. 153.) stem erect, downy, with erect pili; leaves unequally ovate, deeply serrated, narrowed at the base; whorls globose, secund, remote, racemose; racemes terminal; bracteas broad-ovate, membranous, exceeding the calyxes; calyx membranous, pubescent, with lanceolate teeth; filaments bearded. ♃. S. Native of the East Indies; as of Malabar and Tavoy, in humid places. Elshóltzia paniculàta, Willd. spec. 3. p. 59. Hyssòpus cristàtus, Lam. dict. 3. p. 187. Manam podam, Rheed. mal. 10. p. 129. t. 65. Leaves 3 inches long. Whorls distinct. Corollas slender.

Panicled Pogostemon. Pl. 2 to 3 feet.

2 P. plectranthoìdes (Desf. ann. mus. 2. p. 154. t. 6. Benth. lab. p. 153.) clothed with hoary pubescence; stem erect; leaves ovate, cuneated, or rounded at the base, doubly serrated; flowers sub-secund, glomerately spicate; spikes ovate-cylindrical, pedunculate, panicled; bracteas broad-ovate, striated, glandularly dotted, exceeding the calyxes; calyx membranous, hairy, glandularly dotted, with broad-lanceolate, acute teeth; filaments bearded. ♃. S. Native of the East Indies, in humid places; as of Hindostan, Nipaul, and Kamaon, Wall.; towards Deyra Dhoon, Roxb.; Kheeree pass, Royle; Java, at the foot of Mount Gede, Blume; and of the Mauritius, Herb. D. C. Sims, bot. mag. t. 3238. Oríganum Bengalénse, Burm. fl. ind. p. 128. t. 38. f. 1. bad. Méntha secúnda, Roxb. hort. beng. p. 44. Wénsea pyramidàta, Wendl. coll. 2. p. 26. t. 84. Branches bluntly tetragonal. Leaves 2-3 inches long. Whorls densely glomerate. Bracteas and calyxes coloured at top, villous. Genitals twice as long as the corolla. Corolla white. ?

Plectranthus-like Pogostemon. Fl. July. Clt. ? Pl. 2 to 3 feet.

3 P. villòsum (Benth. lab. p. 153.) villous; stem erectish; leaves ovate, rounded at the base, narrowed into the petioles, crenated; flowers sub-secund, glomerately spicate; spikelets cylindrical, nearly sessile, panicled; bracteas ovate, striated, pubescent, equalling the calyxes; calyx villous, with lanceolate, acute teeth; filaments bearded. ♃. S. Native of Silhet, Wall. Leaves about half the size of those of the preceding. Panicle denser, and narrower, raceme-formed. Corolla smaller.

Var. β, *macrophýllum* (Benth. lab. p. 154.) leaves twice as large as those of the species, less deeply and bluntly toothed. ♃. S.

Villous Pogostemon. Pl. 2 to 3 feet.

4 P. parviflòrum (Benth. in Wall. pl. rar. asiat. 1. p. 31. lab. p. 154.) stem ascending, finely pubescent; leaves smoothish, ovate-oblong, narrowed at the base, doubly crenated; flowers sub-secund, glomerately spicate; spikelets nearly sessile, racemose; racemes axillary, and terminal; bracteas ovate, striated, pubescent, exceeding the flowers; calyx villous, membranous, with narrow-lanceolate teeth; filaments bearded. ♃. S. Native of Silhet, Wall. Stem procumbent at the base, at length glabrous. Leaves 3-4 inches long, on short petioles. Panicle raceme-formed, more slender than in *P. plectranthoìdes*. Whorls, calyxes, and flowers one-half smaller. A variety of this was gathered by Jacquemont, at Saharumpur, with glabrous leaves, and villous panicles.

Small-flowered Pogostemon. Pl. 2 to 3 feet. ?

5 P. gla'brum (Benth. in Wall. pl. rar. asiat. 1. p. 31. lab. p. 154.) quite glabrous; stem erect; leaves ovate, narrowed at the base, crenated; whorls nearly equal, globose, spicate; spikes panicled; bracteas ovate, 3 times shorter than the calyx; calyx glabrous, with ovate-lanceolate teeth; filaments bearded. ⊙. S. Native of Nipaul, Wall. Perílla polystàchya, D. Don, prod. fl. nep. p. 115. Habit of *P. plectranthoìdes*, but differs in being glabrous in all its parts, &c. Stem tetragonal.

Glabrous Pogostemon. Pl. 2 to 3 feet.

6 P. tuberculòsum (Benth. l. c.) pubescent from short, stellate pili, which rise from tubercles; stem erect; leaves ovate, narrowed at the base, doubly serrated, tuberculately wrinkled on both surfaces; whorls equal, globose, remote, racemose; racemes panicled; bracteas minute; calyx tubercular, with subulate teeth; filaments bearded. ⊙. ? S. Native of Nipaul, Wall. Differs from *P. glàbrum* in being tubercular. Flowers nearly sessile.

Tubercled Pogostemon. Pl. 2 to 3 feet. ?

7 P. Heynea'num (Benth. l. c.) stem ascending, pubescent; leaves nearly glabrous, ovate, narrowed at the base, irregularly crenated; whorls sub-secund, interruptedly spiked; spikes panicled; bracteas ovate, almost nerveless, about equal in length to the calyxes; calyx pubescent, with ovate teeth; filaments bearded. ⊙. ? S. Native of the Peninsula of India, Java, Ceylon, in boggy places. Oríganum I'ndicum, Roth. nov. spec. p. 265. Cottam, Rheed. mal. 10. p. 153. t. 77. Differs from the preceding in the whorls being nearly all distinct. Corollas like those of *P. parviflòrum*.

Heyne's Pogostemon. Pl. 2 to 3 feet. ?

§ 2. Racemòsæ. *Racemes simple, somewhat spicate,* ex Benth.

8 P. vesti'tum (Benth. l. c.) clothed with tomentose wool; stem ascending; leaves ovate, crenated, subcordate at the base, wrinkled, clothed with soft tomentum: upper floral leaves shorter than the calyxes; racemes simple; whorls secund, approximate; bracteas linear-subulate; calyx villous, with lanceolate teeth; filaments bearded. ♄. ? S. Native of the Peninsula

of India, Heyne. Stems woody at the base. Raceme 2-3 inches long.

Clothed Pogostemon. Pl. ascending.

9 P. rotunda'tum (Benth. l. c.) villous; stem ascending; leaves roundish, doubly crenated, truncate at the base or cordate; upper floral leaves shorter than the calyxes; racemes simple; whorls equal, rather remote; bracteas linear-subulate; calyx villous, with lanceolate teeth; filaments bearded. ⊙.? S. Native of the peninsula of India, Heyne. Stem procumbent at the base. Raceme 2-3 inches long. Corolla small.

Roundish-leaved Pogostemon. Pl. 1 foot.

10 P. mólle (Benth. lab. p. 155.) clothed with soft villous tomentum; stem ascending; leaves broad-ovate, crenated, roundedly cuneated at the base: floral ones rather longer than the calyxes; racemes simple; whorls equal: lower ones remote: upper ones approximate; bracteas linear-subulate; calyx villous, with lanceolate-subulate teeth; filaments bearded. ⊙.? S. Native of the peninsula of India, among the mountains of Madura, Wight. Stem more branched than that of *P. rotundifòlium;* and the leaves more numerous, and not half the size, &c.

Soft Pogostemon. Pl. 1 to 2 feet.?

11 P. hirsu'tum (Benth. lab. p. 155.) hairy from adpressed pili; stem ascending; leaves petiolate, ovate, acuminated, serrated, rounded at the base; upper floral leaves shorter than the calyxes; racemes simple; whorls equal, distinct; bracteas linear-subulate; calyx hispid, with lanceolate, acute teeth; filaments shortly exserted, bearded. ⊙.? S. Native of Ceylon, Macrae. Racemes 2-3 inches long. Corollas small. Filaments densely bearded with purplish hairs.

Hairy Pogostemon. Pl. 1 to 2 feet.?

12 P. rupe'stre (Benth. lab. p. 156.) glabrous; stem creeping; branches ascending; leaves petiolate, ovate-lanceolate, coarsely-toothed, narrowed at the base: floral ones and bracteas minute; racemes simple; whorls remote, few-flowered; calyx glabrous, with ovate, short teeth; filaments bearded. ♃. S. Native of Ceylon, among rocks at Nuera Ellia, Macrae. Leaves 1 to 1½ inch long. Corollas minute.

Rock Pogostemon. Pl. creeping, 1 foot.?

13 P. speciòsum (Benth. l. c.) plant pilosely hispid; stem erect; leaves broad-ovate, cordate at the base, doubly crenated; racemes simple; whorls terete, loose, approximate; bracteas minute; calyx nearly glabrous, tubular, with subulate teeth; filaments naked. ⊙.? S. Native of the peninsula of India, among the mountains of Madura, Wight. This differs from the following, in the leaves being larger and broader, and cordate at the base; also in the spikes being dense, and in the genitals being much exserted.

Showy Pogostemon. Pl. 1 to 3 feet.?

14 P. Wi'ghtii (Benth. lab. p. 156.) plant pilosely hispid; stem erect?; leaves petiolate, ovate, acute, doubly toothed or cut, roundly cuneated at the base; racemes simple; whorls equal, approximate, or the lower ones are remote; bracteas linear-subulate; calyx glabrous, with lanceolate-setaceous, hispid teeth; filaments naked. ⊙.? S. Native of the peninsula of India, among the mountains of Madura. Leaves like those of *Làmium*. Corollas minute. Filaments glabrous, or finely pubescent.

Wight's Pogostemon. Pl.?

15 P. menthoi'des (Blum. bijdr. p. 825.) stem herbaceous; leaves ovate, acutish at both ends, doubly toothed above the base, pubescent; spike terminal, elongated, simple: whorls approximate; filaments naked. ⊙.? S. Native of Java, in humid woods on Mount Gede.

Mint-like Pogostemon. Pl.?

Cult. For culture and propagation see *Elshóltzia*, p. 714.

XIX. DYSOPHY'LLA (from δυσοδης, *dysodes*, fetid; and φυλλον, *phyllon*, a leaf; probably in reference to the offensive smell of the leaves.) Blum. bijdr. p. 826. Benth. lab. p. 156. —Chotèkia, Opiz. et Corda, in bot. zeit. 1830. 1. p. 33.—Méntha species of Lin.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, equal, 5-toothed; throat naked inside. Corolla with an inclosed tube, and a nearly equal, quadrifid limb: upper lobe entire or emarginate: lower one spreading a little. Stamens 4, exserted, straight or hardly declinate; filaments bearded in the middle; anthers terminal, 1-celled, dehiscing by a transverse chink. Style somewhat equally bifid at top: lobes subulate; stigmas minute, terminal.—Herbs, with opposite or verticillate leaves. Whorls many-flowered, densely approximate, or imbricate into terminal spikes. This genus differs principally from *Pogostèmon* in the more regular corolla.

§ I. Oppositifòliæ. *Leaves opposite.*

1 D. strigòsa (Benth. in Wall. pl. rar. asiat. 1. p. 30. lab. p. 157.) clothed with strigose, adpressed hairs; stem erect; leaves opposite, nearly sessile, lanceolate-ovate, coarsely serrated: floral ones lanceolate, shorter than the flowers; spikes thick, rather loose; calyx ovate, hairy, with subulate, erect teeth. ♃.? S. Native of Silhet, Wall. Leaves 1½ inch long. Spikes somewhat interrupted, 3-4 inches long. Corolla somewhat irregular. Intermediate between *Pogostèmon* and *Dysso-phylla.*

Strigose Dysophylla. Pl. 1½ foot.

2 D. myosuroi'des (Benth. l. c.) clothed with silky tomentum; stem erect; leaves opposite, on short petioles: floral ones ovate, minute; spikes dense; calyx tomentose, with short straight teeth. ♃.? S. Native of the peninsula of India. Méntha myosuroìdes, Roth, nov. spec. p. 257. Leaves irregularly subcrenated. Corollas very minute.

Mouse-tail-like Dysophylla. Pl. ½ to 1 foot.

3 D. auricula'ria (Blum. bijdr. p. 826.) clothed with soft spreading hairs; stems procumbent; leaves opposite, nearly sessile, ovate-oblong, coarsely serrated: floral ones ovate-lanceolate, about equal in length to the flowers; spikes very dense; calyx villous, with ovate teeth, which connive after florescence. ♃. S. Native of the East Indies, in the peninsula and islands of the Indian Archipelago, in ditches and bogs; Ceylon, Bengal, Penang, Bournou, Amboyna, and Moluccas. Méntha auriculària, Lin. mant. p. 81. Méntha fœ'tida, Burm. ind. p. 126. Majàna fœ'tida, Rumph. amb. 6. p. 41. t. 16. f. 2.

Auricled Dysophylla. Pl. procumbent.

§ 2. Verticilla'tæ. *Leaves verticillate.*

4 D. crucia'ta (Benth. l. c.) clothed with soft spreading hairs; stems elongated, procumbent, nearly simple; leaves 4 in a whorl, rarely 5 or 6, lanceolate, obtuse, quite entire, with revolute margins: floral ones lanceolate, about equal in length to the flowers; spikes dense; lower whorl distinct; calyx villous, with bluntish erectish teeth. ♃. S. Native of Nipaul. Méntha quadrifòlia, D. Don, prod. fl. nep. p. 113. but not of Roxb. Corollas purple.

Cruciate-leaved Dysophylla. Fl. July, Aug. Clt. 1820. Pl. procumbent.

5 D. quadrifòlia (Benth. l. c.) clothed with tomentose villi; stem erect; leaves 4 in a whorl, elliptic-linear, quite entire, or remotely serrated, narrowed at both ends: floral ones linear, shorter than the whorls; spikes elongated, rather interrupted at the base; calyx ovate, with narrow-lanceolate, acute, erect teeth. ♃. S. Native of the East Indies, in stagnant water

about Calcutta, Circars, Tavoy, &c. Méntha quadrifòlia, Roxb. hort. beng. p. 44. but not of D. Don. Chotèkia serícea, Opiz. et Corda, in bot. zeit. 1830. 1. p. 35.

Var. β, velutìna (Benth. lab. p. 158.) leaves nerved, narrowed into the petioles at the base. ♃. S. Native of the Pundua mountains. Leaves 1-3 inches long.

Four-leaved Dysophylla. Pl. 2 feet.

6 D. verticilla'ta (Benth. l. c.) glabrous; stem erect or ascending; branches and leaves 6-10 in a whorl; leaves long-linear, narrowed at both ends; spikes very dense; teeth of fructiferous calyx ovate, spreading in a stellate manner. ♃. S. Native of Bengal, Silhet, Cochinchina, in water; frequent in bogs in Goulburn Island, and on the north coast of New Holland. Méntha stellàta, Lour. coch. p. 361. Méntha verticillàta, Roxb. hort. beng. p. 44. Leaves 2-3 inches long, remotely serrated. Corollas minute, purple.

Verticillate Dysophylla. Pl. 1 to 1½ foot.

7 D. crassicau'lis (Benth. l. c.) glabrous; stem ascending, branched; leaves 4 in a whorl, sometimes 5 or 6, lanceolate-linear, dilated at the base, almost quite entire: floral ones lanceolate, exceeding the flowers; spikes elongated; calyx pubescent, with oblong, erectish teeth. ♃. S. Native of Silhet and Bengal. This species is intermediate between *D. verticillàta* and *D. mèdia*. Leaves 2 inches long, and more.

Thick-stemmed Dysophylla. Pl. 1 to 1½ foot.

8 D. pu'mila (Benth. l. c.) glabrous; stem ascending, branched; leaves 4 in a whorl: lower ones usually 6, elliptic-linear, narrowed at both ends, remotely serrated: floral ones ovate; calyx villous, campanulate, inflated in the fructiferous state, with bluntish, erectish teeth. ♃. S. Native of Nipaul, Wall.; Cashmere, Jacquemont. Méntha pùmila, Graham, in edinb. phil. journ. 1828. p. 393. Méntha verticillàta, D. Don, prod. fl. nep. p. 114. Hook. in bot. mag. 2907. but not of Roxb. Herb aquatic, like the rest. Corollas purple.

Dwarf Dysophylla. Fl. July, Sept. Clt. 1826. Pl. ½ foot.

9 D. stella'ta (Benth. l. c.) glabrous or pubescent at top; stem creeping; branches erect, nearly simple; leaves 6-8 in a whorl, narrow-linear, about equal in length to the internodes, quite entire: floral ones subulate; calyx villous, ovate, with erect, acutish teeth. ♃. S. Native of Malabar and Mysore. Méntha stellàta, Hamilt. mss. but not of Lour. Méntha quaternifòlia, Roth, nov. spec. p. 256. ?—A small plant, with the habit of *Gàlium vèrum*. Spikes dense, villous, 1-3 inches long. Corollas small, purple: upper tooth emarginate.

Starry-leaved Dysophylla. Pl. ¼ to ½ foot.

Cult. Most of the species would grow well in the open air in summer, if planted in a cistern or pond; but in winter, they will require the protection of a greenhouse or stove; they are readily increased by separating the shoots.

XX. ELSHO'LTZIA (named after J. S. Elsholtz, a Prussian botanist.) Willd. in Uster. mag. 2. p. 5. t. 1. spec. 3. p. 29. Benth. lab. p. 160. Méntha species, Roxb. and other authors. Perílla species, D. Don. Aphanochìlus, Benth. in bot. reg. 15. Cyclostègia, Benth. l. c.

Lin. syst. *Didynàmia, Gymnospérmia*. Calyx ovate or campanulate, nearly equal, 5-toothed; throat naked inside, often elongated in the fructiferous state. Corolla having the tube equal in length to the calyx, rarely longer: limb mostly 4-lobed: upper lobe erectish, somewhat concave, emarginate: lower ones spreading. Stamens 4, usually exserted, distant: lower ones rather the longest; filaments naked; cells of anthers diverging or divaricate, at length confluent. Style almost equally bifid at top: lobes subulate; stigmas nearly terminal. Achenia ovoid, small, smoothish.—Herbs or subshrubs. Flowers minute. Whorls many-flowered, disposed into spikes, which are sometimes loose, slender, terete or secund, and sometimes densely imbricated. Spikes usually numerous, panicled.

Sect. I. Aphanochi'lus (from αφανης, *aphanes*, obscure; and χειλος, *cheilos*, a lip.) Benth. in Wall. pl. rar. asiat. 1. p. 28. t. 24. lab. p. 161. Spikes usually loose and panicled, equal, with ovate or lanceolate floral leaves; or somewhat secund, densely imbricated by lanceolate or subulate floral leaves. Cells of anthers diverging or divaricate, at length confluent.

1 E. fla'va (Benth. lab. p. 161.) suffruticose, erect; leaves petiolate, ample, broad-ovate, acuminated, nerved: floral ones bractea-formed, ovate-lanceolate, acuminated, about equal in length to the calyxes; spikes loose, terete, axillary and terminal; corolla about twice as long as the calyx. ♄. G. Native of Nipaul, on Sheopore, and towards Gosainsthan, Wall.; at Kidarkonta, Royle. Aphanochìlus flàvus, Benth. in Wall. pl. rar. asiat. 1. p. 28. t. 34. Plant clothed with canescent pubescence. Leaves a hand long. Corollas yellow.

Yellow-flowered Elsholtzia. Shrub 2 feet.

2 E. polysta'chya (Benth. lab. p. 161.) suffruticose, erect; branches pubescent; leaves petiolate, oblong, narrowed at both ends, nerved: floral ones bractea-formed, minute; spikes loose, terete, panicled; corolla about 3 times longer than the calyx. ♄. G. Native of Nipaul, on the high mountains of Sheopore and Chandaghiri, Wall.; Mussooree, Royle. Perílla fruticòsa, D. Don, prod. fl. nep. p. 115. Aphanochìlus polystàchya, Benth. in Wall. pl. asiat. rar. 1. p. 28. t. 33. Méntha fruticòsa, Roxb. Plant pubescent, but not canescent. Leaves crenated in the upper part, 3-4 inches long, and 1½ broad.

Many-spiked Elsholtzia. Shrub 3 to 6 feet.

3 E. Stauntònii (Benth. lab. p. 161.) suffruticose, erect; branches glabrous; leaves petiolate, oblong-lanceolate, acuminated, serrately crenated, narrowed a long way at the base, quite glabrous on both surfaces; floral leaves bractea-formed, minute; spikes elongated, canescent, somewhat panicled; whorls rather loose, secund; corollas about twice as long as the hoary calyx. ♄. G. Native of China, between Pekin and Jehol, Sir G. Staunton. This species differs from *E. polystàchya*, in the branches being quite glabrous, in the leaves being narrower, &c. Stamens much exserted.

Staunton's Elsholtzia. Shrub.

4 E. leptosta'chya (Benth. lab. p. 718.) suffruticose, erect; leaves nearly sessile, ovate, narrowed at both ends: floral ones bractea-formed, membranous, oblong, equalling the calyxes; spikes slender, elongated, interrupted; flowers minute; corollas twice as long as the calyx. ♄. G. Native of Cashmere, Jacquemont. This differs from *E. polystàchya*, in the leaves being one half shorter, and in the flowers. Whorls all distinct, small, dense. Spikes canescent, 2-3 inches long.

Slender-spiked Elsholtzia. Shrub.

5 E. bla'nda (Benth. lab. p. 162.) plant herbaceous, canescent; leaves oblong, narrowed at both ends: floral ones lanceolate-subulate; whorls loose, secund; spikes panicled; corolla hardly exceeding the calyx. ♃. G. Native of Nipaul, Silhet, and Ava, Wall.; and of Arabia, on Mount Horeb. Méntha blánda, Wall. mss. Perílla elàta, D. Don, prod. fl. nep. p. 115. Aphanochìlus blándus, Benth. in Wall. pl. rar. asiat. 1. p. 29. Hook. bot. mag. 3091. Leaves about 2 inches, remotely serrated, canescent beneath. Corollas whitish. Odour of plant weak, but aromatic.

Blush Elsholtzia. Fl. Sept. Clt. 1824. Pl. 1 to 2 feet.

6 E. inci'sa (Benth. lab. p. 162.) herbaceous, nearly glabrous; leaves petiolate, rhomboid-ovate, deeply serrated; whorls equal, loose; spikes panicled; corollas hardly exceeding the calyxes. ♃. G. Native of the East Indies, in Deyra

Dhoon, Royle; Nipaul, and of Ava, at Taong-Dong, Wall. Méntha incìsa, and M. fœ'tens, Wall. mss. Méntha blánda, D. C. pl. rar. hort. gen. p. 23. t. 8. Perílla leptostàchya, D. Don, prod. fl. nep. p. 115. Hýptis stachyoìdes, Link, enum. 2. p. 106. Aphanochìlus, fœ'tens, Benth. in Wall. pl. rar. asiat. 1. p. 30. Allied to *E. blánda*, but more humble. Leaves 1 to $1\frac{1}{4}$ inch long. Calyx pubescent. Corollas minute, white.

Cut-leaved Elsholtzia. Fl. Sept. Clt.? Pl. $\frac{1}{2}$ to 1 foot.?

7 E. pube'scens (Benth. lab. p. 162.) herbaceous; stem tomentosely pubescent; leaves on short petioles, ovate-oblong, acute, crenately serrated, quite entire at the base, nearly glabrous above, and clothed with fine tomentum beneath; whorls equal, dense; corolla scarcely exceeding the calyx. ♃. S. Native of Java, Commerson. Leaves glandularly dotted beneath. Lower whorls distinct. Axis of spike hispid. Calyx villous. Two of the stamens exserted.

Downy Elsholtzia. Pl.?

8 E. molli'ssima (Benth. lab. p. 163.) herbaceous, clothed with tomentose villi; leaves on short petioles, ovate-oblong, acute, crenated, roundish at the base or narrowed; whorls equal, dense; corolla hardly exceeding the calyx. ♃. S. Native of Java, Leschenault. Calyx villous. Corollas and stamens as in *E. pubéscens*.

Very-soft Elsholtzia. Pl.

9 E. integrifòlia (Benth. lab. p. 714.) herbaceous, pubescent; leaves on short petioles, oblong-linear or lanceolate, obtuse, quite entire: floral ones bractea-formed, ovate, shorter than the flowers; whorls interruptedly spicate. ♃. G. Native of China, Sir G. Staunton. Habit of *E. pubéscens* and *E. mollissima*. Lower whorls distant. Calyx pubescent. Corollas small.

Entire-leaved Elsholtzia. Pl.

10 E. pilòsa (Benth. lab. p. 163.) herbaceous, pilosely hispid; leaves petiolate, ovate or ovate-lanceolate: floral ones bractea-formed, subulate, imbricate, exceeding the flowers; whorls densely imbricate; spikes hispid, panicled. ⊙. H. Native of Nipaul. Aphanochìlus pilòsus, Benth. in Wall. pl. rar. asiat. 1. p. 30.—An annual procumbent herb. Leaves obtuse, crenated. Corollas minute.

Pilose Elsholtzia. Pl. procumbent.

11 E. eriosta'chya (Benth. lab. p. 163.) herbaceous, pubescent; leaves on short petioles, ovate-lanceolate: floral ones bractea-formed, ovate, shorter than the flowers; whorls densely imbricate; spikes tomentose, panicled. ♃.? G. Native of Nipaul and Buddrinath, Wall. Habit almost of *E. strobilífera*. Leaves serrately crenated, villous above and tomentose beneath. Calyx clothed with woolly tomentum. Corolla exceeding the calyx, yellow.

Woolly-spiked Elsholtzia. Pl. 1 foot.

12 E. de'nsa (Benth. lab. p. 714.) herbaceous, pubescent; leaves petiolate, oblong-lanceolate: floral ones bractea-formed, ovate-roundish, shorter than the flowers; whorls dense, imbricate; spikes tomentosely villous; fructiferous calyx inflated, globose. ♃.? G. Native of the north of India, in gravelly places at Ovelia, Rici, and Yonnedeh-Seursing, Jacquemont.—Very nearly allied to *E. eriostàchya*, but less villous; leaves narrower and longer; spikes densely woolly, and the fructiferous calyxes double the size. Corollas purple.

Dense-flowered Elsholtzia. Pl.

13 E. pusi'lla (Benth. lab. p. 714.) small, nearly simple, and almost glabrous; stem filiform; leaves ovate, quite entire; flowers few, subcapitate. ♃.? G. Native of Cashmere, in high grassy places beyond the Kioubrong, Jacquemont. Calyx pubescent. Corolla yellow, about twice as long as the calyx. Stamens inclosed, the two superior ones small or abortive.

Least Elsholtzia. Pl. $\frac{1}{4}$ foot.

Sect. II. Cycloste'gia (from κυκλος, *cyklos*, a circle; and στεγος, *stegos*, a covering; in reference to the cup-shaped floral leaves.) Benth. lab. p. 163. Cyclostègia, Benth. in. bot. reg. vol. 15. Spikes densely imbricate. Floral leaves connate, membranous, veiny, imbricate, cup-shaped, with ciliated margins. Anthers ovate, with confluent cells.

14 E. strobili'fera (Benth. lab. p. 163.) herbaceous; leaves petiolate, ovate: floral ones connate, cup-shaped, membranous, veiny, with ciliated edges; spikes imbricate, terminal, somewhat panicled. ♃.? S. Native of the mountains of Nipaul, and at Gosainsthan, Wall.; Kidarkonta, Royle. Cyclostègia strobilífera, Benth. in Wall. pl. rar. asiat. 1. p. 30. exclusive of the syn. of Rumph.—Herb glabrous or hairy at the base and at the axils. Spikes cylindrical. Flowers inclosed in the floral leaves. Odour gratefully aromatic.

Strobile-bearing Elsholtzia. Pl. $\frac{1}{2}$ to 1 foot.

Sect. III. Elshóltzia (see genus for derivation.) Benth. lab. p. 164. Elshóltzia, Willd. spec. 3. p. 29. Spikes dense, and are, as well as the floral leaves, secund. Anthers linear, with divaricate cells.

15 E. crista'ta (Willd. spec. 3. p. 29. and in Uster. mag. 2. p. 5. t. 1.) herbaceous, nearly glabrous; leaves petiolate, ovate or oblong, narrowed at both ends: floral ones broad-ovate, acute, ciliated, secund; whorls approximate, secund; spikes panicled. ⊙. H. Native throughout Asia, and also the south of Europe, but probably migrated from Asia; of Siberia, about Lake Baical, and the Altaian mountains. Sims, bot. mag. 2560. Lam. ill. t. 502. f. 1. Méntha ovàta, Cav. icon. 4. p. 36. t. 360. f. 1. Méntha Patrìnii, Lepech. in nov. act. petrop. 1. p. 336. t. 8. Hyssòpus ocymifòlius, Lam. dict. 3. p. 187. Hyssòpus bracteàtus, Gmel. An erect branched herb. Floral leaves exceeding the flowers. Calyxes ciliately hairy. Bracteas minute, linear. Corollas pale purple, minute. Odour of plant aromatic.

Crested-flowered Elsholtzia. Fl. May, July. Clt. 1789. Pl. 1 to $1\frac{1}{2}$ foot.

Cult. All the species are of easy culture, and will grow well in any rich light soil. The shrubby kinds are readily increased by cuttings: the perennial herbaceous species by division or by cuttings; and in summer they will all thrive in the open border; but in winter they require protection. The seeds of annual kinds only require to be sown in open borders, like those of other hardy annuals.

XXI. TETRADE'NIA (from τετρα, *tetra*, four; and αδην, *aden*, a gland; there are 4 glands on the disk or receptacle of the achenia.) Benth. in bot. reg. vol. 15. lab. p. 164. but not of Nees in Wall. pl. rar. asiat. 2. p. 57.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, 5-toothed: upper tooth the broadest: throat naked inside. Corolla with an inclosed tube, and a campanulate 5-cleft limb: lobes ovate, nearly equal. Stamens 4, equal, erect, distant; cells of anthers confluent, with reflexed valvules. Style shortly bifid at apex. Lobes of ovarium hidden by the 4 glands of the disk.—A shrub, with tetragonal branches, clothed with hoary or rufous tomentum. Leaves petiolate, oblong, crenated, rounded at the base, green above. Whorls 6-10-flowered, spicate. Spikelets numerous, racemosely panicled; panicle much branched, dense. Flowers minute, sessile. Glands red, 3 times as long as the ovaria.

1 T. fruticòsa (Benth. l. c.) ♄. S. Native of Madagascar, Hels. et Bojer. Méntha fruticòsa, Helsing and Bojer. mss.

Shrubby Tetradenia. Shrub.
Cult. For culture and propagation see *Erìope*, p. 708.

XXII. COLEBROO'KIA (named in honour of Henry Thomas Colebrooke, F.R.S., F.L.S., &c., an accomplished botanist.) Smith, exot. bot. 2. p. 111. Benth. lab. p. 165.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, equal, 5-parted, plumose, pappous at maturity, adhering to the achenia. Corolla with the tube equalling the calyx: the limb very short, nearly equal, 4-cleft: upper lobe emarginate. Stamens 4, equal, distant; filaments very short; anthers nearly sessile, 2-celled: cells parallel. Disc of ovarium equal, glandless. Style deeply bifid: lobes subulate, stigmatiferous in the upper part.—Shrubs, densely clothed with whitish or subrufous woolly tomentum. Leaves petiolate, 4-6 inches long, oblong-elliptic, crenulated; lower floral leaves similar, but smaller: upper ones bractea-formed, imbricate before florescence. Spikelets 1-3 inches long, pedunculate, panicled. Cymes of whorls distinct, head-formed, dense, sessile, involucrated by bracteas which are connate at the base. Flowers small, white. Corolla tubular, contracted in the middle.

1 C. oppositifòlia (Smith, exot. bot. 2. p. 111. t. 115.) branches, leaves, and spikes opposite. ♄. S. Native of Nipaul and Kamaon. Elshóltzia oppositifòlia, Poir. suppl. 5. p. 663. (fig. 75.)

Opposite-leaved Colebrookia. Fl.? Clt. 1820. Shrub 3 to 4 feet.

2 C. ternifòlia (Roxb. corom. 3. p. 40. t. 245.) branches, leaves, and spikes, 3 in a whorl. ♄. S. Native of the East Indies, among the Carnatic mountains, Roxb. Leaves more tomentose, and on shorter petioles than the first species, and the spikelets are more dense.

FIG. 75.

Tern-leaved Colebrookia. Clt. 1823. Shrub 3 to 4 feet.
Cult. For culture and propagation see *Erìope*, p. 708.

XXIII. PERI'LLA (meaning unknown to us.) Lin. gen. 578. Benth. lab. p. 166.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, nearly equal at the time of florescence, 5-cleft, nutant after florescence, and bilabiate: upper lip dilated, trifid: middle tooth the smallest: lower lip bifid; throat naked inside. Corolla almost equalling the calyx, nearly equal; limb shortly 5-cleft. Stamens 4, nearly equal, distant, erect, equalling the corolla; anthers 2-celled: cells parallel, at length diverging, or sub-divaricate. Style deeply bifid; stigmas terminal. Achenia dry, smooth.—An herb, with the inflorescence almost of the genus *Moschósma*, and with the flowers disposed in axillary and terminal secund spikes.

1 P. ocymoìdes (Lin. gen. 578. Sims, bot. mag. 2395.) ⊙. H. Native of Silhet, Kamaon, Nipaul, and Ava. O'cymum frutéscens, Lin. spec. p. 832. Melìssa máxima, Arduin. spec. 2. p. 28. t. 13. Méntha perilloìdes, Lam. dict. 4. p. 112. but not of Lin. Stem pilose, bluntly tetragonal. Leaves petiolate, 2-4 inches long, ovate, acuminated, coarsely serrated, cuneated at the base, or narrowed into the petioles, green on both surfaces, pilose on the veins. Racemes shorter than the leaves. Corolla minute, white.

Basil-like Perilla. Fl. July, Aug. Clt. 1770. Pl. 1 to 3 feet.
Cult. Sow the seeds in the open ground, where the plant will thrive without any further care.

XXIV. ISA'NTHUS (from ισος, *isos*, equal; and ανθος, *anthos*, a flower; in allusion to the corolla being regular, not bilabiate.) Michx. fl. bor. amer. 2. p. 3. Benth. lab. p. 166.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, equal, 10-nerved, deeply 5-toothed; throat naked inside. Corolla hardly exceeding the calyx, with a short, straight tube, and a campanulate limb: lobes 5, equal, roundish, spreading. Stamens 4, nearly equal, distant, erect, about equal in length to the corolla; anthers 2-celled: cells parallel, or at length diverging. Style shortly bifid at apex: lobes subulate; stigmas terminal. Achenia dry, obovate, reticulated, lacunosely wrinkled.—A herb with the habit and inflorescence of *Saturèia horténsis.*

1 I. cæru'leus (Michx. fl. bor. amer. 2. p. 4. t. 30.) ⊙. H. Native of North America, in Pennsylvania, Maryland, and Virginia, Nutt.; Carolina and Kentucky, Michx.; at St. Louis, Drummond. Trichostèma brachiàta, Lin. spec. 834. Plant erect, branched, rather viscid; branches pubescent, or pilose. Leaves on short petioles, oblong-elliptic, narrowed at both ends, with quite entire, or sub-sinuated edges, 3-nerved, green on both surfaces, glabrous, but usually pubescent, or pilose. Peduncles solitary, axillary, 1-flowered, shorter than the leaves, usually bibracteate under the calyx. Corollas like those of *Méntha*, pale blue.

Blue-flowered Isanthus. Fl. July, Aug. Clt. 1818. Pl. ½ to 1 foot.
Cult. The seeds should be sown in spring in a peat border, where the plants will flower and produce seed if the summer prove warm.

XXV. PRE'SLIA (named in honour of C. B. and J. S. Presl. of Prague, brothers; authors of "Flora Sicula, Diliciæ Pragensis, &c.") Opiz. in bot. zeit. 1824. 1. p. 322. Benth. lab. p. 167. but not of Mart.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, equal, 4-toothed; teeth awned; throat rather villous inside. Corolla equal, with an inclosed tube, and a 4-parted limb; lobes equal, entire. Stamens 4, equal, distant, erect; filaments glabrous; anthers 2-celled: cells parallel. Style bifid at top; lobes nearly equal, bearing the stigmas at apex. Achenia oblong, smooth, dry.—A bog herb, with the habit of *Saturèia*, and the inflorescence of *Méntha verticillàta.*

1 P. Cervi'na (Fresen. in syll. pl. soc. ratisb. 2. p. 238.) ♃. H. Native of Middle and South Europe, in bogs and ditches; as of the South of France, Spain, and Portugal. Méntha cervìna, Lin. spec. 807. Méntha punctàta, Mœnch. Pulègium cervìnum, Mill. dict. no. 3. Pulègium angustifòlium, Riv. mon. irr. t. 23. f. 2. Préslia glabriflòra, Opiz, in bot. zeit. 1824. 1. p. 323. Préslia villiflòra, Opiz, l. c. Herb prostrate, glabrous. Leaves sessile, linear, or linear-lanceolate, obtuse, quite entire, green on both surfaces, dotted, somewhat fascicled in the axils. Whorls many-flowered, dense, distant, rather shorter than the floral leaves. Corollas pale purplish, about twice as long as the calyxes.

Stag Preslia. Fl. June, Aug. Clt. 1684. Pl. prostrate.
Cult. This plant will grow freely in most soils, and is readily increased by division. It requires a little protection in severe frost.

XXVI. ME'NTHA (Mentha of Pliny. Μινθη, *Minthe*, of Theophrastus. From a nymph of that name, daughter of Cocytus, fabled to have been changed into mint by Proserpine in a fit of jealousy.) Lin. gen. no. 713. Schreb. gen. no. 967. Juss. gen. p. 113. ed. Usteri, p. 127. Tourn. inst. t. 89. Benth. lab. p. 168.

LIN. SYST. *Didynàmia, Gymnospérmia.* Calyx campanulate, or tubular, 5-toothed, equal, or sub-bilabiate; throat naked, or villous inside. Corolla with an inclosed tube, and a campanulate, nearly equal, 4-cleft limb: upper segment broader, and nearly entire, or emarginate. Stamens 4, equal, erect, distant; filaments glabrous, naked; anthers 2-celled: cells parallel. Style shortly bifid; segments bearing the stigmas at apex. Achenia dry, smooth.—Herbs. Whorls usually many-flowered, sometimes all remote in the axils of the leaves, sometimes approximate into terminal spikes, with the superior floral leaves bractea-formed.—The European mints, as is generally the case with plants which are very common in highly civilized and long cultivated countries, especially aquatic plants, vary much in appearance; and the repeated attempts by different authors in different countries to reduce these inconstant and ephemeral variations to so many species, have thrown so much confusion into this difficult genus that it is now almost impossible to clear up the chaos thus produced, ex Benth.

* *Throat of corolla naked inside.*

1 M. LAVANDULA'CEA (Willd. enum. p. 609.) canescent; leaves sessile, lanceolate-linear, quite entire, clothed with hoary tomentum on both surfaces; spike dense; calyxes clothed with white tomentum. ♃. H. Native of Spain; on Mount Sinai, Bovè; and of the Cape of Good Hope. M. lavandulæfòlia, Pers. ench. 2. p. 119. Stem erect, branched. Leaves 1½ to 2 inches long. Spikes solitary, conical at first, but at length somewhat interrupted at the base. Bracteas subulate. Corollas purple. ? Whorls many-flowered.

Lavender-like Mint. Fl. July, Aug. Clt. 1823. Pl. 1 to 2 feet.

2 M. INCA'NA (Willd. enum. p. 609.) stem humble, panicled; leaves nearly sessile, ovate-cordate, a little toothed, clothed with hoary tomentum on both surfaces; spikes numerous, short; calyxes clothed with villous tomentum. ♃. H. Native of Greece, and probably of Persia and Arabia. M. spicàta, Forsk. in herb. Vahl. M. Crética, and M. Pérsica, Hortul. Stems ascending. Spikes hardly an inch long, panicled. Whorls 8-flowered. Corolla twice as long as the calyx, downy outside, purple. ?

Hoary Mint. Fl. July, Aug. Clt. 1790. Pl. ½ foot.

3 M. TOMENTÒSA (D' Urv. mem. soc. Lin. par. 1. p. 323. but not of Borkh.) canescent; stem erect, or ascending, tall; leaves sessile, lanceolate, or ovate-lanceolate, irregularly serrated, somewhat reflexed, plicate, undulately curled, clothed with white tomentum on both surfaces; spikes elongated, cylindrical, interrupted at the base, somewhat panicled; calyx clothed with tomentose pubescence. ♃. H. Native of Crete, Syria; Greece, at fountains in the Island of Scyra, D'Urville; Persia, near Teheran. Stems erect, rarely procumbent at the base, or ascending. Leaves roundish, or cordate at the base. Spikes numerous, 3-4 inches long, or more. Whorls distinct, many-flowered. Bracteas subulate. Corolla purple, ? downy outside. Fertile stamens exserted.

Tomentose Mint. Pl. 2 to 3 feet.

4 M. SALI'CINA (Burch. cat. geo. pl. afr. austr. 1372. Benth. lab. p. 170.) canescent; stem erect; leaves petiolate, lanceolate-linear, almost entire, nearly glabrous above, and hoary beneath; spikes cylindrical. ♃. G. Native of the Cape of Good Hope. M. Capénsis, Thunb. prod. p. 95. ? Leaves size and form of those of *M. lavandulàcea*, but are nearly glabrous above.

Willowy-leaved Mentha. Pl.

5 M. ROYLEA'NA (Benth. in Wall. pl. rar. asiat. 1. p. 29.) plant clothed with white tomentum; leaves petiolate, ovate-oblong, unequally serrated; spikes elongated, slender, interrupted at the base. ♃. H. Native of Deyra Dhoon, Royle; and at Simlah. Habit of M. sylvéstris, var. híspida. Whorls distinct, numerous, small, globose: lower ones remote. Flowers minute, nearly sessile. Corollas small, whitish. Fertile stamens about equal in length to the corolla.

Royle's Mint. Pl. 1 to 2 feet.

6 M. SYLVE'STRIS (Lin. spec. 804.) stem erect; leaves nearly sessile, ovate-lanceolate, or oblong, pubescent above, or tomentose, but clothed with white tomentum beneath; spikes dense, or interrupted at the base, conically cylindrical; calyx clothed with villous tomentum. ♃. H. Native throughout Europe, North of Asia, and Canary Islands, in ditches and boggy places common. Spikes usually dense, obtuse, but in some of the varieties interrupted at the base. Corolla purplish, pubescent outside. Fertile stamens exserted.

Var. α, mollíssima (Benth. lab. p. 171.) leaves clothed with soft white tomentum on both surfaces. ♄. H. Native of Greece, Dalmatia, Spain, Canary Island, Cashmere; also of England, and Germany, but rare. M. mollíssima, Borkh. M. incàna, Sole herb. Smith, in Rees' cycl. vol. 23. M. canéscens, Roth, catalect. 2. p. 46. M. Chalepénsis, Mill. dict. no. 10.

Var. β, cándicans (Benth. lab. p. 171.) leaves clothed with short, hoary tomentum on both surfaces. ♃. H. Native in the same countries and places with var. α. M. cándicans, Crantz. austr. p. 330. M. pállida, Nees. M. sylvestris cándicans, Rchb. icon. bot. 10. p. 28. t. 982. M. sylvéstris álbida, Rchb. icon. bot. 10. p. 28. t. 983.

Var. γ, glabràta (Benth. lab. p. 171.) leaves almost glabrous above, pubescent and rather hoary beneath. ♃. H. Native of Britain, South of Sweden, Denmark, throughout Germany, France, Portugal, Italy, Spain, Sicily, Greece, European Russia, Tauria, Caucasus, Siberia, Cape of Good Hope, Teneriffe, &c. M. Rosàni, Tenore, fl. nap. append. 5. p. 18. syll. p. 281. M. Eisenstadtiàna, Nees.

Var. δ, vulgàris (Benth. l. c.) leaves pubescent above, rather wrinkled, clothed with soft white tomentum beneath. ♃. H. Native in the same countries and places with var. γ. M. cándicans, Mill. dict. M. villòsa, Sole, menth. brit. t. 1. & 2. M. sylvéstris, α, Smith, in Lin. trans. 5. p. 179. engl. bot. t. 686. bad. M. gratíssima, Willd. spec. 3. p. 75. M. Nilìaca, Willd. spec. 3. p. 76. but not of Vahl. M. longifòlia, Huds. angl. p. 221. M. tomentòsa, Borkh. M. hýbrida, Schleich. pl. exsicc. 1. no. 55. ? M. reflexifòlia, Opiz, in bot. zeit. 1824. 2. p. 525. M. suàvis, Hoffm. ? ex Smith, in Rees' cycl. vol. 23. but not of Juss. M. Wierzbeckiàna, Opiz, l. c. ? M. oblónga, Opiz, l. c. M. Ratisbonénsis, Opiz, l. c.

Var. ε, nemoròsa (Benth. lab. p. 171.) leaves ovate-oblong, green and pubescent above, and clothed with loose, white tomentum beneath. ♃. H. Native of Catalonia, Italy, and probably of Germany; Ceylon, Macrae; Brazil, St. Hilaire. M. nemoròsa, Willd. spec. 3. p. 75. M. sylvéstris, Sole, menth. brit. t. 3. Oed. fl. dan. 484. M. sylvéstris, δ, Smith, engl. fl. 3. p. 73. M. rotundifòlia, Sole, menth. brit. t. 4. ? but not of Lin. M. Nilìaca, Jacq. hort. vind. 3. p. 46. t. 87. but not of Vahl. M. serótina, Tenore, fl. nep. t. 156. syll. p. 281. M. hírta, Beck. fl. fr. 220. ex Fresen. syll. pl. ratisb. 229. and probably of Willd. M. dumetòrum, Schultes, ? ex Rchb. fl. germ.

exc. p. 310. M. gratíssima, Wigg. prim. fl. hols. 43. ex Roth, tent. fl. germ. 2. pt. 2. p. 6. M. sápida, Tausch.? ex Rchb. fl. germ. exc. p. 310. M. Hallèri, Gmel. fl. bad. 2. p. 594.? ex Rchb. fl. germ. exc. p. 310. M. sylvéstris, nemoròsa, Rchb. icon. bot. 10. p. 28. t. 984.

Var. ζ, *urticæfòlia ;* stem divaricately branched; spikes slender, interrupted; whorls few-flowered, distinct. ♃. H. Native of Naples. M. urticæfòlia, Tenor. fl. nap. t. 157. syll. p. 283.? M. origanoìdes, Tenor. fl. nap. prod. app. 5. p. 19. syll. p. 284.

Var. η, *crìspa* (Benth. lab. p. 172.) leaves undulately curled, profoundly toothed, rather rugose, clothed with white tomentum beneath. ♃. H. Native of many parts of Europe, and in gardens. M. undulàta, Willd. enum. p. 608. Nees. pl. med. with a figure. M. velutìna, Lejeune. M. dulcíssima, Dumort florul. belg. p. 48.? M. crìspa, Tenore, fl. nap. 2. p. 29. Rivin. mon. t. 50. M. serótina, Tenore, syll. p. 281.? M. foliòsa, Opiz, ex Fresen. syll. pl. soc. ratisb. 2. p. 226. M. tomentòsa, Hoppe, et Hornsch. ex Rchb. fl. germ. exc. p. 310. M. Lamárkii, Tenore, fl. nep. prod. append. 5. p. 19. syll. fl. nap. p. 282. exclusive of the syn. of Schrad. M. emarginàta, Rchb. icon. bot. 10. p. 27. t. 979. M. undulàta, Rchb. icon. bot. 10. p. 27. t. 980.

Wild, or Horse Mint. Fl. July, Aug. Britain. Pl. 1 to 2 feet.

7 M. ROTUNDIFÒLIA (Lin. spec. 825.) stem erect; leaves sessile, ovate-roundish, crenated, wrinkled, pubescently hairy above, and clothed with loose white wool beneath; spikes dense, conically cylindrical; calyxes hairy. ♃. H. Native throughout Europe, Africa in the region of the Mediterranean, and of Siberia, among rubbish by way sides, and in ditches; also of Madeira and North America, in like situations, but probably escaped from gardens; plentiful in some parts of Britain. Smith, engl. bot. 7. t. 446. M. macrostàchya, Tenore, fl. nep. 2. p. 30. t. 56. syll. p. 282. M. neglécta, Tenore, fl. nap. 2. p. 379. t. 157. f. 1. ex syll. 281. M. fràgrans, Presl. del. prag. 78. ex Guss. prod. fl. sic. 2. p. 88. M. rugòsa, Lam. fl. fr. 2. p. 420. Roth. catal. 2. p. 65. ex Fresen. syll. pl. soc. ratisb. 2. p. 230. M. suavèolens, Ehrh. beitr. 7. p. 149. ex Fresen. l. c. Stem panicled by a few branches at top. Leaves usually obtuse, roundish cordate at the base. Corollas whitish. Sterile stamens exserted.

Round-leaved Mint. Fl. July, Sept. Britain. Pl. 1 to 2 feet.

8 M. PRATE'NSIS (Sole, menth. brit. t. 17.) leaves nearly sessile, ovate-lanceolate, or oblong, serrated, glabrous, or finely pubescent, as well as the erect stem: floral leaves similar, but smaller: superior ones broad-lanceolate, about twice as long as the whorls; whorls all remote, globose; pedicels glabrous; calyx campanulate, with hairy teeth. ♃. H. Native of the North of Europe?; in England in ditches and watery places, but hardly spontaneous, Sole; Sweden, in cultivated places, apparently wild. M. rùbra, Huds. angl. ex Fries, nov. fl. suec. ed. 2d. p. 179. but not of Smith. M. gentìlis, Sole, menth. brit. t. 15. Smith, engl. bòt. 7. t. 449. M. grácilis, γ, Smith, in Lin. trans. 5. p. 210. Stem purplish red, with short, erect branches, glabrous, or furnished with a few spreading hairs. Cauline leaves deep green, or reddish, glabrous above, but paler beneath, with a few hairs on the veins. Whorls dense. Corolla purplish, glabrous, or pubescent outside. Stamens all inclosed. Style exserted.

Meadow Mint. Fl. July, Aug. Britain. Pl. 1 to 2 feet.

9 M. SUA'VIS (Guss. pl. rar. p. 387. t. 66.) clothed with soft pubescence, or villi; leaves petiolate, ovate, acute, serrated, rounded at the base, pale beneath, or hoary: floral leaves small, lanceolate, or conforming to the lower cauline ones; whorls distinct: lower ones remote: upper ones disposed in a cylindrical spike. ♃. H. Native of the South of France, Italy, and Sicily. M. pubéscens, Willd. enum. p. 608.? M. divaricàta, Lag.? M. balsàmea, Willd. enum. p. 608.? M. hírta, Willd. enum. l. c. Link, enum. 2. p. 105. M. pubéscens, Rchb. icon. bot. 10. p. 27. t. 978. M. glomerulàta, Jan. M. Lángii, Geiger, pharm. bot. 1832. and Nees, pl. med. with a figure. Leaves more or less canescent beneath. Stem usually decumbent at the base, branched; branches ascending, rarely erectish. Leaves like those of *M. Piperìta*, but soft: upper ones exceeding the whorls. Corolla red, hardly exceeding the calyx. Stamens inclosed. Style exserted.

Sweet Mint. Fl. July, Aug. Clt. 1804. Pl. 1 to 2 feet.

10 M. VÍRIDIS (Lin. spec. 804.) stem erect; leaves nearly sessile, ovate-lanceolate, unequally serrated, and are, as well as the stems, glabrous: floral ones all bractea-formed, rather longer than the whorls, and are, as well as the calyxes, hairy, or glabrous; spikes cylindrical, loose; whorls approximate, or the lower ones or all are distant. ♃. H. Native of the temperate parts of Europe, among rubbish; in England and Scotland, France, &c.; also at the Cape of Good Hope, and North and South America, but probably has been carried thither from Europe. Sole, menth. brit. t. 5. Nees, pl. med. with a figure. Smith, engl. bot. t. 2424. Fl. dan. 1876. M. verticillàta, Feuill. chil. p. 42. t. 28. M. spicàta, Crantz, austr. 328. M. ocimiodòra, Opiz. M. brevispicàta, Lehm. sem. hort. hamb. 1828. M. balsàmea, Rchb. fl. germ. exc. p. 309.? but not of Willd. M. lævigàta, Willd. enum. p. 609. N. Nilìaca, Vahl, symb. 3. p. 75. M. Pudìna, Hamilt. ex Benth. in Wall. pl. rar. 1. p. 29. M. tènuis, Michx. fl. bor. amer. 2. p. 2. Stature, habit, and form of leaves that of *M. sylvéstris*, but is easily distinguished from that species by the stems and leaves being constantly quite glabrous. Spikes usually hairy, but sometimes also glabrous. Corollas purplish. There are several species of Mint cultivated in gardens for culinary purposes, but principally spearmint. The young leaves and tops of it are used in spring salads, and form an ingredient in soups. They are also employed to give flavour to certain dishes, as peas, &c., being boiled for a time, and then withdrawn, in the manner of garlic. The leaves have a warm, roughish, bitter taste, and a strong, not unpleasant smell. Their virtues are stomachic and carminitive. The culture of spearmint is the same as that for peppermint, which see. In order to have young leaves and tops all the summer, cut down some advanced stalks every month, when young shoots will be produced; and to have dried balm for winter, permit others to complete their growth, and come into blossom. Dry the crop thus gathered in the shade, and afterwards keep it in small bundles. (fig. 76.)

FIG. 76.

Var. β, *angustifòlia* (Lag. ex Benth. lab. p. 174.) leaves narrow. ♃. H. M. tenuifòlia, Opiz, ex Rchb. fl. germ. exc. p. 309. M. Lejeùnii, Opiz, ex Rchb. l. c. M. Michèlii, Rchb. icon. bot. 10. p. 27. t. 981.

Var. γ, *crìspa* (Benth. lab. p. 174.) leaves curled. ♃. H. M. crispàta, Schrad. ex Willd. enum. 608. Nees, pl. off. with a figure. M. Harcýnica, Röhl, deutch. fl. M. crìspa, Roth. tent. fl. germ. 1. p. 248. but not of Lin. M. cordifòlia, Opiz,

ex Fresen. in syll. pl. soc. ratisb. 2. p. 232. M. horténsis, Opiz, in syll. pl. soc. ratisb. 2. p. 227.

Green Mint, or Spearmint. Fl. July, Aug. Britain. Pl. 2 feet.

11 M. PIPERÌTA (Lin. spec. 805.) leaves petiolate, ovate-oblong, acute, serrated, roundly crenated at the base, and are, as well as the stems, glabrous; spikes loose, obtuse, short, interrupted at the base; pedicels and calyxes glabrous at the base, with hispid teeth. 4. H. Native of the North of Europe, spontaneous; and cultivated throughout Europe, Egypt, Asia, North and South America. Smith, engl. bot. t. 687. Nees. pl. off. with a figure. Woodv. med. bot. 169.—Zorn. icon. t. 56.—Petiv. brit. t. 31. t. 10.—Ray. syn. t. 10. f. 2. M. piperìta officinàlis, Sole, menth. brit. t. 7. M. piperìta vulgàris, Sole, herb. but hardly of menth. brit. t. 8. M. glabràta, Vahl. symb. 3. p. 75. M. Kahirìna, Forsk. fl. ægypt. M. balsàmea, Willd. enum. p. 608.? Stem branched, reddish, quite glabrous, or with a few spreading hairs. Petioles usually ciliated. Spikes reddish. Calyxes purplish. Corolla purple, or red. This species, the peppermint, is almost entirely for distillation, for which it is extensively cultivated in low, rich, soft, marshy lands, especially such as can be irrigated or flooded. It is sometimes also cultivated in gardens for its young green tops and leaves, for the purposes of spearmint. The leaves have a strong, rather agreeable smell, and a pungent, aromatic taste, somewhat resembling that of pepper, and accompanied with a peculiar sensation of coldness. Its predominant constituents are essential oil and camphor, both of which rise in distillation, and are combined in what is called oil of peppermint. Peppermint is principally used as a carminitive and antispasmodic. The distilled water is a domestic remedy for flatulent colic, and the essential oil is often given with advantage in doses of a few drops in cramps of the stomach.

Culture. All the species of *Méntha*, as well as the present, are raised by the same methods, viz. by parting the roots, by offset young plants, and by cuttings of the stalks. By the roots—This is performed in spring and autumn. Having some full roots from any established beds, divide them as expedient, and drawing drills, with a hoe about 2 inches deep and 6 inches asunder, place the roots in the drills moderately close, and earth them over to an equal depth. By offsets—In the spring procure these from established plants, and dibble them in rows 6 inches asunder. By cuttings of the young stalks—In May, June, or advanced summer, taking the opportunities of showery weather, cut these into lengths of 5 or 6 inches, and plant the cuttings by dibble, 6 inches apart, inserted half way into the earth.

Subsequent Culture. Propagated in any of the above methods the plants set in spring or summer will come into use the same year. Water new plants till they take root. Keep them clean from weeds. At the end of autumn cut away any remaining stems, at which season, or in the spring, spread a little loose earth thinly over the beds.

Taking the crop. "For culinary use or salads, gather both when the young green tops are from one inch to 6 inches in length, and in their advanced growth throughout the summer. When nearly full grown in June, July, or August, or beginning to flower, gather a store for winter, spread the heads thinly in some dry place, shaded from the sun, to be well dried, then, tied in bunches, house the store. When desired for distillation let them attain full growth coming into flower, then cut and use the heads immediately. Peppermint being principally used for distillation, should stand in the ground until they begin to flower, being then in the highest perfection. Cut in dry weather, and tie the bundles, and carry under cover ready for immediate use. Cut full grown stalks close to the bottom. It is best to cut as soon as the dew is off in the morning, for in the afternoon, and especially during bright sunshine, the odour of the plant is found to be much diminished."

New Plantation. All the species continue by the roots many years, but when the plants grow weakly make a fresh plantation in time.

Forcing spearmint. Mint in a young green state may be obtained all winter, and early in spring, by planting some roots in a gentle hot-bed, or in pits, or shallow pans, to be plunged therein. Plant the roots pretty thickly, and earth over an inch and a half deep; or some roots thus planted in pots or boxes may be placed in a stove. Plant for succession every 3 weeks, as forced roots soon decay.

Var. β, ? subhirsùta (Benth. lab. p. 176.) leaves hairy on the nerves beneath, and on the petioles. 4. H. Native of England, in Norfolk, at a lake called Saha, Smith; and near Bath, Sole. M. hirsùta, δ, Smith, herb. M. piperìta sylvéstris, Sole, menth. brit. t. 24. M. hírta, Willd. enum. 608.? M. piméntum, Nees, ex Rchb. fl. germ. exc. p. 309.

Pepper Mint. Fl. Aug. Sept. Britain. Pl. 1 to 2 feet.

12 M. CITRÀTA (Ehrh. beitr. 7. p. 150.) leaves petiolate, ovate, broadly rounded at the base, or subcordate, and are, as well as the stem, glabrous, or the petioles are ciliated; whorls few, approximate into an oblong head, or the lower one is loose and remote; pedicels and calyxes glabrous. 4. H. Native of England, in watery places in Cheshire, North Wales, and near Bedford, Smith, probably spontaneous. M. nígricans, Mill. dict. no. 12. M. odoràta, Sole, menth. brit. t. 9. Smith, in Lin. trans. 5. p. 192. engl. bot. t. 1025. M. adspérsa, Mœnch. menth. 379. ex Willd. spec. 3. p. 79. This is intermediate between *M. piperìta* and *M. aquàtica*. Corollas reddish purple.

Bergamot Mint. Fl. July. Aug. Britain. Pl. 1 foot.

13 M. AQUÀTICA (Lin. spec. p. 805.) stem beset with reflexed hairs; leaves petiolate, ovate-serrated, rounded at the base, or sub-cordate, rather hispid on both surfaces, or villous; lower floral leaves like the others: upper ones bractea-formed; whorls few, all, or only 2 or 3 of the upper ones, disposed into globose or oblong heads: upper terminal one often remote from the lower ones; calyxes tubular, and are, as well as the pedicels, villous. 4. H. Native of Europe, and Asiatic Russia, very common in watery places and ditches; and now occurs almost in every part of the globe, but has probably migrated from Europe. Sole, menth. brit. t. 10, 11. M. palústris, Mill. dict. no. 11. M. hirsùta, Smith, in Lin. trans. 5. p. 193. engl. bot. 7. p. 447. M. pedunculàta, Pers. ench. 2. p. 119. Poir. dict. suppl. 3. p. 663. M. pyramidàlis, Tenore, fl. nap. p. 33. t. 35. M. acùti-serràta, Opiz, ex Fresen. in syll. pl. soc. ratisb. 2. p. 226. M. nigréscens, Weihe, ex Fresen. l. c. M. bugulæfòlia, Weihe, l. c. M. brachiàta, Weihe, l. c. M. aurìta, Weihe, l. c. M. origanòides, Lejeune, fl. spa. M. pubéscens, Willd. enum. 608.?—Riv. mon. t. 49. Corollas purplish red. The upper head of flowers is always terminal, while the stem of *M. arvénsis* is always indeterminate.

Var. α, nemoròsa (Fries, nov. fl. suec. ed. 2d. p. 183.) stem and peduncles beset with short, reflexed hairs; hairs of the leaves few and scattered, of the calyx short and spreading; whorls few, all globosely capitate, or the lower one remote. 4. H. Native of Britain, Sweden, France, Portugal, Spain, Germany, Italy, Sicily, Greece, Caucasus, Siberia, Azores, Madeira, Cape of Good Hope, Brazil, and North America. M. capitàta, Opiz. M. intermèdia, Host, fl. austr. 2. p. 141. M. purpùrea, Host, fl. austr. 2. p. 141. M. citràta, Rchb. icon. bot. 10. p. 26. t. 977. but hardly of Ehrh.

Var. β, hirsùta (Willd. enum. p. 610.) more villous; whorls as in var. α, but usually larger. 4. H. Native of the same

countries as var. *α*. M. hirsùta, Lin. mant. p. 81. Hook. fl. lond. 5. t. 166. M. dùbia, Vill. dauph. 2. p. 358. M. ripària, Schreb. M. Weiheàna, Opiz. M. nepetoìdes, Lejeune, fl. spa.? M. dumetòrum, Schult.? Oríganum vulgàre, Fl. dan. t. 638.

Var. γ, críspa (Benth. lab. p. 177.) leaves plicately curled, lacerately toothed, on short petioles; inflorescence of the preceding. ♃. H. In gardens. M. críspa, Lin. spec. 805. Nees, pl. off. with a figure.

Var. δ, subspicàta (Benth. lab. p. 177.) villous; whorls numerous: upper ones subspicate: lower ones remote: floral leaves almost all conforming to the cauline leaves. ♃. H. Native of Britain, &c. M. hirsùta, var. ε, Smith, engl. fl. 3. p. 79. M. piperìta, γ, Smith, engl. fl. 3. p. 77. M. paludòsa, Sole, menth. brit. t. 22. M. palústris, Sole, menth. brit. t. 6. bad. M. rivàlis, Sole, in herb. M. ballotæfòlia, Opiz. M. subspicàta, Weihe. M. pyramidàlis, Tenore, fl. nap. 2. p. 33. t. 35. M. palústris plicàta, Rchb. icon. bot. 10. p. 26. t. 976.

Water Mint. Fl. July, Aug. Britain. Pl. 1 to 2 feet.

14 M. arve'nsis (Lin. spec. 806.) stem beset with retrograde pili or villi, or nearly glabrous; leaves petiolate, ovate or oblong, rounded at the base, cuneated or narrowed: floral ones all conforming to the cauline ones, exceeding the flowers: uppermost ones almost sterile; whorls all globose, many-flowered, remote; bracteas lanceolate-subulate, about equal in length to the tubular or campanulate calyxes. ♃. H. Native of Europe, and North and Middle Asia, very common; but very rare in the region of the Mediterranean; in shady places by the sides of ditches, in bogs and all moist soils; plentiful in Britain. M. gentìlis, Lin. spec. p. 805. This is a very polymorphous plant. Corollas red or purplish. Stamens sometimes exserted, but usually inclosed.

Var. α, satìva (Benth. lab. p. 178.) calyxes subcylindrical, and are, as well as the pedicels, hairy; leaves more or less villous. ♃. H. M. rivàlis, Sole. menth. brit. t. 20. M. satìva, Smith, in Lin. trans. 5. p. 199. engl. bot. t. 448. M. hirsùta? verticillàta, Smith, engl. fl. 3. p. 79. M. aquàtica, III. satìva, Fresen, in syll. bot. ratisb. 2. p. 235. M. aquàtica, β, verticillàta, Fries, nov. fl. suec. ed. 2d. p. 183. M. verticillàta, Mill. dict. no. 17. and of many other authors. M. acutifòlia, Smith, in Lin. trans. 5. p. 203. engl. bot. t. 2415, with narrower leaves. M. palústris, Mœnch. meth. p. 380. ex Fries, l. c. M. pilòsa, Spreng. pl. min. cogn. pug. 2. p. 69. ex Fries, l. c. M. dùbia, Schreb. but not of Vill. M. crenàta, Becker, fl. fr. 225. M. villòsa, Becker, l. c. 223.? M. origanifòlia, Host, fl. austr. 2. p. 142. M. tortuòsa, Host, fl. austr. 2. p. 142. M. maculàta, Host, fl. austr. 2. p. 143. M. serótina, Host, fl. austr. 2. p. 143. M. nemoròsa, Host, fl. austr. 2. p. 144. M. longifòlia, Host, fl. austr. 2. p. 144. M. latifòlia, Host, fl. austr. 2. p. 145. M. elàta, Host, fl. austr. 2. p. 146, with the leaves more villous and white, and rather woolly beneath. M. virídula, Host, fl. austr. 2. p. 147. M. ovalifòlia, Opiz. M. Speckmoseriàna, Opiz. M. cærùlea, Opiz. M. plicàta, Opiz. ex Rchb. fl. germ. exc. p. 307. M. argùta, Opiz. ex Rchb. M. Ròthii, Nees, ex Rchb. l. c. M. obtusàta, Opiz. ex Rchb. l. c. M. melissæfòlia, Lejeune, ex Rchb. l. c. M. gentìlis, Rchb. icon. bot. 10. p. 26. t. 974.

Var. β, Smíthii; calyx subcylindrical, villous; pedicels glabrous; leaves very villous. ♃. H. M. satìva, Smith, herb.

Var. γ, nítida; calyx subcylindrical, villous; pedicels glabrous; stems and leaves almost glabrous. ♃. H. M. gentìlis, *α* and *β*, Smith, in Lin. trans. 5. p. 208. M. aquàtica, suavifòlia, Fries, nov. fl. suec. ed. 2d. p. 184. M. satìva, Becker, fl. fr. 223. M. nummulària, Schreb. fl. erl. M. Badénsis, Gmel. M. nítida, Host, fl. austr. 2. p. 143. M. montàna, Host, fl. austr. 2. p. 145. M. sylvàtica, Host, fl. austr. 2. p. 149. M. rotundàta, Opiz, in bot zeit. 1824. 2. p. 525.? M. rùbra ocymiodòra, Rchb. icon. bot. 10. p. 26. t. 975.

Var. δ, rùbra (Benth. lab. p. 179.) calyx cylindrical; pedicels, stems, and leaves glabrous, reddish. ♃. H. M. rùbra, Smith, in Lin. trans. 5. p. 205. engl. bot. t. 1413.

Var. ε, agréstis; calyx campanulate; pedicels rather villous; stem and leaves villous. ♃. H. M. gentìlis, γ, and M. arvénsis, β, Smith, herb. M. arvénsis agréstis, and rivàlis, Sole, herb. M. lamiifòlia, Host, fl. austr. 2. p. 144.? M. ocymoìdes, Host, fl. austr. 2. p. 148.? M. pùmila, Host, fl. austr. 2. p. 150.

Var. ζ, vulgàris (Benth. lab. p. 179.) calyx campanulate, villous; pedicels glabrous; stem and leaves villous. ♃. H. M. arvénsis, Sole, menth. brit. t. 12. Smith, in Lin. trans. 5. p. 213. engl. bot. t. 2119, and of many other authors. M. agréstis, Sole, menth. brit. t. 14. Smith, engl. fl. 3. p. 87. engl. bot. t. 2120. M. gentìlis, Mill. dict. no. 15, and of many German authors. M. Austrìaca, Jacq. fl. austr. 5. p. 14. t. 430. All. pedem. 1. p. 18. t. 75. f. 2. M. pilòsa, Wallr. ann. bot. 75. M. palústris, Mœnch. meth. 380. ex Poir. suppl. 3. p. 662. M. melissæfòlia, Host, fl. austr. 2. p. 144. M. suavèolens, Host, fl. austr. 2. p. 146. M. stachyoìdes, Host, fl. austr. 2. p. 146. M. multiflòra, Host, fl. austr. 2. p. 147. M. tenuifòlia, Host, fl. austr. 2. p. 147. M. Carinthìaca, Host, fl. austr. 2. p. 149. M. divaricàta, Host, fl. austr. 2. p. 150. M. vàrians, Host, fl. austr. 2. p. 150. M. prostràta, Host, l. c. 2. p. 151. M. láxa, Host, l. c. 2. p. 151. M. parviflòra, Host, l. c. 2. p. 152. M. polymórpha, Host, l. c. 2. p. 152. M. diffùsa, Lejeune, fl. Spa. ex Frésen. syll. pl. ratisb. 2. M. parvifòlia, Opiz. ex Fresen. l. c. M. villòsa, Becker, fl. fr. M. procúmbens, Thuill. fl. par. 288. M. intermèdia, Nees, ex Rchb. fl. germ. exc. p. 308. M. Dalmática, Tausch. in syll. pl. ratisb. 2. p. 349. M. arvénsis, Rchb. icon. bot. 10. p. 24. t. 968. M. arvénsis lanceolàta, Rchb. icon. bot. 10. p. 24. t. 968. M. arvénsis, pariætariæfòlia, Rchb. icon. bot. 10. p. 25. t. 970. M. arvénsis agréstis, Rchb. icon. bot. 10. p. 25. t. 971. M. arvénsis plicàta, Rchb. icon. bot. 10. p. 25. t. 972. M. acutifòlia, Rchb. icon. bot. 10. p. 25. t. 973.

Var. η, grácilis; calyx campanulate, villous; pedicels glabrous; stem and leaves almost glabrous. ♃. H. M. gentìlis, Smith, in Lin. trans. 5. p. 208. engl. bot. t. 2118. M. grácilis, Sole, menth. brit. t. 16. M. grácilis, *α*, Smith, in Lin. trans. 5. p. 210. M. satìva, Sole, menth. brit. t. 21. M. variegàta, Sole, menth. brit. t. 19. M. pulchélla, Host, fl. austr. 2. p. 148. M. Austrìaca, Host, l. c. 2. p. 150. but not of Jacq. M. gràta, Host, l. c. 2. p. 152. M. atrovìrens, Host, l. c. 2. p. 152. M. resinòsa, Opiz. M. parviflòra, Schultes, ex Rchb. fl. germ. exc. p. 307.

Var. θ, glàbra (Benth. lab. p. 179.) calyx campanulate; pedicels, stem, and leaves quite glabrous. ♃. H. M. glàbra, Sole, herb. M. præ'cox, Sole, menth. brit. t. 13. M. rùbra, Smith, herb. M. gentìlis, Host, fl. austr. 2. p. 241. and of many other authors.

Var. ι, críspa (Benth. lab. p. 180.) leaves undulately curled, and lacerately toothed; calyxes and leaves glabrous. ♃. H. M. satìva, Nees, pl. med. with a figure. M. críspa of many authors.

Corn-field, or Wild Mint. Fl. July, Sept. Britain. Pl. ½ to 2-3 feet.

15 M. Canade'nsis (Lin. spec. 806.) prostrate or ascending, nearly glabrous, or densely clothed with spreading hairs; leaves petiolate, oblong-elliptic, narrowed a long way at both ends: floral ones similar to the rest: upper ones lanceolate-linear, almost sterile; whorls all globose, many-flowered, remote; bracteas lanceolate-subulate, about equal in length to the calyxes,

which is tubularly campanulate. ♃. H. Native of North America, on the mountains, and on the banks of rivulets; North-west coast, Canada, near New York, Pennsylvania; also of China, Sir G. Staunton.

Var. α, villòsa (Benth. lab. p. 181.) plant densely hairy. ♃. H. M. Canadénsis of authors.

Var. β, glabràta (Benth. lab. p. 181.) plant nearly glabrous. ♃. H. M. boreàlis, Michx. fl. bor. amer. 2. p. 2.

Canadian Mint. Fl. July, Aug. Clt. 1800. Pl. 1 foot.

16 M. LAPPÓNICA (Wahl. fl. lapp. p. 161. t. 10.) stem beset with retrograde asperities; leaves petiolate, oblong, serrated, narrowed at the base, glabrous: floral ones similar to the others; whorls all remote, few-flowered; pedicels glabrous; calyxes rough, with obtuse teeth. ♃. H. Native of Lapland, in humid sandy places at the river Kemen; also of Kamtschatka. Very nearly allied to *M. Canadénsis, β, glabràta.* Corollas rose-coloured. Stamens exserted.

Lapland Mint. Pl. 1 to 1½ foot.

17 M. LANCEOLA'TA (Benth. lab. p. 181.) stem clothed with adpressed, reflexed hairs; leaves lanceolate, acute, serrated, narrowed at the base into the petioles, roughish above and glabrous beneath: floral ones similar to the rest: upper ones twice as long as the whorls; whorls all remote, many-flowered; calyx tubular, clothed with adpressed villi, with acute teeth. ♃. S. Native of Ceylon, Macrae. Stem a little branched, tetragonal. Nearly allied to *M. Canadénsis.*

Lanceolate-leaved Mint. Pl. 1 to 2 feet.

18 M. DAHU'RICA (Fisch. mss. ex Benth. lab. p. 181.) stem erect, nearly simple; leaves on short petioles, ovate-lanceolate, quite glabrous: floral ones similar to the others; whorls few, remote, loosely globose; calyx tubular, nearly glabrous, with obtuse teeth. ♃. H. Native of Dahuria. Lepechínia clinopodifòlia, Willd. hort. berol. under no. 21. Hormìnum clinopodifòlia, Pers. ench. 2. p. 132. Stem tetragonal. Leaves quite entire, or remotely serrated. Calyx villous inside. This differs from all the European tubular-calyxed species, in the calycine teeth being obtuse.

Dahurian Mint. Fl. July. Aug. Clt. 1818. Pl. ½ to 1 foot.?

* * *Throat of calyx villous inside.*

19 M. MÓLLIS (Benth. lab. p. 182.) stem much branched, twining? pilosely woolly; leaves petiolate, ovate-roundish, acute, somewhat serrated, pubescent above, and clothed with white tomentum beneath: floral ones similar; whorls all remote, globose, many-flowered; calyx clothed with white hairs; throat villous inside. ♃. S. Native of tropical America; frequent on elevated plains near Quito, Riobamba, Nuevo, and Cuenca; Peru, and near Santa Fe de Bogota. Bysteropògon mólle, H. B. et Kunth, nov. gen. amer. 2. p. 317. Leaves about an inch long. Corolla scarcely longer than the calyx. Stamens inclosed. Style exserted.

Soft Mint. Pl. twining.?

20 M. PULE'GIUM (Lin. spec. p. 807.) stem much branched, prostrate; leaves petiolate, ovate; whorls all remote, globose, many-flowered; calyx hispid, bilabiate: throat villous inside. ♃. H. Native throughout Europe, in ditches and bogs, and other humid places; as in England, Sweden, France, Germany, Spain, Portugal, Italy, Greece; also of Caucasus, near Lenkoran, and about Valparaiso; also of North America. Sole, menth. brit. t. 23. Smith, engl. bot. t. 1026. Nees, pl. med. with a figure. Woodv. med. bot. t. 171. M. exígua, Lin. spec. 806. Smith, icon. ined. t. 38. Pulègium latifòlium, Bauh. pin. 222. Pulègium eréctum, Mill. dict. no. 2. Pulègium vulgàre, Mill. dict. no. 1.—Sabb. hort. rom. 3. t. 49.—Riv. mon. t. 23. f. 1. Stems and leaves glabrous, or finely pubescent. Corollas pale purple. The name is derived from *pulex*, a flea, because the plant is supposed to drive away fleas by its smell.

Var. β, tomentòsa; stem and leaves densely villous. ♃. H. Native of Portugal, Spain, about Montpelier, Sicily, Naples, Algiers, South of Tauria, Teneriffe. M. tomentòsa, Smith, in Rees' cycl. M. tomentélla, Hoffm. et Link, fl. port. 1. p. 73. M. Gibraltárica, Willd. enum. 611. M. pulegioìdes, Rchb. Pulègium tomentéllum, Presl. fl. sic. 36. Pennyroyal is indigenous to places subject to inundations. It is used in different branches of cookery, also for distilling Pennyroyal-water. In its sensible qualities it is warm, pungent, and aromatic, somewhat similar to *Spearmint*, but less agreeable, and is seldom used. The plant is said to thrive best in a strong clayey moist soil.

Flea Mint, or Pennyroyal. Fl. Aug. Sept. Britain. Pl. prostrate.

21 M. REQUIE'NI (Benth. lab. p. 182.) small, creeping, quite glabrous; branches filiform, ascending; leaves petiolate, orbicular; whorls loosely few-flowered; calyx globosely campanulate, quite glabrous, somewhat bilabiate: throat villous inside. ♃. H. Native of Corsica, Requien. Thymus parviflòrus, Req. in ann. sc. nat. Audibértia, Benth. Stem diffuse at the base, much branched. Leaves almost quite entire. Flowers 2-6 in each whorl; pedicels longer than the calyx. Corollas and odour that of *M. Pulègium.*

Requien's Pennyroyal. Pl. creeping.

† *Species hardly known.*

22 M. GRAVE'OLENS (Presl, fl. sic. p. 36.) spikes panicled, cylindrical; flowers sessile; calyx pubescent; bracteas linear-setaceous, twice as long as the calyxes; stem erect, branched, tomentose; leaves cordate-oblong, mucronate, remotely serrated, pubescent, clothed with greyish tomentum beneath. ♃. H. Native of Sicily. Perhaps referrible to *M. pyramidàlis.*

Strong-scented Mint. Pl. 2 to 3 feet.?

23 M. ANGUSTIFÒLIA (Host, fl. austr. 2. p. 148.) whorls of flowers approximate; leaves linear-lanceolate, flat, hairy; pedicels hispid; stamens shorter than the corolla. ♃. H. Native of Austria, about Vienna, in humid parts of woods. Stem humble, purplish, roughish from bristles, simple or branched. Leaves denticulated above the middle. Bracteas ciliated. Pedicels hispid. Calyx campanulate, hairy. Corolla purplish, hairy outside.

Narrow-leaved Mint. Pl. humble.

24 M. NUMI'DICA (Poir. suppl. 3. p. 662.) leaves lanceolate, somewhat serrated, glabrous, nerved, dotted beneath; stem erect, much branched; whorls pedunculate, subcorymbose. ♃. H. Native of the north of Africa, near the ruins of the town of Tabrarca. Plant glabrous. Leaves petiolate. Corolla rather hairy. Stamens exserted. Perhaps a species of *Micromèria.*

Numidian Mint. Pl.

25 M. JAVA'NICA (Blum. bijdr. p. 826.) flowers capitate; leaves lanceolate, distantly serrated from the middle to the apex, puberulous on both surfaces; stem obversely hairy; stamens exserted. ♃. S. Native of Java, in humid places about Buitenzorg, and in bogs near Tugu. Said by Blume to be nearly allied to *M. acutifòlia.* Perhaps the same as *M. lanceolàta*, or a var. of *M. arvénsis.*

Java Mint. Pl.

Cult. Most of the species delight in a moist soil; but they will also grow in a dry soil. Being all creeping rooted plants, they are readily increased by slips of the roots.

XXVII. LYCO'PUS (from λυκος, *lukos*, a wolf; and πους, *pous*, a foot; so called probably from the form of the leaves.)

Tourn. inst. t. 89. Lin. gen. no. 36. Schreb. gen. no. 44. Juss. gen. p. 111. ed. Usteri, p. 124. Benth. lab. p. 185.

Lin. syst. *Diándria, Monogýnia.* Calyx campanulate, equal, 4-5-toothed: throat naked inside. Corolla hardly exceeding the calyx, campanulate, equal, 4-cleft. Superior stamens wanting, or sterile, filiform, capitellate, shorter than the corolla: lower 2 a little exserted, fertile, distant; anthers 2-celled: cells parallel, rather distinct. Style somewhat equally bifid at top; stigmas minute, terminal. Achenia dry, smooth, with thickened callous edges, trigonal, truncate at apex, attenuated at the base. —Coarse marsh or bog herbs. Leaves acutely toothed or pinnatifid: floral ones similar to the rest, much exceeding the flowers. Whorls dense, usually many-flowered, axillary. Interior bracteas minute: outer ones sometimes exceeding the calyxes in the inferior whorls. Flowers small, sessile. This genus is nearly allied to *Méntha*, but differs from it in the superior stamens being sterile or wanting, and in the achenia being callously thickened on the margin.

1 L. Virgi'nicus (Lin. spec. p. 30.) nearly glabrous; stem stoloniferous at the base; leaves oblong-elliptic, narrowed at both ends, remotely toothed; calyx 4-toothed: teeth ovate, obtuse; rudiments of sterile stamens wanting. ♃. H. Native of North America, in humid places from New England to Carolina, Michx.; near St. Louis, and at the river Saskatchawan, near Cumberland House Fort, Drummond. Root often tuberous, creeping. Leaves 1-2 inches long, on short petioles, usually purplish beneath. Whorls small. Corolla a little longer than the calyx, white.

Var. β, pauciflòrus (Benth. lab. p. 185.) ♃. H. Native at Lake Mistassins, &c., Michx. L. uniflòrus, Michx. fl. bor. amer. 1. p. 14. L. pùmilus, Vahl, enum. 1. p. 211.

Virginian Water-Horehound. Fl. Aug. Sept. Clt. 1760. Pl. 3 feet.

2 L. macrophy'llus (Benth. lab. p. 185.) stem erect, firm, bluntly tetragonal; leaves large, petiolate, ovate, long-acuminated, coarsely and sinuately toothed, narrowed at the base, glabrous; whorls many-flowered; calyx irregularly 4-5-toothed: teeth ovate, obtuse; rudiments of sterile stamens wanting? achenia equalling the calyx. ♃. H. Native of North-west America, at the straits of Juan de Fuca, Scouler. L. Virgínicus, β, quercifòlius, Pursh, fl. amer. sept. 1. p. 16.? Stem pubescent. Leaves glabrous, 3-4 inches long. Corollas white.

Long-leaved Water-Horehound. Fl. Aug. Sept. Clt. 1700.? Pl. 1 to 3 feet.

3 L. obtusifòlius (Michx. ex Vahl, enum. 1. p. 212.? Benth. lab. p. 185.) stem erect, firm, almost simple; leaves sessile, oblong-elliptic, deeply serrated, roundly narrowed at the base; whorls many-flowered; calyx irregularly 5-toothed; achenia hardly shorter than the calyx; rudiments of sterile stamens almost wanting. ♃. H. Native of North-west America, in flats along the Red River, Douglas; at the river Saskatchawan, near Carlton House Fort, Drummond, Hudson's Bay, Michx. Habit of *L. Virgînicus.* Teeth of leaves acute or bluntish. Corolla rather longer than the calyx, white.?

Blunt-leaved Water-Horehound. Pl. 1 to 2 feet.

4 L. Europæ'us (Lin. spec. p. 30.) stolons none; stem erect, branched; leaves petiolate, ovate-oblong, sinuately toothed or pinnatifid; whorls many-flowered; calyx acutely 5-toothed; rudiments of sterile stamens wanting; achenia rather shorter than the tube of the calyx. ♃. H. Native throughout Europe and the north of Asia, in humid watery places by the sides of ditches and rivers; plentiful in Britain. Smith, engl. bot. t. 1105. Fl. dan. 1081. Svensk, bot. t. 262. Curt. lond. vol. 3. with a figure. L. vulgàris, Pers. ench. 1. p. 24. L. palústris, Lam. fl. fr. 2. p. 430. ill. t. 18. L. aquàticus, Mœnch. —Petiv. brit. t. 32. f. 5. Root creeping. Stem acutely tetragonal, glabrous, as well as the leaves. Corolla white, equalling the calycine teeth, with a tinge of red. Cattle appear not to touch this herb. It dyes black, and gives a permanent colour to linen, wool, and silk. Gypsies are said to stain their skin with it.

Var. β, pubéscens (Benth. lab. p. 186.) stem bluntly tetragonal; and are, as well as the more nerved leaves, pubescent, and the calycine teeth are a little longer. ♃. H. Native of England.

European Water-Horehound. Fl. July, Aug. Britain. Pl. 1 to 4 feet.

5 L. rube'llus (Mœnch. suppl. p. 446. ex Wenderoth, in syll. pl. soc. ratisb. 1. p. 88.) stolons creeping; stem erectish, humble, pubescent; leaves petiolate, ovate, narrowed at the base, deeply toothed, pubescent; calyx 5-toothed: teeth lanceolate, acute; rudiments of sterile stamens wanting. ♃. H. Native of Virginia, Wenderoth. This species differs from *L. Europæ'us* in the stolons being long and leafy, and in the stem being hardly half a foot high.

Reddish Water-Horehound. Pl. ½ to 1 foot.

6 L. sinua'tus (Elliott, car. 1. p. 187.) stem erect, acutely tetragonal, nearly glabrous; leaves petiolate, oblong-lanceolate, narrowed at both ends: lower ones pinnatifid: middle ones sinuately toothed: upper ones linear, almost quite entire; whorls many-flowered; calyx 5-toothed, acute; rudiments of sterile stamens capitate; achenia shorter than the tube. ♃. H. Native of North America, in watery places common, from the river Saskatchawan to Canada, Virginia, &c. L. Europæ'us, Pursh, fl. amer. sept. 1. p. 16. Michx. fl. bor. amer. 1. p. 14. but not of Lin. L. bracteàtus, Muhl. ex Link, jahrb. 1-3. p. 55. L. Americànus, Muhl. ex Bart. fl. phil. 1. p. 12. Stolons not seen. Stem glabrous, acutely tetragonal. Leaves very variable, glabrous. Corollas white.

Var. α, disséctus (Benth. lab. p. 187.) leaves usually pinnatifid. ♃. H. Native principally of the northern region of North America. L. exaltàtus, Elliott, bot. car. 1. p. 187. but not of Lin. L. heterophýllus, Rafin, med. fl. 2. p. 28.

Var. β, vulgàris (Benth. lab. p. 187.) leaves generally sinuated. ♃. H. Native of the middle region of North America, L. sinuàtus, Elliott, bot. car. 1. p. 187. L. vulgàris, Nutt. gen. amer. 1. p. 15.

Var. γ, angustifòlius (Benth. lab. p. 187.) leaves for the most part linear, and almost quite entire. ♃. H. Native of the southern region of North America. L. angustifòlius, Nutt. gen. amer. 1. p. 15. L. longifòlius, Rafin. med. fl. 2. p. 28. L. Pennsylvánicus, Muhl. ex Rafin. l. c. L. pauciflòrus, Rafin. l. c.?

Sinuated-leaved Water-Horehound. Pl. 1 to 2 feet.

7 L. Austra'lis (R. Br. prod. p. 500. Benth. lab. p. 716.) stem erect, quite glabrous, or hispid from a few pili; leaves almost sessile, oblong-lanceolate, narrowed at both ends, sharply toothed, quite glabrous above or on both surfaces, shining or pubescent beneath; whorls many-flowered; calyx 5-toothed: teeth, as well as the bracteas, very acute; rudiments of sterile stamens capitate; achenia shorter than the tube of the calyx. ♃. H. Native of Eastern Siberia; China; New South Wales, at Port Jackson; and on the south coast of New Holland; also of Van Diemen's Land. L. Europæ'us, γ, argùtus, Benth. lab. p. 186. L. lùcidus, Turcz. mss. This species differs from *L. Europæ'us* besides habit, in the rudiments of sterile stamens being present; and it is also very nearly allied to *L. sinuàtus*; but differs in habit, almost sessile leaves, and in the calyxes and bracteas being very acute.

Southern Water-Horehound. Fl. July, Aug. Clt. 1823. Pl. 1 to 3 feet.

8 L. exalta'tus (Lin. fil. suppl. p. 87.) stem erect, branched, tall; leaves petiolate, ovate-oblong, pinnatifid; whorls many-flowered; calyx acutely 5-toothed; rudiments of sterile stamens capitate; achenia about equal in length to the calycine teeth. ♃. H. Native of the east of Europe, and Middle Asia; as of Hungary, Siberia, Himalaya, Bithynia, Italy, France, &c., in humid or watery places. Sibth. et Smith. fl. græc. t. 12.—Sabb. hort. rom. 3. t. 64. but not of the more recent authors. L. pinnatífidus, Pall. fl. ross. 2. t. 1. Stem acutely tetragonal, glabrous or pubescent. Leaves glabrous or pubescent. Corollas white, smaller than those of *L. Europæ'us*.

Exalted Water-Horehound. Fl. July, Aug. Clt. 1739. Pl. 4 to 6 feet.

N.B.—What is *L. intermèdius*, Schrad.?

Cult. Coarse marsh plants of easy culture, but of no beauty. They will grow in any kind of soil, but prefer one moist; and are readily propagated by dividing at the root.

XXVIII. MERIA'NDRA (from μερις, *meris*, a part; and ανηρ ανδρος, *aner andros*, a male; in allusion to the superior stamens being abortive, rarely one of them fertile.) Benth. in bot. reg. vol. 15. lab. p. 188. Sálvia species, Roth. and Roxb.

Lin. syst. *Diándria, Monogýnia.* Calyx ovate, bilabiate: upper lip concave, entire, or with 3 very short teeth: lower lip bifid; throat naked inside. Corolla having the tube equal in length to the calyx; and the limb equally 4-cleft; lobes flat: upper lobe entire or emarginate. The 2 lower stamens fertile, erect, distant: the two superior ones usually abortive, rarely with one or the other fertile, conforming to the lower ones; anthers 2-celled: cells separate, stipitate, equal, pendulous; with a short linear connective, which is articulated with the filament at the middle, and erect on both sides. Style nearly equally bifid at top.—Shrubs with racemose or spicately panicled flowers. Habit of *Sálvia*, but the form of the corolla and direction of the stamens are that of *Menthoídeæ*; and *M. strobilífera* is not unlike *Elshóltzia* in habit.

1 M. strobili'fera (Benth. in Wall. pl. asiat. rar. 1. p. 29. lab. p. 188.) branches densely clothed with floccose tomentum; whorls spicate: lower ones rather remote; floral leaves bracteaformed, ovate-lanceolate, disposed in 4 rows. ♄. F. Native of the East Indies, among the mountains, in the province of Sirmore, Wall.; Himalaya, at Syen, and below Simlah, Royle. Leaves on short petioles, oblong-lanceolate, 2-4 inches long, obtuse, crenulated, rather villous above, and woolly beneath: floral ones entire. Flowers about the size of those of *Elshóltzia*. Odour ungrateful.

Strobile-bearing Meriandra. Shrub 2 to 3 feet.

2 M. Bengale'nsis (Benth. l. c.) stem nearly glabrous; branches canescent; whorls remote, racemosely panicled. ♄. S. Native of Bengal and Coromandel. It is cultivated in the gardens of India, and used for the purposes of sage. It has also been found in Abyssinia, where it is also probably a native. Sálvia Bengalénsis, Roxb. fl. ind. 1. p. 146. Sálvia dianthèra, Roth. nov. spec. p. 18. Sálvia Abyssínica, R. Br. append. to Salt. abyss. Leaves very like those of *Sálvia officinàlis*, 2-3 inches long, petiolate, oblong-lanceolate, obtuse, crenulated, rounded or truncate at the base, green above and canescent beneath: floral ones small. Flowers about the size of those of *Thymus serpýllum*. Taste and odour of leaves stronger than that of sage, Roxb. The whole plant exhales an odour like that of camphor when rubbed, Wall.

Bengal Meriandra. Shrub 4 to 6 feet.

Cult. For culture and propagation see shrubby species of *Sálvia*, p. 723.

Tribe III.

MONA'RDEÆ (the plants contained in this tribe agree with the genus *Monárda* in the characters given below.) Benth. lab. p. 190. Corolla bilabiate. The 2 superior stamens abortive, or if fertile, bearing linear connate anthers. The 2 lower stamens fertile, ascending; anthers linear, sometimes with opposite, confluent, contiguous cells, therefore apparently 1-celled, sometimes dimidiate, free or connate behind; connective linear, articulated in the filament, bearing a fertile cell at top, truncate behind, or usually drawn out, filiform and clavate, or bearing another cell, which is sometimes difformed and empty, and sometimes fertile.

XXIX. SA'LVIA (from *salvo*, to save; so called on account of the healing qualities of sage.) Lin. gen. no. 39. Schreb. gen. no. 50. Gærtn. fruct. t. 66. Tourn. inst. t. 83. Juss. gen. p. 111. ed. Usteri, p. 125. Benth. lab. p. 190. Hormìnum, Sclàrea, and Æthìopis, Tourn. inst. and other authors. Schradèria and Júngia, Mœnch.—Stenarrhèna, D. Don, prod. fl. nep.—Leònia, Llave and Lexarza, pl. mex.

Lin. syst. *Diándria, Monogýnia.* Calyx ovate, tubular, or campanulate, bilabiate: upper lip entire or tridentate: lower one bifid: throat naked inside. Corolla with an inclosed or exserted tube, which is equal, ventricose, or widened, sometimes furnished with a ring of hairs inside, sometimes naked, or sometimes furnished with 2 teeth or processes on the lower side at the base: limb bilabiate: upper lip erect, rarely spreading, straight or falcate, entire or emarginate: lower lip spreading, shorter or longer, with the lateral lobes oblong or roundish, spreading, reflexed, or twisted erectly, the middle lobe usually the broadest, entire or emarginate. Rudiments of superior stamens wanting, or small and club-shaped: lower 2 always fertile, inserted near the throat of the tube; filaments short, horizontal, rarely erect, articulated with the anther at top, and usually drawn out beneath the articulation, rarely almost continuous. Anthers dimidiate; connective elongated, linear, articulated transversely with the filament, ascending under the upper lip of the corolla, and bearing at the top a linear, adnate, or versatile fertile cell, and deflexed or erect behind, and sometimes bearing another smaller cell, which is either fertile or difformed, and empty; free, but usually combined together, or connate in various ways. Disk of ovarium glanduliferous in front. Style ascending, bifid at top: lobes sometimes subulate, equal, or the superior one is longest, and sometimes the lower one or both are rounded, dilated, and flattened. Stigmas for the most part minute, terminal, or in the larger part running along the lobes of the style. Achenia ovoid-triquetrous, dry, glabrous, usually very smooth.—This very extensive genus is very variable in habit.

Sect. I. Eu'space (from ευ, *eu*, well; and σφακος, *sphakos*, sage; this section is supposed to contain the true species of the genus.) Benth. in Hook. bot. misc. 3. p. 372. lab. p. 207. Calyx campanulate: upper lip tridentate: lower one bifid: teeth all acute, and hardly increasing at maturity. Tube of corolla wide, a little exserted, furnished with a ring of hairs inside: upper lip erect; lateral lobes of lower lip reflexedly spreading: middle lobe broad, emarginately bifid, with the segments a little reflexed. Connective stretched out behind, bearing a difformed, empty, rarely somewhat polliniferous cell, almost connected at the extremities.—Herbs, rarely shrubs, natives of the region of the Mediterranean. Leaves entire or pinnate.

1 S. Cre'tica (Lin. spec. p. 33.) shrubby; stem clothed with white wool; floriferous branches clothed with white pubescence; leaves petiolate, entire, oblong-linear, narrowed at the base, wrinkled: lower ones clothed with white wool beneath: floral leaves sessile: uppermost ones deciduous; racemes a little branched; whorls many-flowered; calyx membranaceous, coloured, striated, pubescent, with subulately acuminate teeth; tube of corolla exserted; connective very short behind, and bearing an empty cell. ♄. H. Native of Candia. Schreb. nov. act. nat. cur. 479. t. 3. D. C. pl. rar. hort. gen. not. 4. 9. t. 3. S. tenuifòlia, Riv. mon. irr. 59. t. 128. S. officinàlis, var. angustifòlia, Link. Corollas violet. Very nearly allied to *S. officinàlis;* and differs principally in the very narrow leaves and long petioles.

Cretan Sage. Fl. June, Aug. Clt. 1760. Shrub 1 foot.

2 S. lavandulæfòlia (Vahl, enum. 1. p. 222.) shrubby, clothed with white tomentum; leaves petiolate, entire, oblong-lanceolate, narrowed at the base, wrinkled, clothed with white tomentum on both surfaces; floral leaves sessile: uppermost ones deciduous; calyx tubularly campanulate, membranaceously coloured at apex, striated, pubescent: teeth all nearly equal, subulately acuminated; tube of corolla exserted; connective stretched out behind, bearing anthers at both ends, the hind cells empty and connate. ♄. S. Native of Spain, on arid hills. S. rosmarinifòlia, Hortul. ex Rœm. et Schultes, syst. 1. p. 200. S. tenùior, Desf. ex Rœm. et Schultes, mant. 1. p. 200. S. Hispanòrum, Lag. gen. et spec. nov. diagn. 1. Very nearly allied to *S. officinàlis;* and differs principally in being canescent; in the leaves being narrower; in the racemes being slender; in the whorls being loose and fewer-flowered; and in the calyxes being smaller, and hardly bilabiate. Corollas violet.

Lavender-leaved Sage. Shrub.

3 S. officina'lis (Lin. spec. p. 34.) stem shrubby, clothed with white tomentum; floriferous branches clothed with tomentose pubescence; leaves petiolate, entire, oblong, narrowed or roundish at the base, wrinkled: lower ones clothed with white wool beneath: floral leaves sessile, ovate, acuminated, membranous at the base, striated; racemes almost simple; whorls many-flowered, distinct; calyx membranaceously coloured, striated, pubescent: teeth all subulately acuminated; tube of corolla exserted; connective stretched out behind, bearing anthers at both ends: hind cells empty, connate. ♄. H. Native of the south of Europe, in dry places; as of Spain, south of France, Piedmont, Naples, Dalmatia. Woodv. med. bot. t. 38.? S. grandiflòra, Tenore, fl. nap. prod. append. 5. p. 3. syll. p. 16. but not of Ettling. S. chromática, Hoffm. naschtr.? S. papillòsa, Hoffm. naschtr. 1. p. 58.? S. Hispánica, &c., Besl. eyst. ord. 8. fol. 1. f. 19. 2. Leaves 1 to 1½ inch long: upper floral ones coloured. Corolla downy outside, larger or smaller, purple, blue, or white. There are several varieties of this species; one with variegated leaves, another with narrow leaves, and a third with small leaves, &c. The leaves of this and some other species are used in stuffing and sauces for many kinds of luscious and strong meats, as well as to improve the flavour of various articles of cookery. The decoction called sage-tea is usually made from one variety, the *Small-leaved green*, or *Sage of virtue;* but any of the other varieties are equally fit for this purpose. Sage has a peculiar aromatic smell, and a warm aromatic taste, with some degree of bitterness and astringency. In its effects, sage agrees with other aromatics. It is stimulant, carminitive, and tonic. The best preparation for these purposes is an infusion of the dried leaves, drunk as tea. With the addition of a little lemon-juice, it proves a useful diluting drink in febrile disorders, being sufficiently agreeable to the palate.

Varieties are as follow: 1. The common or red. 2. The green. 3. The small-leaved green, or Sage of Virtue. 4. The broad-leaved, or balsamic. The red is the principal sort in culinary use, having the most agreeable and fullest flavour: the green is the next in estimation with the cook; but the small-leaved is generally preferred to those to eat as a raw herb, and for decoctions; while the broad-leaved or balsamic kind is most efficacious in a medical way, and is also a tea herb. However, any of the sorts may be occasionally used for those alternate purposes.

Cult. All the varieties may be propagated by slips or cuttings of the young shoots taken from March to June; but most successfully in May and June, by detaching the young shoots of the same year. The outward shoots are to be preferred: slip or cut them off 5 or 6 inches long, slipping off the under leaves, and preserving the top leaves, and water them. They will soon take root freely, especially the young shoots planted in May and June. In the advancing growth, if they spindle up into flower-stalks, pinch or cut that part down; that the plants may shoot out full and stocky from the bottom in close bushy growth for use the same year. In gathering sage for use, cut or slip off the young side and top shoots neatly; and be careful not to strip too close, especially towards winter, and during that season. In July, and the rest of the summer, it is usual to gather some of the young top growth to dry for winter. Keep the plants in regular bushy heads, by cutting away disorderly growths, and the decayed flower-stalks in autumn. Keep them clear from weeds; and sometimes loosen the earth about the plants with a hoe, garden trowel, or small spade, in spring and autumn. Make a fresh plantation once in two, or three, or four years, or as may be necessary by the plants becoming naked, stubby, and dwindling.—Abercrombie.

Officinal or Common Sage. Fl. June, July. Clt. 1597. Shrub 1 to 2 feet.

4 S. crassifòlia (Desf. arb. 1. p. 134. but not of Smith.) stem shrubby, clothed with white wool; floriferous branches clothed with tomentose pubescence; leaves petiolate, ovate, obtuse, somewhat cordate at the base, erosely crenated, wrinkled, pubescent: those of the sterile branches undulately curled, and clothed with white wool on both surfaces: lower floral leaves green: upper ones membranous, deciduous; racemes simple; whorls many-flowered, distant; calyx membranous, coloured, striated, pubescent: teeth all lanceolate, acute; tube of corolla a little exserted; connective stretched out behind, antheriferous at both ends: hind cells empty, connate. ♄. H. Native of the South of Europe. This is probably only a variety of *S. officinàlis*, differing in the shape and larger size of the leaves, &c.

Thick-leaved Sage. Fl. June, July. Clt. 1804. Shrub 1 to 2 feet.

5 S. grandiflòra (Ettling, salv. no. 2.) stem shrubby, clothed with white wool; floriferous branches clothed with tomentose pubescence; leaves entire, petiolate, ovate, acute, broadly rounded at the base, or cordate, wrinkled, pubescent: lower ones woolly beneath: floral leaves herbaceous, or the upper ones are membranaceous at the base, ovate, acute; racemes nearly simple; whorls 6-10-flowered, distinct; calyx membranaceous, coloured, striated, hispid: teeth all acute; tube of corolla exserted; connective stretched out behind, antheriferous at both ends: hind cells empty, connate. ♄. H. Native of Tauria, in stony, exposed places on the mountains, and of the Levant. Jacq. fil. ecl. fasc. 4. p. 55. t. 36. S. tomentòsa, Mill. dict. no. 2. S. officinàlis, Pall. ind. taur. p. 134. but not of Lin. S. màjor, &c. Besl. eyst. ord. 8. fol. 1. f. 11. Leaves 3-4 inches long, and 1½ to 2 broad, green above, and canescent beneath, pubescent on both surfaces, but not woolly. Corollas large, blue.

Var. β, mìnor (Benth. lab. p. 210.) plant more humble; leaves smaller, and more hoary, and always broadly rounded, or cordate at the base.

Great-flowered Sage. Fl. June, Sept. Clt. 1816. Shrub 2 to 3 feet.

6 S. confu'sa (Benth. lab. p. 210.) stem shrubby, rather woolly at the base; floriferous branches clothed with tomentose pubescence; leaves petiolate, usually interruptedly pinnate, wrinkled, clothed with white wool beneath: terminal segment large, oblong-lanceolate, narrowed at the base, with 1-2 lateral segments on each side, which are oblong-lanceolate, and rounded at the base; floral leaves bractea-formed, deciduous; racemes elongated; whorls many-flowered, remote; calyx rather membranous, coloured, striated, pubescent: teeth all subulately acuminated; tube of corolla exserted; connective stretched out behind, antheriferous at both ends: hind cells empty, connate. ♄. H. Native of the South of Europe; ? and occurs in French gardens under the names of *S. tríloba*, *S. interrúpta*, and *S. officinàlis foliis pinnatis*. S. aurìta, Schultes, obs. bot. p. 10. ? but not of Thunb. Corollas blue, or purple.

Confused Sage. Fl. June, July. Clt. ? Shrub 1 to 2 feet.

7 S. tríloba (Lin. fil. suppl. 88.) stem shrubby, and is, as well as the branches, clothed with white wool; leaves petiolate, ovate, obtuse, wrinkled, thick, clothed with white wool beneath, cordate at the base, auriculated, or with 1 or 2 additional, roundish-ovate, small, distinct segments; floral leaves membranous, deciduous; racemes short, somewhat panicled, clammy; whorls 6-10-flowered, distinct; calyx tubularly campanulate, striated, villous, clammy: teeth all ovate, acutish; tube of corolla exserted; connective stretched out behind, antheriferous at both ends, the hind cells empty, approximate, free. ♄. H. Native of the region of the Mediterranean, on dry, exposed hills; as of Sicily, Calabria, Grecian Archipelago, Syria, &c. Sibth. et Smith, fl. græc. 1. p. 13. t. 17. S. subtríloba, Schranck, in syll. pl. soc. ratisb. 2. p. 58.? S. Clùsii, Jacq. hort. schœnbr. 2. p. 37. t. 195.? S. marrubioìdes, Vahl, enum. 1. p. 223. a garden monstrosity, having the whorls axillary. S. baccífera, Ettling. salv. p. 4. S. Sipỳlea, Lam. ill. gen. 1. p. 68. S. fruticòsa, Mill. dict. no. 5. S. auriculàta, Mill. dict. no. 3. S. quinquéloba, Riv. mon. irr. t. 131. Leaves 1 to 1½ inches long, seldom entire, but usually furnished with 1-2 segments at the base. Calyx purplish. Corolla reddish violet, glabrous outside.

Three-lobed-leaved Sage. Fl. June, Aug. Clt. 1596. Shrub 2 to 3 feet.

8 S. interru'pta (Schousb. beob. mar. 7. t. 1.) stem shrubby; branches clothed with clammy villi; leaves petiolate, irregularly pinnate, wrinkled, clothed with white tomentum beneath: terminal segment large: the lateral ones 1-2 pairs, ovate-oblong, rounded at the base, with other small, rounded segments between these; floral leaves membranous, deciduous; racemes simple; whorls about 6-flowered, remote; calyx tubularly campanulate, striated, clothed with clammy villi: teeth all acute; tube of corolla exserted; connectives stretched out behind, antheriferous at both ends, the hind cells empty, and rather connate. ♄. H. Native of the North of Africa, in the southern provinces of Morocco. Jacq. fragm. 61. t. 90.? Sweet, fl. gard. 2. t. 169. Hairs on the plant glanduliferous. Leaves 4-6 inches long, with the petioles; segments crenulated. Raceme 1-2 feet long. Corolla showy, white, with a tinge of blue: upper lip downy outside. This species occurs in gardens under the names of *S. rosæfòlia* and *S. pinnàta*.

Interrupted-leaved Sage. Fl. April, Sept. Clt. 1798. Shrub 3 to 4 feet.

9 S. rí'ngens (Sibth. et Smith, fl. græc. 1. p. 14. t. 18.) branches clothed with clammy villi; leaves petiolate, irregularly pinnate; segments unequal, ovate-oblong, rounded at the base, villous on both surfaces, hardly canescent beneath: floral leaves membranous, deciduous; racemes simple; whorls about 6-flowered, loose, remote; calyxes drooping, tubularly campanulate, striated, clothed with clammy villi: teeth all acutish; tube of corolla exserted, recurvedly ascending, connective stretched out behind, antheriferous at both ends, the hind cells empty, and rather connate. ♄. H. Native of Greece, on the declivities of mountains frequent. Petioles ciliated. Leaves almost like those of *S. interrúpta*. Corollas blue.

Ringent-flowered Sage. Shrub 1 to 2 feet.

10 S. pinna'ta (Lin. spec. p. 39.) stem herbaceous, erect, pilose; leaves pinnate, with 3-4 pairs of petiolate, ovate, or deeply crenated, wrinkled, villous leaflets; racemes simple; whorls about 6-flowered, remote; floral leaves and bracteas membranous, ovate, acuminated, shorter than the calyxes, deciduous; calyx urceolate, truncate, pilosely woolly: teeth all short, acute; tube of corolla much exserted; connective stretched out behind, antheriferous at both ends, the hind cells empty, approximate, free. ♂. H. Native of the South and East of Europe; as of Spain, and the Levant; also of Arabia. The whole plant is clothed with long, white hairs, and short, clammy villi. Leaves smaller than those of *S. interrúpta*, and the segments more numerous. Corolla above an inch long, purple, showy.

Pinnate-leaved Sage. Fl. July. Clt. 1731. Shrub 1 to 2 feet.

11 S. incarna'ta (Vahl, enum. 1. p. 226. but not of Cav., but probably of Ettling, salv. no. 15.) stem herbaceous, erect, pilose; leaves pinnate, with 2-3 pairs of almost sessile, ovate, crenated, wrinkled, villous leaflets; racemes simple; whorls 2-6-flowered, remote; floral leaves membranaceous, ovate, acuminated, shorter than the calyx, deciduous; calyx campanulate, pilosely woolly: teeth all ovate, acute; tube of corolla deflexed, equalling the calyx; connective stretched out behind, antheriferous at both ends, the hind cells empty, free. ♃. H. Native of the Levant. Habit of *S. pinnàta*, but the flowers are different. It differs from *S. rosæfòlia* in the erect stem and bracteas. Corollas large, flesh-coloured.

Flesh-coloured-flowered Sage. Pl. 1 to 2 feet.?

12 S. rosæfòlia (Smith, icon. ined. 1. p. 5. t. 5.) stem procumbent at the base; branches ascending, pubescent; leaves pinnate, with 2-3 pairs of petiolate, oblong leaflets, which are narrowed at both ends, villous above, and pubescent beneath; floral leaves ovate-lanceolate, coloured, about equal in length to the calyxes; racemes short; whorls 2-3-flowered, distinct; calyx coloured: teeth all acute. ♃.? ♄.? H. Native of Armenia, Levant, Persia. S. orientàlis, Mill. dict. no. 8.? Petioles ciliated. Leaves 3 inches long. Calyx almost like that of *S. officinàlis*. Corollas, calyxes, and bracteas purple. There is a variety of this having lanceolate leaflets, the ultimate ones confluent, ex Vahl.

Rose-leaved Sage. Shrub procumbent.

13 S. bractea'ta (Russ. nat. hist. Alep. 2.) stem herbaceous, erect, pubescent; leaves pinnate, with 2-3 pairs of sessile, oblong, acute, crenately serrated leaflets, which are narrowed at the base, and tomentosely villous on both surfaces: floral leaves very broad, ovate, acuminated, quite entire, permanent, clasping the flowers, longer than the calyxes; racemes simple; whorls usually 10-flowered, remote; calyx sessile, with villous lips: teeth all lanceolate; tube of corolla inclosed. ♃. H. Native of Syria, near Aleppo, Russel.—Plukn. alm. p. 185. t. 194. f. 6. Leaves 2-4 inches long. Floral leaves membranaceous, whitish, like those of *S. Sclàrea*. Whorls dense. Corolla purplish.

Bracteate-flowered Sage. Pl. 1 to 1½ foot.

14 S. scabiosæfòlia (Lam. journ. hist. nat. no. 14. p. 44. t. 27.) stem shrubby; branches diffuse, pilosely woolly; leaves pinnate: leaflets usually twin, entire, bifid, or pinnate, oblong, or linear, acute, quite entire; racemes simple; whorls 6-10-flowered, distinct: floral leaves permanent, lanceolate, ovate, or ovate-roundish, acuminated; calyx ample, striated, villous: teeth all ovate, acute; tube of corolla a little exserted; connective stretched out behind, dilated, antheriferous at both ends, the hind cells empty, and connate. ♄. H. Native of Tauria, Caucasus, and Armenia. Mirb. ann. mus. 15. t. 15. f. 2. S. vulnerariæfòlia, Willd. spec. 1. p. 149. S. Habliziàna, Willd. in Schrad. journ. bot. 1. p. 289. t. 2. Jacq. fil. eclog. 1. p. 9. t. 1. Sims, bot. mag. t. 1429. S. scabiòsa, Pers. ench. 1. p. 29. S. Taûrica, Habl. phys. beschr. taur. p. 207. S. pinifòlia, Pall. ind. taur. Stem pilose, or woolly, almost glabrous above, and often purplish. Leaves numerous, sometimes almost glabrous, but usually canescent and pilose, with 3-4 pairs of segments, which are usually twin, or by threes, but opposite, and therefore apparently somewhat verticillate. Corolla beautiful, large, white. There is a variety of this with usually very narrow, almost glabrous leaves, and with the whorls all 6-flowered, and sometimes 10-flowered and more. There are also varieties differing in the size and form of the floral leaves. The *S. Habliziàna* is a more hairy plant, with broader leaflets than that called *S. scabiosæfòlia* in the gardens, whose leaflets are narrower and nearly glabrous.

Scabious-leaved Sage. Fl. Aug. Clt. 1795. Shrub diffuse.

Sect. II. Hymenósphace (from ὑμην, *hymen*, a membrane; and σφακος, *sphakos*, sage; in reference to the dilated, membranaceous lobes of the lower lip of calyx.) Benth. in Hook. bot. misc. 3. p. 373. lab. p. 214. Calyx campanulate: upper lip 2-3-cleft: lower one bifid; lobes all nearly equal, and becoming dilated, membranaceous, and veiny after florescence. Tube of corolla ample, furnished with a ring of hairs inside; upper lip rather falcate, compressed, and the lateral lobes of the lower lip spreading. Connective drawn out behind, and bearing a difformed, empty cell, somewhat connected at the extremities.—Shrubs, rarely herbs, usually hoary. Habit of the last section, especially those species natives of the region of the Mediterranean and the Canary Islands. The Cape species are more woody.

15 S. Linkia'na (Rœm. et Schultes, syst. mant. 1. p. 182.) herbaceous; ? branches ascending, tomentose; leaves pinnate, with 2-3 pairs of sessile, oblong-lanceolate, bluntish, crenated leaflets, which are narrowed at the base, wrinkled, pubescent above, and clothed with soft villi beneath; floral leaves broad-ovate, obtuse, entire, equal in length to the calyxes; racemes simple; whorls many-flowered; calyxes on short pedicels, villous, with coloured lips: lobes all ovate, roundish; tube of corolla a little exserted; hind cells of anthers connate. ♃. ? H. Native of the Levant. S. pilántha, Link, enum. 1. p. 10. Corolla blue: upper lip pilose.

Link's Sage. Fl. July, Aug. Clt. 1823. Pl. 2 to 3 feet.

16 S. acetabulòsa (Vahl, enum. 1. p. 227.) stem suffruticose, ascending, pilose; lower leaves pinnate, with 1-2 pairs of leaflets; upper leaves entire, oblong, obtuse, very much wrinkled, villous on both surfaces, canescent beneath: lower floral ones like the rest, but the upper ones are membranous, and about equal in length to the calyxes; racemes simple; whorls about 10-flowered; calyx ample, hispid, with coloured lips: upper lip entire. ♄. H. Native of the Levant. Very nearly allied to *S. Molucéllæ*, but differs in the leaves being pinnate, and the calyxes hispid. Corolla glabrous.

Acetabulose Sage. Shrub ascending.

17 S. Hydra'ngea (D. C. herb. ex Benth. lab. p. 717.) canescent; leaves pinnate, with 3-4 pairs of oblong, obtuse, quite entire, pubescent leaflets; floral leaves small, deciduous; whorls 6-10-flowered; calyx large, glabrous, coloured: upper lip sinuated: lobes of lower lip ovate-roundish; corollas hardly exserted. ♄. ? H. Native of Persia, Olivier. Flowers similar to those of the last. Leaves not wrinkled.

Hydrangea Sage. Shrub. ?

18 S. pomi'fera (Lin. spec. p. 34.) shrubby: branches clothed with hoary tomentum; leaves petiolate, ovate-oblong, obtuse, rounded at the base, or somewhat cordate, with crenulated, undulately curled margins, wrinkled, hoary; floral leaves shorter than the calyxes: upper ones and bracteas membranous, deciduous; racemes a little branched; whorls about 6-flowered, distinct; calyx ample, pubescent at the base, a little striated, with coloured lips: upper lip very broad, almost entire, or sinuated: lobes of the lower lip obovate-roundish, obtuse, mucronulate; tube of corolla ample, a little exserted; hind cells of anthers difformed, rather connate. ♄. H. Native of the Levant, Grecian Islands, Palestine, and Syria. Sibth. et Smith, fl. græc. 1. p. 12. t. 15.—Tourn. itin. t. 92. S. frugífera, Ettling, salv. no. 5. S. crísp a, Riv. mon. irr. t. 125. Calyxes nearly sessile. Corollas bluish-violet, 1½ inch long, glabrous, or downy outside, with sometimes a white spot on the lower lip. Sterile stamens clavate at top.

Apple-bearing Sage. Fl. July, Aug. Clt. 1699. Shrub 2 to 3 feet.

19 S. calyci'na (Sibth. et Smith, fl. græc. 1. p. 13. t. 16.) shrubby; branches erect, clothed with hoary tomentum; leaves petiolate, ovate, obtuse, cuneated, rounded, or subcordate at the base, crenulated, flattish, wrinkled, hoary; floral leaves shorter than the calyxes: upper ones and bracteas membranous, deciduous; racemes short, branched a little; whorls 2-6-flowered, remote; calyx ample, striated at the base, pubescent: upper lip entire, sinuated, or ending in 3 small points: lobes of the lower lip obovate, cuneated; tube of corolla ample, hardly exserted; hind cells of anthers difformed, sub-connate. ♄. H. Native of Greece, in several parts. S. peregrìna, Rauw. gesn. ed. Schmidel, 1. t. 12. f. 103. Very nearly allied to *S. pomífera*, but differs in the shorter, broader leaves, and larger flowers, &c. Corollas reddish violet.

Large-calyxed Sage. Fl. July, Aug. Clt. 1823. Shrub.

20 S. multicau'lis (Vahl, enum. 1. p. 225.) tomentose; leaves subcordate-oblong, very blunt, crenated; calyx hairy; bracteas lanceolate; stem herbaceous. ♃. H. Native of the Levant. Stems many, leafy at the base, and, like the whole plant, clothed with hoary tomentum, but pilose above among the whorls. Leaves petiolate, wrinkled. Whorls distant, 6-flowered. Bracteas shorter than the calyxes. Calyx large, campanulate, veiny, membranaceous, with rounded segments. It appears to differ from *S. calycìna* in the stems being humble and herbaceous, in the cauline leaves being smaller, and the floral ones lanceolate.

Many-stemmed Sage. Pl. ½ foot.

21 S. Molucce'llæ (Benth. lab. p. 216.) stem herbaceous, erect, pubescent; leaves on long petioles, ovate, obtuse, crenated, cordate at the base, much wrinkled, pubescent on both surfaces, canescent while young: floral ones shorter than the calyxes: upper ones and bracteas membranous, deciduous; racemes elongated, simple; whorls remote, 6-10-flowered; calyxes almost sessile, striated at the base, pubescent, ample; upper lip minute, tridentate; lobes of the lower lip very blunt. ♃. H. Native of Syria, near Aleppo. This species differs from *S. calycìna* in the leaves being more wrinkled, hardly

tomentose, in the racemes being nearly a foot long, and in the fructiferous calyxes being as large as those of *S. Molucélla lævis*. Stems creeping at the base.

Molucella-like Sage. Pl.?

22 S. aurea (Lin. spec. p. 38.) stem shrubby; branches clothed with hoary tomentum; leaves petiolate, ovate-roundish, obtuse, quite entire, or sinuated, coriaceous, hoary; floral leaves sessile, villous, permanent; racemes short, a little branched; whorls 2-flowered, approximate; calyx ample, villous, with coloured lobes: upper lip almost quite entire, broad-rounded: lobes of the lower lip ovate-roundish; tube of corolla hardly exceeding the calyx; connective short, somewhat deflexed and dilated behind, bearing a small, empty cell. ♄. G. Native of the Cape of Good Hope, and Algoa Bay. Curt. bot. mag. t. 186. Mirb. ann. mus. 15. t. 15. f. 7. Walth. hort. t. 15. S. coloràta, Lin. syst. p. 71.? but not of Vahl. S. Africàna, &c. Commel. hort. 2. p. 183. t. 92. The whole plant clothed with white tomentum. Corolla beautiful, golden yellow. Leaves $\frac{1}{2}$ an inch long, or hardly an inch.

Golden-flowered Sage. Fl. April, Nov. Clt. 1731. Shrub 3 to 4 feet.

23 S. Africana (Lin. spec. p. 38.) stem shrubby, panicled at top; branches canescent; leaves nearly sessile, ovate-oblong, obovate, or cuneated, acute, quite entire, or sinuately toothed, narrowed at the base, nearly glabrous above, and white beneath, coriaceous, stiff; floral leaves and bracteas broad-ovate, almost permanent; racemes a little branched; whorls 2-6-flowered, distant; calyx hispid: upper lip nearly entire, broad-roundish: lobes of the lower lip ovate, acute; tube of corolla hardly exceeding the calyx; connective short, and dilated behind, bearing an empty cell. ♄. G. Native of the Cape of Good Hope. Commel. hort. 2. p. 181. t. 91. Mill. fig. t. 225. f. 1. S. coloràta, Vahl, enum. 1. p. 230. S. integérrima, Mill. fig. t. 225. f. 2. dict. no. 12. S. barbàta, Lam. ill. 1. p. 72. Branches purplish. Leaves variable, often green above, but constantly white beneath. Corolla violaceous. There are several slight varieties of the species.

African Sage. Fl. April, July. Clt. 1731. Shrub 2 to 3 feet.

24 S. paniculata (Lin. mant. p. 25. and p. 511.) stem shrubby; branches scabrous, nearly glabrous; leaves petiolate, obovate, acute, a little toothed, coriaceous, green on both surfaces, scabrous beneath; floral leaves ovate, membranous, deciduous; racemes paniculately branched; whorls 2-flowered, distant; calyx scabrous: upper lip entire, rounded; lobes of the lower lip ovate, acuminated; tube of corolla hardly equalling the calyx in length; connective short, and dilated behind, bearing an empty cell. ♄. G. Native of the Cape of Good Hope. S. chamæelæágnea, Berg. cap. 1. p. 3. S. mìnor, &c. Breyn. cent. 1. p. 169. t. 85. Shrub purplish. Leaves $\frac{1}{2}$ an inch long. Corolla purplish violet, a little larger than those of *S. Africàna*.

Panicled-flowered Sage. Fl. June, Aug. Clt. 1758. Shrub 2 to 4 feet.

25 S. dentata (Ait. hort. kew. 1. p. 37.) stem shrubby, glabrous; leaves linear, fascicled, remotely-toothed, nearly glabrous; floral leaves and bracteas ovate, much shorter than the calyxes, permanent; racemes short, simple; whorls 2-6-flowered; calyx ample, pubescent: upper lip sinuate, somewhat 3-toothed: lobes of the lower lip ovate, bluntish; tube of corolla equalling the calyx; connective short, and dilated behind, bearing an empty cell. ♄. G. Native of the Cape of Good Hope. S. rígida, Thunb. prod. fl. cap. 1. p. 96. Corollas purplish violet, smaller than those of *S. Africàna*.

Toothed-leaved Sage. Fl. Dec. Jan. Clt. 1774. Shrub $\frac{1}{2}$ to 1 foot.

26 S. nivea (Thunb. prod. p. 96.) leaves lanceolate, quite entire, clothed with white tomentum; branches divaricate. ♄.? G. Native of the Cape of Good Hope. S. lanceolàta, Lam. ill. 1. p. 72. Branches and branchlets decussate, tetragonal, tomentose at top. Leaves petiolate, acute, a little wrinkled, an inch long, bearing other leaves in the axils. Flowers opposite, or somewhat panicled at the top of the branchlets. Calyxes hairy. Corolla purple. Distinguished from *S. aúrea* by the lanceolate, white leaves.

Snowy Sage. Shrub 2 to 3 feet.

27 S. Canariensis (Lin. spec. p. 38.) stem shrubby, clothed with white tomentum; leaves petiolate, lanceolate, hastately-triangular, wrinkled, almost glabrous: floral leaves ovate-lanceolate, exceeding the calyxes, membranous, coloured; calyx incurvedly campanulate: upper lip sinuated, somewhat 3-lobed: lobes of lower lip obtuse, mucronate; tube of corolla wide, inclosed; connective somewhat dilated behind, bearing an empty cell. ♄. G. Native of the Canary Islands; also of Sicily. Sclàrea tomentòsa, Mill. dict. no. 13. Schradèria hastàta, Mœnch. meth.—Trew. pl. rar. 2. p. 17. t. 19. Corollas purple.

Canary Island Sage. Fl. June, Sept. Clt. 1697. Shrub 3 to 6 feet.

Sect. III. Drymosphace (from δρυμος, *drymos*, a forest; and σφακος, *sphakos*, sage; probably in reference to the species inhabiting woods.) Benth. in Hook. misc. 3. p. 373. lab. p. 218. Calyx tubular, or campanulate; upper lip almost entire, truncate, or with 3 very short teeth. Tube of corolla exserted, furnished with a ring of hairs inside; upper lip falcately compressed; lateral lobes of the lower lip spreading. Connective drawn out behind, bearing an empty, difformed cell, somewhat connected at the extremities.—European, or Asiatic green, rather clammy herbs. Leaves usually large, hastately cordate. Corollas yellow, rarely blue.

28 S. glutinòsa (Lin. spec. p. 37.) stems herbaceous, erect, clammy, pilose; leaves petiolate, ovate-oblong, acuminated, cordately sagittate at the base: floral ones ovate, acuminated, shorter than the calyxes; racemes simple; whorls distant, loose, 6-flowered; calyx tubular: upper lip truncate, entire, somewhat recurved; corollas gaping, 3 times as long as the calyx. 4. H. Native of Europe, and middle Asia, in woods and other shady places; as of Spain, South of France, Switzerland, Italy, South of Germany, South of Russia, Tauria, Caucasus, &c.—Sabb. hort. rom. t. 3. Mirb. ann. mus. 15. t. 15. f. 11. Riv. mon. irr. t. 35. Sclàrea glutinòsa, Mill. dict. no. 11. Còlus jòvis, Besl. eyst. ord. 8. fol. 4. f. 1. Plant clammy. Lower leaves large, glabrous, or clothed with clammy pubescence. Corollas pale yellow.

Clammy Sage. Fl. June, Sept. Clt. 1769. Pl. 2 to 3 feet.

29 S. nubícola (Wall. ex Benth. in Wall. pl. rar. asiat. 1. p. 68. lab. p. 219.) stem herbaceous, erect, villous; leaves petiolate, ovate-lanceolate, crenated, pubescent on both surfaces: lower ones hastately cordate at the base: upper ones rounded, or narrowed at the base: uppermost and floral ones sessile, ovate, acute, quite entire; racemes a little branched; whorls loose, few-flowered, remote; calyx campanulate, villous: upper lip entire, and toothed: the lower lip acute; corolla 3 times as long as the calyx: hind cells of anthers empty, connected. 4. H. Native of Kamaon and Sirinaghur, Wall.; in the valley of Cashmere, and at Kidarkonta, Royle; Simlah, Jacquemont. Sweet, fl. gard. 2. t. 140. Corollas yellow, smaller than those of *S. glutinòsa*.

Cloud Sage. Fl. Oct. Clt. 1823. Pl. 3 feet.

30 S. hi'ans (Royle, ex Benth. in Hook. bot. misc. 3. p. 373. lab. p. 219.) stem herbaceous, erect, villous; leaves on long petioles, broad ovate, broadly and cordately sagittate at the base: floral leaves ovate, acuminated, shorter than the calyxes; racemes branched a little; whorls 6-flowered; calyx campanulate, striated, coloured, clammy: upper lip entire, truncate: lower lip longer, with ovate, acute teeth; corolla gaping, 3 times as long as the calyx; hind cells of anthers somewhat connected, empty. ♃. H. Native of the valley of Cashmere, Royle. Allied to *S. glutinòsa.* Corolla showy, blue. Connective short behind.

Gaping-flowered Sage. Pl. 2 to 3 feet.?

31 S. campanula'ta (Wall. ex Benth. in Wall. pl. rar. asiat. 1. p. 67. lab. p. 220.) stem herbaceous, ascending, hairy; leaves large, on long petioles, ovate, acute, deeply crenated, cordate at the base, rather hispid on both surfaces: floral leaves ovate, acute, shorter than the calyxes; racemes a little branched; whorls about 6-flowered, remote; calyxes on short pedicels, amply campanulate, truncate, villous: upper lip very short, nearly entire, and toothed: lobes of the lower lip broad ovate, acute; corolla one-half longer than the calyx; tube of corolla inclosed; connective free behind, and bearing an empty cell. ♃. H. Native of Nipaul, on Gosainsthan. Leaves 4 to 6 inches long, and about the same in breadth. Racemes short. Corollas, according to Wallich, similar to those of *S. nubícola.*

Campanulate-calyxed Sage. Pl. 1 to 2 feet.

• Sect. IV. Hormi'num (from ὁρμαω, *hormao,* to excite; in reference to the stimulating qualities of the plant.) Benth. in Hook. bot. misc. 3. p. 373. lab. p. 220. Calyx tubular: upper lip truncate, somewhat 3-toothed. Tube of corolla widened under the throat, or ventricose, without any ring of hairs inside: upper lip straight, concave, or falcate, compressed: lateral lobes of the lower lip oblong, erect, a little twisted; middle lobe spreading, roundish. Connective deflexed behind, abruptly dilated, connected, and callous at the extremity.—Herbs natives of the region of the Mediterranean.

32 S. vi'ridis (Lin. spec. p. 34.) stem herbaceous, erect, villous; leaves petiolate, ovate-oblong, rounded at the base, obtuse, crenated, villous: superior ones ovate-cordate: floral leaves very broad, acute, permanent, rather longer than the calyxes, becoming gradually smaller as they ascend; racemes simple; whorls distant, usually 6-flowered; calyx villous, reflexed in the fructiferous state, and plicately striated: teeth of the lower lip lanceolate, acute; corolla hardly a third part longer than the calyx, with an almost inclosed tube. ⊙. H. Native of Europe, Africa, and Asia, in the region of the Mediterranean, in dry, stony, or gravelly places; Barbary, Spain, Italy, Dalmatia, Greece, Tauria, Caucasus, &c. Jacq. icon. rar. 1. p. 2. t. 4. Desf. fl. atl. 1. p. 20. t. 1. Sibth. et Smith, fl. græc. 1. p. 15. t. 19. Rchb. icon. bot. c. 6. p. 23. t. 531. S. Spielmánni, Scop. del. ins. 3. p. 31. t. 15. Jacq. fil. ecl. 1. p. 25. t. 15. Rchb. icon. bot. c. 6. p. 23. t. 532. but not of Willd. S. truncàta, Willd. enum. 1. p. 34. Hormìnum víride, Mœnch. meth. p. 377. Hormìnum comâ víridi, Tourn. inst. 178. Stem sparingly branched. Leaves 1-2 inches long. Corollas small, blue. Bracteas green.

Var. β, *violàcea;* flowers violaceous, or bluish. ⊙. H. Plant more robust than the species.

Green-topped Clary. Fl. July, Aug. Clt. 1759. Pl. ¼ to 1 foot.

33 S. Hormìnum (Lin. spec. p. 34.) stem herbaceous, erect, villous; leaves petiolate, oval-oblong, rounded at the base, or cuneated, obtuse, crenated, villous: superior ones ovate-cordate: floral leaves very broad, acute, permanent, rather longer than the calyxes: uppermost ones membranaceously dilated, coloured, comose; racemes simple; whorls distant, about 6-flowered; calyx pubescent, reflexed in the mature state, and plicately striated: teeth of the lower lip lanceolate, acute; corolla one-half longer than the calyx, with an inclosed tube. ⊙. H. Native of Europe, Africa, and Asia, in the region of the Mediterranean, at the edges of fields, and in bushy places; as of Barbary, Greece, Italy, Dalmatia, Syria, Tauria. Sibth. et Smith, fl. græc. 1. p. 15. t. 20. S. coloràta, Thore, chl. land. p. 17. Hormìnum satìvum, Mill. dict. no. 5. Hormìnum coloràtum, Mœnch. meth. p. 376.—Plenck. icon. 20.—Lob. icon. t. 555. —Gesn. fasc. 17. t. 11. f. 21.—Buxb. cent. t. 39. f. 2. There are two varieties of this, the *Purple-topped Clary,* and the *Red-topped Clary,* the bracteas in the one being purple, and in the other red, for which they are cultivated in gardens.

Clary, Purple, and Red-topped. Fl. June, July. Clt. 1596. Pl. 1 to 1½ foot.

34 S. Forskòelei (Lin. mant. p. 26.) stem herbaceous, clothed with rather clammy villi; lower leaves petiolate, large, ovate, repandly crenated, auricled at the base, or lobed, villous; cauline leaves few, nearly sessile: floral leaves broadly ovate, acuminated, permanent, much shorter than the calyxes; racemes elongated, nearly simple; whorls 2-6-flowered, distant; teeth of lower lip of calyx lanceolate, acute; corolla twice as long as the calyx, with an exserted tube: upper lip emarginately bifid. ♃.? H. Native of the Levant, Forsk.; in woods on Mount Olympus in Bithynia; and about Belgrad, near Constantinople, Sibthorp. Sims, bot. mag. t. 988. Willd. hort. berol. t. 20. Sibth. et Smith, fl. græc. 1. p. 16. t. 21. S. bífida, Forsk, fl. arab. p. 202. Stem leafy at base, and nearly naked at top. Lower leaves 3-4 inches long, subcordate at the base. Calyx usually coloured at top, clothed with clammy pubescence. Corollas violaceous, similar to Sect. I. *Eusphàce:* lower lip variegated; middle lobe deflexed, emarginately bifid.

Forskœl's Sage. Fl. June, Aug. Clt. 1800. Pl. 1½ foot.

35 S. miltiorhi'za (Bunge. enum. pl. chin. p. 50.) stem herbaceous, erect, pilose; leaves petiolate, pinnate, with 3-7 petiolate, ovate, crenated leaflets: the ultimate leaflet larger or bifid; floral leaves bractea-formed; racemes simple; whorls many-flowered, loose; calyx campanulate: upper lip acute, entire: lower one shortly bidentate; corolla about 3 times as long as the calyx: tube a little exserted, obliquely annulate inside: upper lip falcate, compressed: middle lobe of lower lip fringed; connective rather dilated behind. ⊙.? ♃.? G. Native of the north of China, in shady mountains at Zui-wey-schin and Ssi-jui-ssy, Bunge. Habit of *S. Forskœ'lei.* Root vermilion-coloured. Leaves large, hispid, green above and paler beneath. Calyxes coloured, rather clammy. Corollas blue, clothed with clammy pubescence outside. This species differs from the present section in the upper lip of corolla being entire; and in the inside of the tube of the corolla being annulate from both the present section and sect. *Æthìopis.*

Red-rooted Sage. Pl. 2 to 3 feet.

• Sect. V. Æthi'opis (so called from *S. Æthìopis* being a native of Ethiopia.) Benth. in Hook. bot. misc. 3. p. 373. lab. p. 222. Calyx campanulate or tubular; upper lip tridentate: teeth erect: middle tooth very small. Tube of corolla widened under the throat or ventricose, without any ring of hairs inside: upper lip falcate, compressed; lateral lobes of lower lip oblong, erectish, and a little twisted: middle lobe spreading, roundish, usually concave, emarginate, crenulated. Connective deflexed behind, abruptly dilated, callous and connected at the extremity.—Herbs, natives of the region of the Mediterranean, and the mountains of Middle Asia. Leaves and lower parts of stem usually clothed with white wool. Floral leaves permanent, erect, clasping the whorls, rarely rather

longer than the peduncles. Panicle divaricately branched, rarely almost simple.

36 S. I'ndica (Lin. spec. p. 37.) stem erect, rather hairy; leaves petiolate, ovate or oblong, acute, a little toothed, broadly cordate at the base, glabrous; floral leaves ovate-cordate, reflexed; racemes simple; whorls 6-flowered, remote; calyxes sessile, campanulate, inflated after florescence; corolla 3 times as long as the calyx. ♃. H. Native of India, Lin., but probably of the mountains of Persia or Arabia. Jacq. hort. vind. 1. p. 33. t. 78. Curt. bot. mag. t. 395. Sclàrea I'ndica, Mill. dict. no. 9.—Mor. hist. 3. sect. 11. t. 13. f. 16. Stem angular, glabrous, or beset with clammy hairs. Lower leaves 3-5 inches long: floral ones shorter than the calyxes. Corollas variegated: lower lip yellow and blue; the upper lip purple, size of those of *S. argéntea*. Calyx clothed with clammy pubescence.

Indian Clary. Fl. May, July. Clt. 1731. Pl. 3 to 4 feet.

37 S. commuta'ta (Benth. lab. p. 222.) stem erect, hispidly pilose; leaves petiolate, ovate, obtuse, erosely crenated, cordate at the base, thick, tubercularly wrinkled, hispid and green on both surfaces; floral leaves hardly longer than the peduncles; raceme dense, spike-formed; calyx campanulate, hispid; corolla about twice as long as the calyx. ♃.? H. Native of Syria or Italy. S. Domínica, Lin. spec. p. 35. but not of Swartz. and other authors. S. Syrìaca, Gouan. herb. but not of Lin. Cauline leaves very numerous, and smaller than in other species of the present section, hardly 1½ inch long.

Changed Clary. Pl.?

38 S. Syri'aca (Lin. spec. p. 36.) stem nearly glabrous, panicled at top, and clothed with tomentose pubescence; leaves petiolate, ovate, obtuse, erosely crenated or deeply toothed, cordate at the base, green on both surfaces, much wrinkled, pubescent; floral leaves broad-ovate, concave, permanent, one half shorter than the calyxes; racemes panicled; whorls distant, 2-6-flowered; calyx campanulate, tomentose; corolla one half longer than the calyx, with an inclosed tube. ♃. H. Native of the Levant, Persia, and Palestine; Syria, near Aleppo. Sclàrea Syrìaca, Mill. dict. no. 5. Hormìnum Syrìacum, Bauh. pin. p. 238. Allied to *S. odoràta;* but differs in the leaves being green on both surfaces, and the form of the leaves is that of *S. praténsis*. Corollas white.

Syrian Clary. Fl. July. Clt. 1759. Pl. 2 to 3 feet.

39 S. odora'ta (Willd. enum. p. 43.) stem suffruticose, clothed with white wool at the base, but panicled and glabrous at top; leaves petiolate, ovate-lanceolate, acuminated, irregularly crenate-toothed, cordate at the base, wrinkled, clothed with white tomentum on both surfaces: upper ones sessile; floral leaves shorter than the pedicels, permanent; racemes panicled, loose; whorls remote, 2-flowered; calyx campanulate, striated, pubescently hairy; corolla about 3 times as long as the calyx. ♄. F. Native near Bagdad. Jacq. fil. ecl. fasc. 2. p. 26. t. 16. S. álbida, Jacq. obs. 10. no. 73. S. argéntea, Hortul. but not of Lin. Branches tetragonal. Leaves 3 inches long, and 1 to 1½ broad. Flowers on short pedicels, about the size of those of *S. sclàrea*. Corollas white: lower lip yellowish in the middle.

Sweet-scented Clary. Fl. July. Clt. 1804. Shrub 2 to 3 feet.

40 S. candidi'ssima (Vahl, enum. 1. p. 278.) stem erect, clothed with white tomentum; leaves petiolate, ovate, obtuse, sinuately toothed, cordate at the base, thick, wrinkled, densely clothed with white tomentum on both surfaces; floral leaves broad, acuminated, concave, permanent, rather shorter than the calyxes; racemes branched; whorls 6-10-flowered: upper whorls abortive; calyx campanulate, villous; tube of corolla equal in length to the calyx. ♃. S. Native of Armenia, and the Island of Cyprus. S. crassifòlia, Sibth. et Smith, fl. græc. 1. p. 19. t. 26. Corollas white, with a yellow lip, size of those of *S. sclàrea*. Leaves smaller than those of *S. argéntea*. Root creeping.?

Very-white Clary. Fl. June, Aug. Clt. 1820. Pl. 1 to 2 feet.?

41 S. scla'rea (Lin. spec. p. 38.) stem erect, villous; leaves petiolate, ample, ovate, erosely crenated, cordate at the base, wrinkled, hoary: upper ones stem-clasping: floral leaves very broad, acuminated, concave, membranous, coloured, exceeding the flowers, permanent; racemes panicled; whorls distant, about 10-flowered; calyx campanulate, striated, pubescently hispid: teeth somewhat spinosely acuminated; corolla twice as long as the calyx: tube inclosed. ♂. H. Native of the south of Europe, in the region of the Mediterranean; as of the south of France, north of Italy, Naples, Sicily, Dalmatia, Grecian Islands, Tauria, Caucasus, &c. Sibth. et Smith, fl. græc. 1. p. 18. t. 25. St. Hil. pl. fr. t. 2. 47. Mirb. ann. mus. 15. t. 15. f. 2. S. Simsiàna, Rœm. et Schultes, syst. mant. 1. p. 210. Lindl. bot. reg. 1003. S. bracteàta, Sims, bot. mag. t. 2320. Sclàrea vulgàris, Mill. dict. no. 1.—Ludw. ect. t. 171.—Plenck. icon. 21.—Blackw. t. 122. Lob. icon. 556.—Mor. hist. 3. sect. 11. t. 16. f. 1. Stem clammy. Leaves 8-9 inches long, and 4-5 broad: floral leaves membranous, white at the base, and red at top, comose. Corolla white, tinged with purple. In the cultivated specimens the leaves are more glabrous than in the wild specimens.

This plant is called *Orvale* by the French; *Scharlach-kraut* by the Germans; *Schlarea* by the Italians; and *Clary* by the English. The leaves are sometimes used in soups, though many dislike its scent. Its flowers are used for a fermented wine; and the whole plant is, like sage, esteemed medicinal. *Clary* is reared from seed, and sometimes from cuttings and slips. A small bed will supply most families; and if raised from seed, a quarter of an ounce will suffice for a seed-bed to be transplanted from 2 feet by 2. Sow in the last fortnight of March or the course of April, in any bed or border thinly, and rake in the seed. In summer, when the plants are advanced 2 or 3 inches, transplant a portion of the strongest from 12 to 18 inches apart, to allow competent room for the leaves to spread, when they will be fit for use the same year, and in continuation through winter until the following spring and summer. In the spring allot some old plants to run up into stalks, these will yield ripe seed in autumn.

Common *Clary*. Fl. July, Sept. Clt. 1562. Pl. 3 to 4 feet.

42 S. spinòsa (Lin. mant. p. 511.) stem beset with glandular villi; leaves petiolate, ample, ovate, deeply crenated, rounded at the base, wrinkled, pubescent: superior ones sessile, cordately stem-clasping: floral ones very broad, acuminated, concave, permanent, exceeding the calyxes; racemes panicled; whorls distant, 6-10-flowered; calyx tubular, cylindrical, striated: teeth all erect and spiny; corolla hardly one half longer than the calyx: tube inclosed. ♂. H. Native of Egypt, Persia; and of Syria, near Aleppo. Jacq. icon. rar. 1. p. 2. t. 7. S. Ægyptìaca, Lin. mant. p. 26. S. Abyssínica, Lin. fil. suppl. p. 88. ex Steud. Màrum Ægyptìacum, Vesling, fl. ægypt. p. 75. t. 76. Hormìnum suavèolens, Mœnch. meth.—Mor. hist. 3. sect. 11. t. 16. f. 2. Plant hispid from spreading glandular hairs in all parts, rarely glabrous. Lower leaves 4-5 inches long. Floral leaves green or white at the base, ciliated. Calyx glabrous, or ciliated with long glandular hairs. Corollas white, glabrous outside.

Spiny-calyxed Clary. Fl. June, July. Clt. 1789. Pl. 1 to 2 feet.

43 S. Palæsti'na (Benth. lab. p. 718.) stem clothed with glandular hairs; leaves petiolate, oblong, somewhat pinnate or

pinnatifid, wrinkled, villous: lobes erosely toothed, very blunt; floral leaves bractea-formed, very broad, acuminated, concave, permanent, shorter than the calyxes; racemes panicled; whorls distant, about 6-flowered; calyx tubular, striated: teeth all erect and spiny; corolla about twice as long as the calyx. ♂. H. Native of Palestine, in corn-fields, Bove. S. Sinàica, Delile, mss. Habit, inflorescence, and flowers, like that of *S. spinòsa;* but differs from that species in the form of the leaves.

Palestine Clary. Pl. 1 to 2 feet.

44 S. Tingita'na (Ettling, salv. p. 30.) stem herbaceous, beset with glandular hairs; leaves petiolate, ample, ovate, deeply crenated, somewhat cordate at the base, much wrinkled, villous: superior ones stem-clasping; floral leaves very broad, acuminated, concave, permanent, rather shorter than the calyxes; racemes panicled; whorls distant, 6-10-flowered; calyx campanulate, plicately striated, hispidly ciliated: teeth all somewhat spiny: the middle tooth of the lower lip obsolete; corolla twice as long as the calyx. ♂. H. Native of the north of Africa, about Tunis; and of Spain, near Cadiz. S. coarctàta, Vahl, enum. 1. p. 277. S. fœ'tida, Lam. ill. 1. p. 69. Hormìnum Tingitànum, Riv. mon. irr. 1. t. 62. Allied to *S. spinòsa;* but differs in the broader leaves, cordate at the base, and more wrinkled, &c. The whole plant is beset with long spreading, and short glandular hairs. Corolla dirty white: lower lip yellowish, crenulated: upper lip tinged with blue.

Tangier Clary. Fl. July. Clt. 1796. Pl. 1 to 3 feet.

45 S. præ'cox (Vahl, enum. 1. p. 274.) leaves ovate-oblong, rather repand, smooth, rather pilose; bracteas cordate, veiny, acuminated, length of calyx. ♃. ? H. Native of the north of Africa. Nearly allied to *S. Tingitàna.* Stem erect, pilose. Lower leaves 3 inches long, petiolate: superior ones sessile, ovate, acute. Teeth of calyx cuspidate, but not spiny. Corolla size of that of *S. Sclàrea:* upper lip villous: lower lip concave.

Early Clary. Pl. 2 to 3 feet.

46 S. Æthìopis (Lin. spec. p. 39.) stem erect, clothed with white wool; lower leaves petiolate, narrowed at the base: cauline leaves cordate, stem-clasping, all deeply toothed, and much wrinkled, densely clothed with white wool on both surfaces: floral leaves very broad, acuminated, permanent, concave, equalling the calyxes, woolly; racemes panicled; whorls 6-10-flowered, distinct; calyx campanulate, woolly: teeth all subulately spinose, spreading; corolla twice as long as the calyx, with an inclosed tube. ♂. H. Native of Europe, Africa, and Asia, in the region of the Mediterranean, in arid fields and dry sterile places; south of France, Piedmont, Naples, Sicily, Austria, Hungary, Podolia, Greece and Syria, Tauria and Caucasus.—Herb panicled at top. Corollas white: upper lip pubescent, often reddish. This plant in a wild state is from ½ to 1 foot in height, but in the cultivated state it grows from 3-5 feet in height. Jacq. fl. austr. 3. p. 7. t. 211. Sclàrea lanàta, Mœnch. meth. p. 374. Sclàrea Æthìopis, Mill. dict. no. 2. Æthìopis, Besl. eyst. 2. ord. 8. fol. 3. f. 1.

Var. β, laciniàta; leaves jagged.—Barrel. icon. p. 24. t. 188.

Var. γ, papillòsa; leaves woolly beneath, and papillosely wrinkled above.—Sabb. hort. rom. p. 5. t. 3.

Ethiopian Clary. Fl. May, June. Clt. 1570. Pl. 1 to 4 feet.

47 S. compre'ssa (Vahl, enum. 1. p. 275.) stem erect, villous; lower leaves petiolate, rounded at the base: superior ones cordately stem-clasping, all ovate, and erosely toothed, wrinkled, rather woolly on both surfaces; floral leaves very broad, obtuse, permanent, concave, coloured, ciliated, equalling the calyxes; racemes panicled; whorls 6-10-flowered: the upper whorls abortive; calyx campanulate, membranous coloured, pubescent: teeth of lower lip of calyx obtuse; corolla one half longer than the calyx. ♂. ? H. Native of the Levant. Vent. cels. t. 59. Very nearly allied to the preceding; but differs principally in the floral leaves and blunt mutic calycine teeth, and in the upper whorls being abortive. Bracteas and floral leaves purplish at top. Corollas white.

Compressed Clary. Fl. May, June. Clt. 1822. Pl. 2 feet. ?

48 S. arge'ntea (Lin. spec. 38.) stem erect, villous; radical leaves petiolate, and the lower cauline leaves sessile, ample, ovate, cuneated at the base, sinuately lobed, erose, woolly, wrinkled: floral leaves very broad, acuminated, concave, permanent, pilose, equalling the calyxes; racemes panicled; whorls 6-10-flowered, remote: the upper ones abortive; calyx campanulate, striated, villous; calycine teeth all rather spiny; corolla about 3 times as long as the calyx, with an inclosed tube. ♂. H. Native of Europe and Africa, in the region of the Mediterranean, in corn-fields; as of Barbary, Portugal, Algarves, Sicily, Naples, Greece, &c. Jacq. hort. schœnbr. 1. p. 4. t. 6. Sibth. et Smith, fl. græc. 1. p. 20. t. 27. S. pyramidàlis, Petagna, inst. bot. 2. p. 54. S. candidíssima, Guss. prod. fl. sic. 1. p. 16. and of other Sicilian authors. Hoffm. et Link. fl. port. 1. p. 151. t. 20. but not of Vahl. S. Atlántica, Pers. ench. 1. p. 29. S. pátula, Desf. fl. atl. 1. p. 25. S. Æthìopis, Brot. fl. lus. 1. p. 18. but not of Lin. Sclàrea argéntea, Mill. dict. no. 15.—Mirb. ann. mus. 15. t. 15. f. 4. Allied to *S. spinòsa* and *S. Tingitàna.* Radical and lower cauline leaves 6-8 inches long, and 4-6 broad, clothed with loose white wool on both surfaces. Panicle ample. Corollas showy, bluish-white: lower lip yellowish.

Silvery Clary. Fl. May, July. Clt. 1759. Pl. 2 to 3 feet.

49 S. verbascifòlia (Bieb. fl. cauc. 3. p. 24.) stem erect, clothed with clammy villi; lower leaves petiolate, ample, ovate, cordate at the base, sinuately lobed, erose, thick, much wrinkled, hardly woolly above, but clothed with white tomentose wool beneath; floral leaves very broad, acuminated, concave, permanent, villous, about equalling the calyxes; racemes subpanicled; whorls 2-6-flowered, approximate, distinct: the upper ones abortive; calyx campanulate, striated, clothed with clammy villi; calycine teeth all acute, but scarcely spiny; corolla twice as long as the calyx. ♃. H. Native of Caucasus and Iberia, on sterile parts of mountains; Persia, in the province of Azarbaudgan. S. candidíssimum, Bieb. fl. cauc. 1. p. 21. but not of Vahl. Very nearly allied to *S. argéntea,* but differs in the more humble stature, in the leaves being cordate at the base, not narrowed, &c. Corollas white.

Mullien-leaved Clary. Fl. May, July. Clt. 1823. Pl. 1 to 2 feet. ?

50 S. Broussone'tii (Benth. lab. p. 227.) stem erect, clothed with rather clammy villi; leaves petiolate, ample, ovate, obtuse, sinuately crenated, cordate at the base, thick, much wrinkled, green, and nearly glabrous above, clothed with white tomentum beneath, and the veins with clammy pubescence; floral leaves ovate-lanceolate, acuminated, concave, green, hispid, permanent, rather longer than the calyxes; racemes panicled; whorls usually 6-flowered, distinct; calyx campanulate, hispid: teeth of upper lip ovate, acute; corolla scarcely twice the length of the calyx. ♃. ? H. Native of Teneriffe, or the north of Africa, Broussonet. This is a very distinct species from *S. verbascifòlia;* the leaves are larger, and destitute of wool on the upper surface; the panicle is more dense and more branched, and very villous; the floral leaves narrower, and the flowers smaller.

Broussonet's Clary. Pl. ?

51 S. Moorcroftia'na (Wall. ex Benth. in Wall. pl. rar. asiat. 1. p. 67. Benth. lab. p. 228.) stem erect, woolly at the base, but clothed with clammy villi at top; lower leaves on long petioles, ample, ovate, erosely crenated, narrowed at the base,

wrinkled, villous above, and clothed with white wool beneath; floral leaves very broad, acuminated, concave, permanent, equalling the calyxes; racemes panicled; whorls remote, about 6-flowered; calyx campanulate, striated, clothed with rough villi; calycine teeth all subulately mucronate; corollas 3 times as long as the calyx, with an exserted tube. ♂. ? H. Native of the Himalaya; in Luddak, Moorcroft; in the valley of Cashmere; and in Kinaour and Kidarkonta, Royle. Allied to *S. argéntea;* but differs in the leaves being on long petioles, less cut, hardly woolly above, but densely clothed with subfloccose wool beneath, &c. Corolla violaceous. ?

Moorcroft's Clary. Pl.

52 S. lana'ta (Roxb. fl. ind. 1. p. 147.) stems tufted, woolly at the base; leaves oblong-lanceolate, obtuse, entire, minutely crenulated, narrowed a long way at the base, much wrinkled, loosely clothed above, but densely beneath with white wool; floral leaves very broad, acuminated, concave, permanent, equalling the calyxes; racemes almost simple, clothed with clammy villi; whorls remote, about 10-flowered; calyx campanulate, with acute teeth; corolla twice as long as the calyx, with the tube rather exserted. ♃. ? S. Native of Himalaya; on the tops of the alps of Kamaon and Sirmore, and Mussooree; and common throughout the whole of the range. Wall. pl. rar. asiat. 2. p. 11. t. 116. S. càna, Wall. cat. no. 2145. S. integrifòlia, Hardw. in asiat. res. 6. p. 349. Stenarhèna lanàta, D. Don, prod. fl. nep. p. 111. Stems woody at the base, numerous. Leaves 3-4 inches long. Flowers size of those of *S. Æthìopis*. Corolla downy outside, purple.

Woolly Clary. Pl. 1 to 2 feet.

53 S. phlomoi'des (Asso, arrag. p. 158. t. 4.) stems tufted, clothed with white wool at the base; leaves oblong-linear or lanceolate, acute, entire, or the lower ones are sinuately lobed, narrowed a long way at the base, much wrinkled, clothed with white wool on both surfaces; floral leaves very broad, acuminated, concave, permanent, longer than the calyx; racemes nearly simple, clothed with clammy villi; whorls remote; calyx campanulate: teeth of lower lip lanceolate, acuminated; corolla about 3 times as long as the calyx: the tube a little exserted. ♂. H. Native of Spain, plentiful among the mountains of Arragon, about Siguenza. Rœm. script. pl. hisp. et lus. 10. t. 1. f. 1. Stems clothed with clammy hairs at top. Corollas almost glabrous outside, size of those of *S. Sclàrea*.

Phlomis-like Clary. Fl. May, June. Clt. 1805. Pl. 1 to 2 feet.

54 S. cane'scens (Meyer, verz. pflanz. p. 86.) stems woolly at the base; leaves lanceolate-oblong, entire or sinuately-lobed, narrowed a long way at the base, wrinkled, loosely clothed above, but densely beneath with white wool; floral leaves very broad, acuminated, concave, permanent, rather shorter than the calyxes; racemes branched, clothed with clammy villi; whorls remote; calyx tubularly campanulate; teeth of lower lip lanceolate, acuminated; corolla about 3 times longer than the calyx, the tube a little exserted. ♂. ? H. Native of Caucasus, among rocks towards the river Anticeta; and near Natzana, Meyer. This is very nearly allied to *S. phlomoìdes;* but differs in being taller and more slender; in the racemes being branched; in the flowers being fewer and smaller, &c.

Canescent Clary. Pl. 2 to 3 feet. ?

55 S. ceratophy'lla (Lin. spec. p. 39.) stem clothed with white wool at the base; lower leaves deeply pinnatifid, with linear, obtuse, sinuately subpinnatifid lobes, much wrinkled, clothed with loose wool on both surfaces; superior leaves nearly entire: floral leaves very broad, acuminated, concave, permanent, longer than the calyxes; racemes panicled; whorls about 6-flowered, distant, the upper ones abortive; calyx campanulate, with lanceolate-setaceous, rather spiny teeth; corolla twice as long as the calyx, the tube inclosed. ♂. H. Native of the Levant; Syria, near Aleppo, Persia, &c. S. exasperàta, Cav. ann. hist. nat. 3. p. 113. t. 17. icon. 6. p. 38. t. 558. Sclàrea ceratophýlla, Mill. dict. no. 8.—Kniph. cent. 4. t. 78.—Mor. hist. 3. p. 393. sect. 11. t. 13. f. 6. The lower part of the stem and leaves are clothed with loose wool. Lower leaves 7-8 inches long: floral leaves green, clammy. Corolla yellowish-white or cream-coloured.

Buckhorn-leaved Clary. Fl. July, Aug. Clt. 1699. Pl. 2 to 3 feet.

† *Doubtful species, probably belonging to the present section.*

56 S. grave'olens (Vahl, enum. 1 p. 273.) stem shrubby; branches tetragonal, very villous; leaves petiolate, cordate, wrinkled, crenated, villous, hoary beneath: lower ones somewhat sinuated; floral leaves cordate; spikes branchy; whorls approximate, 6-flowered; calyx campanulate. ♄. F. Native of Egypt. Bracteas attenuated, shorter than the calyxes, glabrous above. Galea of corolla linear-falcate, pilose.

Strong-scented Clary. Shrub.

57 S. va'ria (Vahl, enum. 1. p. 273.) herbaceous; leaves petiolate, cordate, unequally crenated, obtuse, wrinkled, clothed with hoary tomentum beneath, as well as the stems, but rather villous above; whorls 6-flowered; bracteas cordate, acuminated, length of calyxes; calyx, bracteas, and peduncles hoary: calycine teeth subulate. ♃. H. Native of Armenia. Leaves 3-4 inches long. Corolla small, a little longer than the calyx.

Various Clary. Pl.

• Sect. VI. PlethiósPace (from πληθος, *plethos*, multitude; and σφακος, *sphakos*, sage; so called from the section containing the *S. sylvéstris*, or common wild sage.) Benth. lab. p. 230. in Hook. bot. misc. 3. p. 373. Calyx ovate: upper lip concave above, bisulcate, with 3 very short conniving teeth: lower lip bifid, with acute teeth. Tube of corolla widened or ventricose under the throat, without any ring of hairs inside: upper lip concave, or falcately compressed; lateral lobes of lower lip oblong, erectish, a little twisted: middle lobe spreading, roundish, usually concave, emarginate, and crenulated. Connective deflexed behind, abruptly dilated, callous and connate at the extremity.—European, African, and North Asiatic herbs. Leaves usually erosely toothed or cut. Racemes elongated, simple, or virgately panicled.

58 S. bi'color (Desf. in Fourcr. journ. de decouv. 1792.) stem erect, a little branched, clothed with clammy pubescence; lower leaves petiolate, ample, ovate, deeply toothed, pinnatifid or palmately lobed; middle leaves petiolate, ovate-lanceolate, acuminated, deeply toothed: superior leaves sessile, lanceolate, all cordate at the base, and clothed with clammy pubescence: floral leaves ovate-lanceolate, acuminated, reflexed; racemes a little branched, elongated; whorls distant, 6-flowered; calyxes pedicellate, campanulate, striated, clothed with clammy hispid hairs: teeth all subulate; corolla 3 times longer than the calyx; the tube equalling the calyx; stamens exserted. ♃. H. Native of the north of Africa; and of Spain, in Andalusia. Sims. bot mag. t. 1774. Desf. fl. atl. 1. p. 22. t. 2. Jacq. hort. schœnbr. 1. p. 4. t. 7. S. crassifòlia, Cav. hort. matr. descr. p. 16. Jacq. fragm. p. 47. t. 60. This is a very beautiful and distinct species, allied to *S. Austrìaca*. Stems tetragonal. Radical leaves usually palmately pinnatifid. Racemes 1 to 2 feet long, many-flowered. Corollas larger than those of *S. Austrìaca:* upper lip bluish-violet, spotted with white: lower lip yellow.

Two-coloured-flowered Sage. Fl. June, July. Clt. 1793. Pl. 2 to 3 feet.

59 S. Algerie'nsis (Desf. fl. atl. 1. p. 23. t. 3.) stem branched, hairy; lower leaves ovate-oblong, crenated, running into the petioles: middle and upper leaves few, sessile, usually quite entire; whorls 2-6-flowered, distinct; calycine teeth setaceous, spiny; bracteas reflexed. ♃. H. Native of Algiers, near Maiane. Calyxes nutant. Corollas blue, size of those of *S. praténsis*. This species is said to differ from *S. bícolor*, in the stem being hairy; in the leaves being ovate-oblong, crenated, not erose, and sinuately toothed, ex Desf.

Algiers Sage. Pl. 2 to 3 feet.?

60 S. latifòlia (Vahl, enum. 1. p. 271.) stem rather pilose, branched at top; lower leaves petiolate, oblong, attenuated at the base: upper ones sessile, cordate; racemes clothed with clammy villi; whorls remote, 4-flowered; calyx campanulate, striated, villous, with setaceous teeth; bracteas cordate, acuminated, glabrous inside, one half shorter than the calyxes. ♃. H. Native of Tangiers. Stems purplish. Upper leaves sessile, 2-3 inches long, very blunt, attenuated at the base, veiny, villous. Pedicels very short. Corolla much larger than the calyx. Very nearly allied to *S. Algeriénsis;* but differs in the leaves being remotely toothed, and the seeds larger, &c.

Broad-leaved Sage. Pl.

61 S. inamœ'na (Vahl, enum. 1. p. 269.) stem erect, branched, clammy and hispid; leaves petiolate, ample, ovate, deeply toothed, cordate at the base, hispid: upper leaves lanceolate-linear: floral leaves ovate, acuminated, reflexed; racemes elongated, a little branched; whorls 6-flowered, distant; calyxes shorter than the pedicels, amply campanulate, striated, hispid: teeth all short and stiff; genitals hardly exserted. ♃. H. Native of Spain, Schousboe. Leaves a hand long. Corollas size of those of *S. Sclàrea*, pubescent outside. Pedicels clothed with clammy villi.

Unpleasant Sage. Pl. 2 to 3 feet.?

62 S. Austri'aca (Lin. syst. veg. p. 69.) stem erect, nearly naked, pubescent; radical leaves petiolate, broad-ovate, erosely toothed, cordate, rounded or cuneated at the base, wrinkled, glabrous above and pubescent beneath: cauline leaves few: floral leaves ovate, acuminated, ciliated, about equal in length to the calyxes; racemes a little branched; whorls about 6-flowered: lower ones distant: upper ones approximate; calyxes nearly sessile, campanulate, very pilose; corolla 3 times as long as the calyx, the tube a little exserted. ♃. H. Native of Lower Austria, Hungary, Transylvania, Moldavia; frequent in Tauria, and Caucasus. Jacq. fl. austr. 2. p. 8. t. 112. Lindl. bot. reg. t. 1019. S. Sclàrea, Crantz, austr. p. 236. but not of Lin. Sálvia dístans, Pohl, ex Steud. nom. 725. Sclàrea dístans, Mœnch. meth. Stems bluntly tetragonal. Radical leaves 3-4 inches long: cauline ones 2 inches long, pinnatifid. Corolla cream-coloured, beset with clammy pili outside, size of that of *S. praténsis*.

Austrian Sage. Fl. June, Jul. Clt. 1776. Pl. 2 to 3 feet.

63 S. limba'ta (Meyer, verz. pflanz. p. 86.) stems erect, almost naked, pubescent; radical leaves petiolate, broad-ovate, entire, erosely toothed, cordate at the base, very much wrinkled, green, and rather hairy on both surfaces; cauline leaves few, sessile: floral leaves ovate, acuminated, shorter than the calyx; racemes branched; whorls 2-6-flowered, distant; calyxes nearly sessile, broadly campanulate, rather hispid; corolla about thrice as long as the calyx, the tube a little exserted; genitals exserted. ♃. H. Native of Caucasus, in dry stony places on the Talusch mountains. Very nearly allied to *S. Austrìaca;* but differs in the leaves being shorter, more wrinkled; in the racemes being fewer-flowered; in the calyx being more broadly campanulate, and hardly hairy.

Limbate Sage. Pl. 2 to 3 feet.?

64 S. ceratophylloi'des (Lin. mant. p. 26.) stem ascending? villous; leaves oblong, deeply pinnatifid, with oblong-lanceolate, deeply toothed lobes, much wrinkled, glabrous: superior leaves nearly sessile: floral leaves ovate, acute, one half shorter than the calyxes; racemes elongated, branched a little; whorls remote, 2-6-flowered; calyxes pedicellate, campanulate, hispid; teeth of lower lip lanceolate, acute; corolla twice as long as the calyx: the tube exserted a little. ♃.? H. Native of the region of the Mediterranean; on arid hills of Calabria; and south of Sicily. Corollas of *S. praténsis*, but smaller, larger than those of *S. verbenàca*, violaceous or blue.

Stag-horn-like-leaved Sage. Fl. June, May. Clt. 1771. Pl. 1 to 2 feet.

65 S. prate'nsis (Lin. spec. p. 35.) stems erect, almost simple, pubescent; radical leaves petiolate, oblong-ovate, obtuse, crenated, or cut, cordate at the base, bullately wrinkled, glabrous above, with the petioles and nerves pubescent beneath; cauline leaves few, sessile: uppermost ones lanceolate, acuminated: floral leaves cordate-ovate, shorter than the calyxes, rather reflexed; racemes clammy, nearly simple; whorls 6-flowered, distant; calyxes nearly sessile, campanulate, clothed with clammy villi; corolla 3 times longer than the calyx, the tube equal in length to the calyx; genitals exserted. ♃. H. Native of Middle and South Europe, in dry, grassy fields, and by waysides; as of Britain, France, Spain, Portugal, Germany, Italy, Greece, Caucasus, Sweden, Russia. Smith, engl. bot. t. 153. S. agréstis, Lin. amœn. acad. 3. p. 399.? S. hæmatòdes, Lin. spec. p. 35. S. Barrelièri, Tenor. fl. nap. 1. p. 9. t. 2. Schranck, hort. mon. 1. t. 5. S. Tenòrii, Spreng. syst. 2. p. 65. Sweet. brit. fl. gard. 1. t. 26. S. rubicúnda, Wenderoth. S. virgàta, Sav. bot. etrusc. 2. p. 4. ex Tenore, syll. p. 17. but not of Jacq. S. variegàta, Waldst. et Kit. ex Willd. enum. 1. p. 36. S. trícolor, Hortul.—Berg. phyt. 2. t. 95.—Blackw. t. 258.—Plenck, icon. t. 22. This species is variable in height and pubescence, but the flowers are always large, usually blue, rarely reddish, or white. Racemes simple, or furnished with a few small branches. Root thick. Leaves in the more southern varieties more or less spotted with red.

Meadow Sage. Fl. May, June. Britain. Pl. 2 to 4 feet.

66 S. dumetòrum (Andrz. in Bess. enum. fl. volh. 3. & 40.) stem erect, almost simple, pubescent; radical and lower cauline leaves petiolate, ovate, doubly crenated, deeply crenated at the base, wrinkled, glabrous on both surfaces, or pubescent on the nerves and petioles beneath; cauline leaves few, sessile, broadly ovate-cordate, acute; floral leaves roundish-cordate, shorter than the calyxes, at length reflexed; racemes almost simple, clammy; whorls 6-flowered, remote; calyxes almost sessile, campanulate, striated, clothed with clammy villi; corolla about 3 times longer than the calyx: tube equal in length to the calyx; genitals almost inclosed. ♃. H. Native of Altaia, in fields at the river Tscharysch; and in the Kirghisean Steppe at the river Nura Ledeb; and in the valley of Cashmere, Royle. Corollas blue. This species differs from *S. praténsis* in the leaves being smaller, less wrinkled, and more entire, the lower ones on longer petioles, the whorls more remote, and the flowers about half the size.

Bush Sage. Pl. 1 to 3 feet.

67 S. Lusita'nica (Jacq. fil. eclog. 1. p. 57. t. 38. exclusive of the syn. of Vahl and Poir.) stem erect, pilose, clammy; radical leaves petiolate; cauline leaves few, stem-clasping, all triangularly ovate, truncate at the base, somewhat cordate, acute, deeply toothed, much wrinkled, glabrous above, and villous beneath; floral leaves ovate, acuminated, equalling the calyxes; racemes branched; whorls 6-flowered, distant; calyxes nearly sessile, campanulate, striated, hispid, rather veiny; corolla about twice as long as the calyx, with an inclosed tube. ♃. H. Native of Spain and Portugal. Sclàrea Lusitánica, Mill. dict. no.

3.? This species is very nearly allied to *S. praténsis*, *S. dumetòrum*, and *S. virgàta*. It has the small flowers of the two latter species, and the branching panicle of *S. virgàta*. Corollas blue.

Portugal Sage. Fl. June, July. Clt. 1819. Pl. 1 to 2 feet.

68 S. virga'ta (Ait. hort. kew. ed. 1st. vol. 1. p. 39.) stem erect, branched, pubescently villous; radical leaves petiolate, amply ovate, cordate at the base: lower cauline leaves on short petioles, ample, ovate-oblong, rounded or cordate at the base: upper cauline ones more sessile, and smaller: uppermost ones cordately stem-clasping, acuminated, all erosely crenated, wrinkled, almost glabrous above, and pubescent on the nerves beneath, or hispid; floral leaves ovate, acuminated, somewhat reflexed, shorter than the calyxes; racemes branched, elongated; whorls 6-flowered, distant; calyxes pedicellate, campanulate, striated, clothed with clammy villi; corolla twice as long as the calyx, with an inclosed tube. ♃. H. Native of Italy, about Rome, and in fields on Mount St. Angelo. Jacq. hort. vind. 1. p. 14. t. 37. S. Tiberìna, Mauri, ex Requien. S. Gargánica, Tenore, ind. sem. hort. neap. 1829. syll. p. 18. S. cadùca, Horn. hort. hafn. 1. p. 30. S. gigantèa, Desf. cat. hort. par. 2. p. 68. S. Pyrenàica, Lin. spec. p. 36. S. grandidentàta, Lehm. ind. sem. hort. hamb. 1. p. 29.? S. amplexicaúlis, Lam. ill. 1. p. 68.? S. rùbra, Spreng. cur. post. 17. S. Caucásica, Schranck, in syll. pl. soc. ratisb. 2. p. 58. S. affìnis, Spreng, ex Steud. nom. S. Bauhìni, S. Barrelièri, S. quercifòlia, S. Taúrica, and S. Taurìna, Hortul.—Riv. mon. irr. t. 63. Corollas white, pale red, or pale blue. This species differs from *S. praténsis* in the large panicle, in the elongated, few-flowered racemes, in the larger leaves, and smaller flowers. The calyxes and floral leaves are clammy, and hardly coloured.

Twiggy Sage. Fl. June, Nov. Clt. 1758. Pl. 2 to 4 feet.

69 S. rugòsa (Thunb. prod. fl. cap. p. 97.) stem ascending, very villous; leaves petiolate, ovate, or oblong-lanceolate, obtuse, erosely toothed, cordate at the base, bullately wrinkled, pubescent on both surfaces; floral leaves ovate-cordate, acute, rather shorter than the calyxes; racemes a little branched; whorls 6-10-flowered, remote; calyx campanulate, striated, clothed with clammy villi; corolla twice as long as the calyx, the tube equalling the calyx. ♃. G. Native of the Cape of Good Hope. Corollas white, tinged with red. This species differs from *S. disérmas* in the form of the leaves, large and widely campanulate calyxes, and in the corollas being white.

Wrinkled-leaved Sage. Fl. July, Aug. Clt. 1775. Pl. 1 to 2 feet.

70 S. viscòsa (Jacq. misc. 2. p. 328. icon. rar. 1. p. 2. t. 5.) stem erect, clothed with clammy pubescence; leaves petiolate, broad-ovate, crenulated, sub-sinuated, cordate at the base, wrinkled, rather villous on both surfaces, clammy: superior leaves sessile: floral leaves rounded, half the length of the calyxes; racemes elongated, branched; whorls remote, usually 6-flowered; calyx campanulate, clothed with clammy villi; corolla 3 times as long as the calyx, the tube exserted. ♃. H. Native of Spain, Italy, &c. All parts of the plant are clothed with clammy pubescence. Stems with few leaves at top. Radical leaves 8 inches long, and 4-5 broad: cauline ones becoming gradually smaller as they ascend. Corolla 8-9 lines long, violaceous, glabrous outside. Allied to *S. virgàta*.

Clammy Sage. Fl. June, July. Clt. 1773. Pl. 2 to 4 feet.

71 S. dise'rmas (Lin. spec. p. 36.) stems procumbent at the base; branches ascending, and clothed with clammy villi; lower leaves petiolate: superior ones nearly sessile, all oblong-lanceolate, erose, rounded at the base, or cordate, clothed with clammy villi on both surfaces: floral leaves broad-ovate, acute, about equal in length to the calyxes; racemes a little branched; whorls 6-10-flowered, remote; calyx ovate-tubular, clothed with clammy villi, striated; lower calycine teeth lanceolate, acute; corolla exceeding the calyx but little, the tube equalling the calyx. ♃. H. Native of the Cape of Good Hope. Hormìnum disérmas, Mœnch. meth. Allied to *S. verbenàca* and *S. clandestìna*. Corollas white.

Two-glumed Sage. Fl. July. Clt. 1773. Pl. 1 foot.?

72 S. Sibthórpii (Smith, fl. græc. 1. p. 17. t. 22.) stem erect, rather panicled at top, villous; radical leaves petiolate, ample: superior leaves sessile, all ovate, coarsely and doubly crenated, a little cut, glabrous above, wrinkled, villous beneath: floral leaves roundish, acuminated, rather coloured, shorter than the calyxes; racemes elongated, brachiate, branched, rather canescent; whorls numerous, distinct, 6-10-flowered; calyx tubularly campanulate, villous; lower calycine teeth lanceolate, very acute; corolla hardly twice as long as the calyx, the tube exserted. ♃. H. Native of Europe, in the region of the Mediterranean, in grassy places, and by way-sides; as of Greece, South of Podolia, Bulgaria, about Smyrna, Tauria, &c.; also in the valley of Cashmere, Royle. S. campéstris, Bieb. fl. cauc. 1. p. 20. and 3. p. 22. Rchb. icon. bot. 6. p. 21. t. 529. S. Hypánica, Andrz. in Bess. enum. pl. pod. 3. S. móllis, Jacq. fil. ecl. 1. p. 56. t. 37.? exclusive of the syn. of Donn. S. amplexicaúlis, S. Barrelièri, S. Caucásica, S. Taurica, and S. virgàta, &c. Hortul. Very nearly allied to *S. sylvéstris* and *S. virgàta*; it differs from the first in the less leafy, more villous stem, and more ample leaves, which are 6-9 inches long, and 3-4 broad; and from the latter in the whorls being more numerous and more approximate, in the calyx being larger, and in the floral leaves being membranous and coloured.

Sibthorp's Sage. Pl. 1 to 3 feet.

73 S. sylve'stris (Lin. spec. p. 34.) stem erect, panicled at top; lower leaves petiolate: superior ones sessile, all oblong-lanceolate, crenated, rounded, or usually cordate at the base, wrinkled, glabrous above, and paler and pubescent beneath, or canescent; floral leaves orbicular, acuminated, coloured, about equal in length to the calyxes, imbricated before florescence, but afterwards a little reflexed; racemes elongated, a little branched; whorls 6-10-flowered, distinct; calyx ovate-tubular; corolla twice as long as the calyx, the tube equalling the calyx. ♃. H. Native of East and middle Europe, and middle Asia, in grassy fields; Spain, South of France, Sicily, Naples, Germany, Austria, Hungary, Bohemia, Greece, Persia, Tauria, and Caucasus, Siberia, &c. Jacq. fl. austr. 3. p. 7. t. 212. Rchb. icon. bot. 6. p. 20. t. 527. S. nemoròsa, Lin. spec. p. 35. Poit. et Turp. fl. par. t. 35.? Rchb. icon. bot. 6. p. 19. t. 526. S. desérta, Schangin, in Led. cat. hort. dorp. 1824. p. 6. Rchb. icon. bot. 6. p. 21. t. 528. S. Valentìna, Vahl, enum. 1. p. 268. S. elàta, Host, fl. austr. 1. p. 24. and probably of Tenore, syll. p. 18. S. amplexicaúlis, Lam. ill. 1. p. 68.? S. alpéstris, S. aspérula, and S. Taurìna, Hortul. Sclàrea punctàta, Mœnch. meth. Sclàrea sylvéstris, Mill. dict. no. 7. Sclàrea nemoròsa, Mill. dict. no. 6. Sclàrea Syrìaca, Mill. dict. no. 5. This species is very variable in height and villosity, but with a very distinct habit. Leaves 2-4 inches long. Corollas purplish violet.

Wild Sage. Fl. June, Oct. Clt. 1759. Pl. 1 to 3 feet.

74 S. pe'ndula (Vahl, enum. 1. p. 281.) stem erect, villous; lower leaves petiolate: upper ones sessile, all oblong-lanceolate, obtuse, doubly crenated, rather cordate at the base, wrinkled, pubescent; floral leaves orbicular, acuminated, about half as long as the calyxes, permanent, reflexed; racemes a little branched, rather nutant at apex; whorls 6-10-flowered, distinct; calyx tubular, pubescent; corolla twice as long as the calyx, the tube a little exserted. ♃. H. Native of Transylvania, and

Podolia. S. betonicæfòlia, Ettling, salv. 49. S. Cremenecénsis, Bess. enum. pl. volh. p. 40. This species differs from *S. nùtans* in the stem being leafy, in the leaves being narrower, and on shorter petioles, the racemes few, elongated, and loose, and the flowers larger, &c. Corollas violaceous, larger than those of *S. sylvéstris*.

Pendulous-racemed Sage. Pl. 1 to 2 feet. ?

75 S. NU'TANS (Lin. spec. p. 39.) stem pubescent, nearly naked; leaves all radical, or nearly so, on long petioles, ovate-oblong, doubly crenated, sub-cordate at the base, wrinkled; floral leaves orbicular; racemes short, on long peduncles, panicled, drooping at the time of flowering; whorls about 6-flowered, approximate; calyxes reflexed, pubescent; corolla twice as long as the calyx, the tube equalling the calyx. 4. H. Native of the East of Europe, Podolia, and Galicia, Hungary, and Transylvania, Siberia, Tauria, and Caucasus, &c. Waldst. et Kit. pl. hung. 1. p. 63. t. 62. Sims, bot. mag. 2436. S. acutifòlia, Lam. ill. 1. p. 683. S. péndula, Besser. fl. galic. but not of Vahl. S. hastàta, Ettling, salv. 46. Vahl, enum. 1. p. 280. S. betonicæfòlia, Ettling, salv. p. 49. Bieb. fl. cauc. 1. p. 23.—Kniph. cent. 7. t. 79.—Nov. act. petrop. 1. p. 378. t. 14. Stems nearly simple. Lower leaves 3-4 inches long, glabrous above, and pubescent beneath. Racemes spike-formed, 1-2 inches long. Corolla violaceous, 4-5 lines long. Stamens inclosed.

Drooping-racemed Sage. Fl. June, Aug. Clt. 1780. Pl. 1 to 3 feet.

76 S. SCLAREOI'DES (Brot. fl. lus. 1. p. 17. phyt. 3. t. 2.) stems erect, almost simple, pilose; radical leaves petiolate, oblong-ovate, obtuse, crenated, or a little cut, cordate at the base, bullately wrinkled, glabrous above, but the petioles and nerves are pilose beneath; cauline leaves few, sessile: upper ones lanceolate, acuminated: floral leaves cordate-ovate, shorter than the calyxes, a little reflexed; racemes clammy, nearly simple; calyxes nearly sessile, campanulate, clothed with clammy villi; corolla hardly twice as long as the calyx, the tube equalling the calyx. 4. H. Native of the South of Europe, as of Portugal, and Italy. S. Lusitánica, Poir. dict. 6. p. 606. but not of Jacq. S. elongàta, Spreng. pug. pl. min. cogn. 1. p. 43. S. bullàta, Schousb. ex Vahl. enum. 1. p. 265. This species differs from *S. praténsis* in the flowers being smaller. Habit of *S. clandestìna*, but the leaves are very distinct. Corollas violaceous.

Clary-like Sage. Fl. July, Aug. Clt. 1804. Pl. 1 to 2 feet.

77 S. NUDICAU'LIS (Vahl, enum. 1. p. 266.) stems erect, nearly naked, clothed with hoary villi; leaves all radical, or nearly so, petiolate, oblong-linear, or lanceolate, acute, erosely toothed, somewhat cordate at the base, bullately wrinkled, glabrous above, canescent and sub-villous beneath; floral leaves ovate-roundish, shorter than the calyxes, a little reflexed, permanent; racemes simple, or branched: whorls 6-flowered, distant; calyxes nearly sessile, campanulate, striated, clothed with clammy villi; corolla about twice as long as the calyx. 4. H. Native of Arabia. S. Abyssínica, Lin. fil. suppl. p. 88. ? but not of other authors. S. Merjàmie, Forsk. fl. arab. p. 10. Nearly allied to *S. bullàta*, but differs in the narrower, more wrinkled, erosely toothed leaves.

Naked-stemmed Sage. Pl. 1 to 2 feet. ?

78 S. VERBENA'CA (Lin. spec. p. 35.) stem erect, pubescent, or villous; leaves broad-ovate, or oblong, crenated, wrinkled, glabrous: lower ones on long petioles, narrowed at the base: superior ones broader, sessile, cordate at the base; floral leaves ovate-roundish, acuminated, villous, permanent, rather shorter than the calyxes, reflexed after florescence; racemes elongated, simple, or a little branched; whorls remote, about 6-flowered; calyx ovate, hairy; corolla one-half longer than the calyx, the tube equalling the calyx. 4. H. Native of North and middle Europe; as of Britain, North of France, Sweden, Denmark, Germany, Italy, European Russia, about Constantinople, Tauria, and Caucasus, &c. Smith, engl. bot. t. 154. Curt. lond. 6. t. 1. S. Spielmánni, Willd. enum. p. 38. but not of Scop. S. Spielmanniàna, Bieb. fl. cauc. 1. p. 21. S. Illýrica, Schultes, obs. bot. 8. S. micrántha, Desf. cat. hort. par. but not of Vahl. S. horminòides, Pourr. act. toul. 3. p. 327. S. Bysantìna, and S. heterophýlla, Hortul. Hormìnum verbenàceum, Mill. dict. no. 1. Mor. hist. sect. 11. t. 14. f. 33. Leaves 3-4 inches long, 1-2 broad. Corollas blue, rarely white, size of those of *S. Hormìnum*. The herb and flowers prove very aromatic when rubbed. The seeds produce a great quantity of mucilage when moistened, whence they become serviceable for removing extraneous matter from the eyes. If put under the eye-lashes for a few moments the tears dissolve their mucilage, which envelopes any sand or dust, and brings it out. Hence some old authors has called the plant *Oculus christi*, and others of our own country have derived our English name *Clary* from the same circumstance.

Var. β, oblongifòlia (Benth. lab. p. 240.) leaves oblong, crenated, hardly cut. 4. H. Cultivated in gardens. S. oblongàta, Vahl, enum. 1. p. 256. S. betonicæfòlia, Lam. ill. 1. p. 70. but not of Ettling.

Var. γ, ? incìsa (Benth. l. c.) leaves broad-ovate, cut: lobes ovate, acute, approximate. 4. H. Native of France, about Toulouse. This is probably a variety of *S. clandestìna*.

Vervain Sage, or Clary. Fl. June, Oct. Britain. Pl. 1 to 2 feet.

79 S. CLANDESTI'NA (Lin. spec. p. 36. but not of his herb.) stem herbaceous, erect, pubescent, or villous; leaves ovate-oblong, deeply toothed, or pinnatifid, wrinkled, glabrous: lower ones petiolate, narrowed at the base, truncate, or sub-cordate; floral leaves ovate-roundish, acuminated, villous, permanent; racemes simple, or a little branched; lower whorls remote: upper ones approximate, about 6-flowered; calyx ovate, hairy; corolla twice as long as the calyx. 4. H. Native of the South of Europe, and North of Africa; and Madeira, in dry places, and by way sides; Spain, Portugal, South of France, Sardinia, Dalmatia, Syria, Caucasus, &c. S. verbenàca, Vahl, enum. 1. p. 255. Rchb. icon. bot. 6. p. 17. t. 523. S. verbenacioìdes, Brot. fl. lus. 1. p. 17. S. polymórpha, Hoffm. et Link, fl. port. 1. p. 149. t. 19. Rchb. icon. bot. 6. p. 18. t. 524. f. 719. S. acutàta, Link, et Brot. phyt. lus. p. 116. S. obtusàta, Link, et Brot. l. c. S. parviflòra, Link, et Brot. l. c. but not of Vahl. S. clandestinoìdes, Link, jahrb. 3. p. 169. S. præ'cox, Savi, fl. pis. 1. p. 22. Lois. not. 6. but not of Vahl. S. pallidiflòra, St. Aman. fl. agen. 10. S. collìna, Lowe, prim. fl. mad. p. 19. S. variàbilis, var. Lois. fl. gall. ed. 2d. vol. 1. p. 16. S. oblongàta, Rchb. icon. bot. 6. p. 16. t. 521. but not of Vahl. S. micrántha, Desf. cat. hort. par. ex Rchb. l. c. but not of Vahl. S. Viviàni, Spreng. in Sieb. pl. apul. et calab. ex Rchb. l. c. Corollas pale blue or pale purple. This is a very variable plant, very nearly allied to *S. verbenàca*, but is always much smaller, with the leaves crowded at the bottom of the stem, narrower, and more deeply cut.

Var. β, multífida (Benth. lab. p. 241.) leaves deeply pinnatifid, with ovate-oblong lobes. 4. H. S. multífida, Sibth. et Smith, fl. græc. 1. p. 17. t. 23. Rchb. icon. bot. 6. p. 18. t. 524. f. 720. S. clandestìna, Vahl, enum. 1. p. 256. Rchb. icon. bot. 6. p. 18. t. 525. S. laciniàta, Willd. enum. suppl. p. 2. S. eròsa, Desf. cat. hort. par. p. 68. Poir. suppl. 5. p. 49. S. ceratophylloìdes, Willd. enum. 1. p. 297. ex Rchb. l. c. but not of Lin.—Hormìnum, &c. Barrel. icon. 24. t. 200.

Clandestine Sage. Fl. May, Aug. Clt. 1739. Pl. ½ to 1 foot.

80 S. contrave'rsa (Tenore, syll. fl. nap. p. 18.) stem pubescent, or villous; leaves oblong, deeply pinnatifid, with oblong-linear, very blunt, deeply crenated lobes, bullately wrinkled, rather pilose on both surfaces, with revolute margins; lower leaves petiolate: superior ones sessile: floral leaves roundish, acuminated, villous, scarcely shorter than the calyxes; racemes branched; whorls 6-10-flowered: lower ones remote: superior ones approximate; calyx ovate, clothed with long hairs; corolla shorter than the calyx, or a half longer. ♃. H. Native of the region of the Mediterranean; as of Spain, Calabria, Cyprus, Syria; Egypt, in the Great Syrtus; also of the Cape of Good Hope. S. clandestìna, Lin herb. but not of his spec. p. 36. Sibth. et Smith, fl. græc. 1. p. 18. t. 24. S. lanígera, Poir. suppl. 5. p. 48. Habit of *S. clandestìna*, but more humble and more branched; the leaves more deeply cut, lobed almost to the midrib. Corolla pale purple.

Var. β, grandiflòra (Benth. lab. p. 719.) corolla more than twice as long as the calyx. ♃. H. Native near Jaffa, in the sand by the sea-side, Bovè.

Twisted Sage. Pl. ½ to ¾ foot.

81 S.? dese'rti (Decaisne, in ann. sc. nat. par. 1834. 2. p. 248.) plant suffruticose, hoary; branches divaricate, pubescent; leaves small, few, oblong, petiolate, crenated, bullately wrinkled, with reflexed margins, clothed with hoary pubescence; floral leaves small: uppermost ones very small; whorls 2-6-flowered, distant; calyx ovate-campanulate, beset with very long hairs: teeth all nearly equal, or the upper one is smaller. ♄. G. Native of the desert of Sinai, Bovè. Habit of *S. contravérsa* and *S. Ægyptìaca*.

Desert Sage. Shrub.

82 S. Nu'bia (Ait. hort. kew. ed. 1st. vol. 1. p. 42. but not of other authors.) stem erect, villous, canescent; lower leaves on long petioles: superior ones sessile, or cordately stem-clasping, all oblong-ovate, or lanceolate, obtuse, or acuminated, irregularly crenated, or erose, cordate at the base, much wrinkled, clothed with fine pubescence above, and hoary tomentum beneath, or rather woolly; racemes very villous, dense, branched; whorls 6-flowered, approximate; calyx ovate, clothed with soft, hair-like wool; corolla about twice as long as the calyx. ♃. H. Native of Abyssinia. Habit of *S. verbenàca*. Leaves almost like those of *S. sylvéstris*. Racemes like those of *S. contravérsa*, but more branched, and more dense, and the stem is taller.

Nubian Sage. Fl. June, July. Clt. 1784. Pl. 2 to 3 feet.?

† *Doubtful species, probably belonging to the present section.*

83 S. Barrelie'ri (Ettling, salv. p. 46. ex Vahl, enum. 1. p. 269.) stem erect, leafy; leaves petiolate, hairy, hastately 7-lobed: middle lobe lanceolate, acute, all unequally serrated; bracteas small, ovate, ciliated, acute; whorls 6-flowered; calyx villous, 5-toothed. ♃. H. Native of Spain.

Barrelier's Sage. Pl. 1 to 2 feet.

84 S. parviflòra (Vahl, enum. 1. p. 268. Labill. pl. syr. rar. dec. 4. p. 13. t. 7.) stems erect, hoary; leaves cordate, oblong, veiny, wrinkled, greenish grey, crenated, villous beneath: upper ones sessile; flowers pedicellate; whorls 2-6-flowered; bracteas cordate, ovate, acute, hardly the length of the calyxes; calyx tomentose, rather hoary, one-half shorter than the corolla; stamens inclosed. ♃. H. Native of Syria, near Damascus, and on the mount called Dgebel-cher. Corollas rather tomentose, yellowish. Nearly allied to *S. Nùbia*.

Small-flowered Sage. Pl. 1½ foot.

● Sect. VII. Micro'sphace (from μικρος, *micros*, small; and σφακος, *sphakos*, sage; in allusion to the small corollas.) Benth. lab. p. 244. Calyx ovate: upper lip entire. Corolla small; tube inclosed, without any ring of hairs inside; lips very short; upper lip erect: lateral lobes of lower lip spreading. Connective deflexed behind, linear, combined longitudinally. Lower lobe of style flattened, dilated, rounded.—Procumbent, American herbs.

85 S. occidenta'lis (Swartz, fl. ind. occ. 1. p. 23.) diffuse, procumbent, glabrous, or pubescent; leaves petiolate, broad-ovate, acute, serrated, rounded at the base, or cuneated, glabrous or hispid; floral leaves sessile, hardly longer than the pedicels, ovate-lanceolate, acute, permanent; racemes elongated, branched a little at the base; whorls 2-6-flowered, remote; flowers minute; calyx tubular, clothed with glandular villi: teeth of lower lip obtuse; corolla a half longer than the calyx. ♃. S. Native of Tropical America, in waste fields; Mexico, Jamaica, St. Domingo, Cuba, Martinico, Trinidad, Antigua, Peru, in the valley of Lima, and elsewhere on the same coast. S. procúmbens, Ruiz. et Pav. fl. per. 1. p. 27. t. 39. f. a. S. radìcans, Poir. suppl. 6. p. 621. Hyptis glandulòsa, Sieb. fl. mart. exsic. no. 151. Verbena minima chamædryos folio, Sloane, jam. 1. p. 172. t. 107. Stems numerous, tetragonal. Leaves 1 to 1½ inches long. Racemes like those of *Verbèna officinàlis*. Corolla blue, glabrous.

Western Sage. Pl. procumbent.

86 S. mise'lla (H. B. et Kunth, nov. gen. amer. 2. p. 290.) herbaceous; stems pilose; leaves roundish rhomboid, acute, rather cuneated at the base, crenated, glabrous; whorls generally 6-flowered, remote; calyx beset with glandular hairs. ♃. S. Native of New Spain, in most places between Acapulco and La Venta del Exido. Stem branched, diffuse; branches ascending. Leaves on short petioles, 2-4 lines long. Racemes filiform. Bracteas roundish-ovate, hairy, acuminated, deciduous, shorter than the calyxes. Corolla violet.? This species hardly differs from *S. occidentàlis*.

Pityful Sage. Pl. ½ to 1 foot.

● Sect. VIII. Calo'sphace (from καλος, *kalos*, beautiful; and σφακος, *spakos*, sage; many of the species contained in this section are showy.) Benth. in Hook. bot. misc. 3. p. 374. lab. p. 245. Calyx ovate, tubular, or campanulate: upper lip entire, or shortly tridentate. Tube of corolla exserted, or inclosed, without any ring of hairs inside, but sometimes furnished near the base with two teeth: upper lip of corolla straight, concave, entire, or usually a little emarginate; lobes of lower lip spreading. Connective deflexed behind, linear, longitudinally connate. Lower lobe of style subulate.—Herbs, undershrubs, or shrubs, variable in habit, but readily distinguished from the other sections. Leaves entire, serrated, crenated, rarely quite entire.

— § 1. Micra'nthæ (μικρος, *mikros*, small; and ανθος, *anthos*, a flower; flowers small.) Benth. lab. p. 245. *Corolla hardly 3 lines long, half as long again, rarely almost twice as long as the calyx, with an inclosed tube: lower lip almost twice as long as the upper, which is erect.—Herbs, with blue inconspicuous corollas.*

87 S. obscu'ra (Benth. lab. p. 245.) herbaceous, diffuse; leaves petiolate, ovate, acute, serrated, narrowly cuneated at the base, glabrous or hispid above, green on both surfaces: floral leaves permanent, sessile, ovate, acuminated, shorter than the calyxes; racemes elongated, simple; whorls 2-6-flowered, remote; flowers minute; calyx tubular, clothed with rather glandular villi, increasing in the fructiferous state: upper lip entire, and the teeth of the lower lip shortly and subulately acuminated; corolla a half longer than the calyx; lobes of style subulate. ♃.? S. Native of Jamaica. Very nearly allied to *S.*

occidentàlis; but differs in the lobes of the calyx being subulately-acuminated; in the lobes of the style being acute and subulate, not roundish and flattened.

Obscure Sage. Pl ½ to 1 foot. ?

88 S. ripa'ria (H. B. et Kunth, nov. gen. amer. 2. p. 300.) stem herbaceous, erect, branched, pubescent; leaves ovate-oblong, acute, cordate, serrated, pilosely pubescent on both surfaces; whorls many-flowered, rather remote; calyx subcampanulate, striated, beset with glandular hairs, having the upper lip tricuspidate, and the lower one bifid, the segments acuminately subulate; corolla a little longer than the calyx. ♃. ? S. Native of Peru, between Guancabamba and Paramo de Guamani, Humb. et Bonpl.; on the banks of the river Chulucana. Herb canescent, sweet-scented. Leaves on short petioles, an inch long. Racemes 3-4 inches long. Bracteas roundish-ovate, acute, hardly longer than the pedicels, which are pilose. Corollas bluish.

River-side Sage. Pl. ?

89 S. tene'lla (Swartz, fl. ind. 1. p. 45. t. 2.) stems herbaceous, small, procumbent; branches ascending, pubescent, leaves petiolate, broad-ovate, roundish, obtuse, crenated, cordate at the base, clothed with adpressed pubescence above, but glabrous beneath; floral leaves lanceolate, minute, permanent; racemes short; whorls about 6-flowered; flowers minute; calyx tubular, clothed with glandular villi, having the upper lip entire, and the teeth of the lower lip very short and bluntish; corolla exceeding the calyx a very little: upper lip short, truncate; lobes of style subulate. ♃. ? S. Native of Jamaica. Habit of *Verónica agréstis.* Corollas blue.

Slender Sage. Pl. procumbent.

90 S. micra'ntha (Vahl, enum. 1. p. 235.) stems herbaceous, erect, glabrous or pubescent; leaves petiolate, broad-ovate, obtuse, irregularly crenated, a little curled, truncate at the base or cordate, nearly glabrous; floral leaves lanceolate, shorter than the pedicels; racemes simple; whorls 6-10-flowered; flowers minute; calyx tubular, clothed with glandular villi, having the upper lip quite entire, and the teeth of the lower lip obtuse; corolla a half longer than the calyx: upper lip short, truncate; lobes of style subulate. ☉. S. Native of Mexico, and near the Havana, in Cuba. S. bullàta, Ort. dec. 9. p. 109. Jacq. hort. schœnbr. 4. p. 41. t. 481. S. serótina, Vahl, enum. 1. p. 232. but not of Lin. S. foliis cordato-ovatis, &c. Ard. spec. 1. p. 10. t. 2. Leaves small. Corollas blue.

Small-flowered Sage. Fl. May, June. Clt. 1823. Pl. ½ foot.

91 S. serótina (Lin. mant. p. 25.) stems herbaceous, pubescent or villous; leaves petiolate, ovate, obtuse, crenated, truncate at the base, somewhat cordate, wrinkled, villous above, and clothed with soft woolly pubescence beneath; floral leaves lanceolate, shorter than the pedicels; racemes simple; whorls about 6-flowered; flowers minute; calyx tubular, clothed with glandular villi, having the upper lip almost entire, and the teeth of lower lip acutish; corolla exceeding the calyx a little: upper lip short, truncate; lobes of style subulate. ♃. ? S. Native of the Bahama Islands, Trinidad, Santa Cruz, Jamaica, &c. Jacq. icon. rar. 1. p. 1. t. 3. S. Domínica, Vahl, enum. 1. p. 233. Swartz, obs. p. 18. t. 1. f. 1. but not of Lin. Allied to *S. micrántha*, but smaller. Racemes loose, more branched and more villous. Leaves villous. Corollas smaller, dirty white or bluish.

Late Sage. Fl. Aug. Clt. 1803. Pl. 1½ foot.

92 S. hu'milis (Benth. lab. p. 246.) stem herbaceous, erect, branched, beset with spreading hairs; leaves petiolate, broad-ovate, acutish, crenated, rounded at the base or cordate, green on both sides, and finely pubescent; upper floral leaves membranous, lanceolate, deciduous; racemes simple; whorls 2-4-flowered, loose, remote; lower flowers in the axils of the cauline leaves; calyx tubularly campanulate, villous, with the upper lip entire, and the teeth of the lower one acute, increased very much in the fructiferous state. ♃. ? S. Native of Mexico, Karwinski. Habit and leaves of *S. serótina;* but differs in the whorls being usually 2-flowered, and in the lower whorls being axillary, but particularly in the increased fructiferous calyx.

Humble Sage. Pl. ½ foot. ?

93 S. inconspi'cua (Benth. lab. p. 247.) stems procumbent? villous; leaves on short petioles, ovate-lanceolate, obtuse, crenated, cordate at the base, wrinkled, clothed with rufous tomentum beneath; floral leaves deciduous; racemes a little branched; whorls 4-6-flowered, loose; flowers small; calyx tubular, striated, clothed with rather glandular villi, with the upper lip entire, and the teeth of the lower lip obtuse. ♃. ? S. Native of Mexico, Hænke. This species differs from *S. micrántha*, in the leaves being wrinkled and tomentose beneath. Stems elongated, branched. Leaves 1 to 1½ inch long: superior ones sessile. Calyx of *S. serótina*, but stiffer, and the teeth more obtuse.

Inconspicuous Sage. Pl. procumbent. ?

94 S. tiliæfòlia (Vahl, symb. 3. p. 7.) stem herbaceous, erect, almost glabrous or finely pubescent; leaves broad-ovate, crenated, truncate or nearly cordate at the base, softly wrinkled and pubescent from a few hairs on both surfaces: floral leaves membranous, lanceolate, deciduous; racemes simple; whorls loose, approximate, 6-10-flowered; calyx tubular, with ciliated nerves, having the upper lip entire, and the teeth of the lower lip ovate-lanceolate, acute; corolla hardly exceeding the calyx, with short erectish lips: lobes of style nearly equal, subulate. ♃. S. Native of Caraccas, and the Andes of New Spain, near the town of Pazcuara; Mexico, at Jalapa, &c. Jacq. hort. schœnbr. 3. p. 2. t. 254. S. fimbriàta, H. B. et Kunth, nov. gen. amer. 2. p. 299. t. 149. ? Leaves with the petioles 1 to 1½ inch long. Corollas blue, variegated with white.

Lime-tree-leaved Sage. Fl. June, Aug. Clt. 1793. Pl. 3 to 4 feet.

95 S. paleæfòlia (H. B. et Kunth, l. c. p. 303. t. 157.) stem suffruticose, erect, and is, as well as the branches, pilose; leaves cordate-sagittate, rounded at top, crenated, hairy on both surfaces, canescent beneath; spikes panicled; whorls 2-flowered, crowded; calyx clothed with glandular hairs, campanulate, striated, having the upper lip bluntish, and the teeth of the lower lip acuminated; tube of corolla exceeding the calyx a little: upper lip pubescent: middle segment of the lower lip emarginately 2-lobed; genitals exserted. ♄. S. Native of New Granada, between Popayan and Palace. Leaves petiolate, 2 inches long. Pedicels clothed with glandular pili. Flowers size of those of *Thymus serpyllum*. Corollas blue.

Chaff-leaved Sage. Shrub.

96 S. flexuòsa (Presl, mss. ex Benth. lab. p. 248.) stem diffuse, twisted, glabrous; leaves petiolate, ovate, acute, serrately crenated, roundly cuneated at the base, glabrous; floral leaves membranous, lanceolate, deciduous; racemes simple; whorls 6-10-flowered; flowers minute; calyx tubular, glabrous or ciliated on the nerves, with an entire upper lip, and the teeth of the lower lip acutish; corolla hardly exceeding the calyx. ♃. S. Native of Mexico, Hænke. Allied to *S. tiliæfòlia*, but differs in the diffuse, twisted, glabrous stem. Leaves glabrous or minutely ciliated on the nerves and margins, not truncate nor cordate at the base. Racemes 2-6 inches long.

Twisted-stemmed Sage. Pl. diffuse.

97 S. lanceola'ta (Willd. enum. 1. p. 37.) stem herbaceous, ascending, branched, glabrous; leavēs petiolate, lanceolate-linear, bluntish or acuminated, narrowed at the base, pubescent, hoary while young; floral leaves lanceolate-subulate, shorter than the

calyxes; racemes simple; whorls generally 2-flowered, all remote; calyx tubular, striated, glabrous, having the upper lip entire, and the teeth of the lower lip lanceolate, acute; corolla exceeding the calyx a little: upper lip straight. ⊙. H. Native of Mexico, Moçino et Sesse; in the valley of Guanaxuato, Humb. et Bonpl.; at the river Missouri, Clarke and Lewis. Jacq. fil. eclog. 1. p. 13. t. 13. S. lanceæfòlia, Poir. suppl. 5. p. 49. S. refléxa, Horn. hort. hafn. 1. p. 34. S. aspidophýlla, Rœm. et Schultes, syst. mant. 1. p. 206. S. trichostemmoìdes, Pursh, fl. amer. sept. 1. p. 19. Stem glabrous, or clothed with hoary pubescence at top. Leaves 1½ to 2 inches long, obscurely and bluntly serrated. Whorls 2-4-flowered. Corollas blue.

Lanceolate-leaved Sage. Fl. June, Sept. Clt. 1813. Pl. 1 foot.

98 S. leptophy'lla (Benth. lab. p. 249.) stem herbaceous, ascending, branched, glabrous; leaves nearly sessile, narrow-linear, acute, quite entire, glabrous: floral leaves deciduous; racemes simple; whorls remote, generally 2-flowered; calyx tubular, striated, glabrous, with the upper lip entire, and the teeth of the lower lip acute; corolla about twice as long as the calyx: tube inclosed; style bifariously bearded. ⊙.? H. Native of Mexico. Nearly allied to *S. lanceolàta;* but differs in the leaves being narrower, quite glabrous, and in the flowers being larger; and from *S. angustifòlia*, in the stem being glabrous, and in the flowers being much smaller.

Slender-leaved Sage. Pl. 1 foot.

§ 2. Brachya'ntha (from βραχυς, *brachys*, short; and ανθος, *anthos*, a flower; in allusion to the shortness of the flowers.) Benth. lab. p. 249. *Floral leaves bractea-formed, deciduous. Calyx glabrous, villous, or clothed with hoary tomentum. Corolla 4 lines long, or longer: tube inclosed, or hardly a half again as long as the calyx: lower lip generally longer than the upper one, flat, with rounded lobes: the middle lobe very large. Flowers blue, rarely white or pale red, never scarlet nor yellow.*

* Angustifòliæ. *Leaves linear or lanceolate, very narrow at the base, or cuneated, usually petiolate.*

99 S. angustifòlia (Cav. icon. 4. p. 9. t. 317.) stems herbaceous, erect, glabrous, or beset with spreading hairs; leaves nearly sessile, oblong-linear, narrowed at both ends, quite entire or serrated, glabrous; floral leaves bractea-formed, linear-lanceolate, deciduous; racemes elongated, simple; whorls all distant, 2-6-flowered; calyx tubular, striated, hispid, with the upper lip entire, and the teeth of the lower lip ovate, acute; corolla twice as long as the calyx: tube equalling the calyx: middle lobe of lower lip emarginately bifid; style bifariously bearded. ♃. S. Native of Mexico, in bushy places near Totonilco el Grande and Tlalpuxahua. Lindl. bot. reg. t. 1554. S. réptans, Jacq. hort. schœnbr. 3. p. 38. t. 319. S. virgàta, Ort. dec. 3. Stems numerous, twiggy, a little branched, leafy at the base, bluntly tetragonal. Leaves 1½ inch long. Calyx usually bluish. Corolla azure blue. Upper lobe of style very long, subulate.

Narrow-leaved Sage. Fl. June, July. Clt. 1806. Pl. 1 to 1½ foot.

100 S. pa'llida (Benth. lab. p. 250.) stem herbaceous, procumbent, glabrous; branches ascending, canescent; leaves petiolate, ovate-lanceolate or linear, acuminated, narrowed at the base, clothed with hoary tomentum while young, but at length glabrous; floral leaves ovate at the base, but with a long linear acumen at apex, deciduous; racemes simple, elongated; whorls remote, about 6-flowered; calyx nearly sessile, tubular, striated, clothed with hoary tomentum, with the upper lip entire, and the teeth of the lower lip ovate, acute; corolla about twice as long as the calyx, downy outside; tube ventricose, equalling the calyx; style pubescent beneath. ♃.? S. Native of the south of Brazil, Sello; at Buenos Ayres, Parker. S. canéscens, Benth. mss. but not of Meyer. Habit of *S. lanceolàta;* but the stems are more procumbent and elongated; the branches canescent; the leaves more acute. Flowers size of those of *Stàchys ánnua*.

Pale Sage. Pl. procumbent.

101 S. azu'rea (Lam. diar. hist. nat. 1. p. 409.) stem herbaceous, erect, glabrous; leaves petiolate, oblong-lanceolate or linear, bluntish, narrowed a long way at the base, subserrated, green on both surfaces, and glabrous; floral leaves lanceolate-linear, deciduous; racemes simple, elongated; whorls distant, generally 6-flowered; calyxes nearly sessile, tubular, striated, nearly glabrous, with the upper lip entire, and the teeth of the lower lip broad, acutish; corolla more than twice as long as the calyx, pubescent outside: tube ventricose, a half again as long as the calyx; style bifariously bearded. ♃.? H. Native of the southern states of North America, as of Carolina, Upper Georgia, Eastern Florida, Jacksonville, Alabama, Arkansas, &c. Sims, bot. mag. t. 1728. S. Mexicàna, Walt. fl. car. p. 65. but not of Lin. S. elàta, Poir. dict. 6. p. 625. S. angustifòlia, Michx. fl. bor. amer. 1. p. 13. but not of Cav. S. acuminàta, Vent. hort. cels. 50. t. 50. S. acuminàta, Pers. ench. 1. p. 24. S. longifòlia, Nutt. in amer. phil. trans. n. s. 5. p. 185. Herb tall, green or bluish. Leaves 2-3 inches long, stiffish, entire or few-toothed. Whorls subsecund. Calyx pubescent, green or bluish. Corolla blue, downy outside.

Azure-blue-flowered Sage. Fl. Aug. Clt. 1806. Pl. 4 to 6 feet.

102 S. Pitche'ri (Torrey, mss. ex Benth. lab. p. 251.) stem herbaceous, erect, tomentose, pubescent; leaves petiolate, oblong-lanceolate, or linear, acute, somewhat serrated, narrowed a long way at the base, clothed with soft tomentum on both surfaces; floral leaves lanceolate-linear, deciduous; racemes simple, elongated; whorls distant, 6-15-flowered; calyxes nearly sessile, tubular, striated, villous, with the upper lip entire, and the teeth of the lower lip broad, obtuse; corolla more than twice as long as the calyx, pubescent outside; tube ventricose, a half again as long as the calyx; style bearded. ♃. H. Native of North America, at the Red River, Pitcher. Habit of *S. azùrea*, but the whole plant is pubescent and canescent, the flowers more numerous, and the calyx larger, and the teeth blunter.

Pitcher's Sage. Pl. 3 to 4 feet.?

103 S. læ'vis (Benth. lab. p. 251.) stem herbaceous, erect, glabrous; leaves petiolate, oblong-lanceolate, narrowed a long way at the base, remotely serrated, glabrous; floral leaves membranous, broad roundish, ciliated, obtuse, deciduous; racemes simple, on long peduncles; whorls 6-10-flowered: lower ones remote: upper ones approximate; calyxes pedicellate, campanulate, ciliated, with the upper lip almost entire, and the teeth of the lower lip lanceolate, cuspidate; corolla thrice as long as the calyx: tube exserted, ventricose: upper lip glabrous. ♃.? G. Native of Mexico. Stem nearly terete, striated, with yellow and green lines. Corollas pale blue. Genitals inclosed. Allied to *S. uliginòsa*. Style furnished with a long beard at top.

Smooth Sage. Pl. ?

104 S. uliginòsa (Benth. lab. p. 251.) stem herbaceous, erect, glabrous, or villous; leaves petiolate, oblong-lanceolate, acute, serrated, narrowed at the base, glabrous, or pubescent; floral leaves membranous, broad-ovate, acuminated, deciduous; racemes dense, on long peduncles, a little branched; whorls many-flowered; calyx campanulate, with the upper lip almost

entire, and the teeth of the lower one acuminated; corolla twice as long as the calyx: tube almost inclosed, ventricose: upper lip pubescent; style shortly bearded at top. ♃. S. Native of Brazil, in the province of Rio Grande; and in bogs in the missions of the Uruquay, Buenos Ayres, &c. Stems glandular. Leaves 2-4 inches long. Whorls 10-20-flowered. Corollas blue, or white.

Var. β, *ruféscens* (Benth. lab. p. 252.) stem and lower surfaces of the leaves clothed with rufous pubescence. ♃. S. Native by way-sides from Rio Janeiro to the Mines.

Bog Sage. Pl. 2 to 4 feet.

105 S. lavandulòides (H. B. et Kunth, nov. gen. 2. p. 287.) stem herbaceous; branches erect, clothed with hoary pubescence; leaves on short petioles, oblong-lanceolate, acute, cuneated at the base, crenated, clothed with hoary pubescence, white beneath: floral leaves ovate, long, and subulately acuminated, deciduous; spikes simple; whorls approximate, equal, about 10-flowered; calyx tubularly-campanulate, clothed with hoary pubescence, having the upper lip entire, and the teeth of the lower lip ovate, and shortly mucronate; corolla half as long again as the calyx: tube inclosed, nearly equal; style inclosed, shortly bearded. ♃. S. Native of New Spain, Moçino et Sesse; near Pazcuaro, on the shores of lakes, Humb. et Bonpl. S. lavandulæfòlia, Spreng. syst. 1. p. 58. but not of Vahl. S. Humboldtiàna, Rœm. et Schultes, syst. mant. 1. p. 183. Stems many, branched at the base. Leaves $1\frac{1}{2}$ to 2 inches long. Calyx usually tipped with blue. Corollas small, pale blue.

Lavender-like Sage. Pl. 2 to 3 feet. ?

106 S. stachyòides (H. B. et Kunth, l. c. p. 287. t. 138.) stem herbaceous, almost simple, pubescent, as well as the leaves; leaves lanceolate, acute, crenately serrated; spikes oblong, on long peduncles; whorls approximate; calyx clothed with hoary villi, tubular, striated, having the upper lip entire and acute, and the teeth of the lower lip acuminated. ♃. H. Native of Mexico, in frigid places on the mountains near Los Joares and Santa Rosa de La Sierra. Leaves on short petioles, 2-3 inches long. Bracteas oblong, acuminately subulate, pubescent. Corolla probably blue. This hardly differs from *S. elongàta*.

Stachys-like Sage. Pl. 3 feet.

107 S. elonga'ta (H. B. et Kunth, l. c. p. 287. t. 139.) stem herbaceous, erect, almost simple, clothed with hoary pubescence; leaves on short petioles, oblong, acutish, narrowed at the base, crenately serrated, almost glabrous, or pubescent beneath: floral leaves ovate-lanceolate, hairy, equalling the calyxes; spikes oblong, on long peduncles; whorls many-flowered, closely approximate; calyx tubular, striated, pilose, having the upper lip entire, and the teeth of the lower lip acute; corolla twice as long as the calyx: tube hardly exserted, ventricose; style bearded. ♃. S. Native of New Spain, Moçino et Sesse; on the western declivities of the mountains between Ario and Aguasarco. S. símplex, Spreng. syst. 1. p. 58. S. betónica, Rœm. et Schultes, mant. 1. p. 188. Stems many, leafy at the base, and almost naked at top. Leaves $1\frac{1}{2}$ inch long, rather scabrous above, and glabrous beneath, or pubescent on the nerves. Spikes villous. Calyx coloured a little. Corolla violaceous, pubescent outside.

Elongated-peduncled Sage. Pl. 2 feet.

108 S. corruga'ta (Vahl, enum. 1. p. 252.) stem shrubby; branches clothed with rufous tomentum; leaves petiolate, oblong-lanceolate, obtuse, crenated, rounded at the base, much wrinkled, almost glabrous above, and clothed with rufous wool beneath: floral leaves deciduous; whorls usually 6-flowered, distant; calyx campanulate, almost glabrous, coloured, having the upper lip entire, and the teeth of the lower lip obtuse; corolla a little longer than the calyx: tube almost inclosed. ♄. S. Native of Peru. Leaves 2 inches long, approximate. Calyxes bluish. Corolla blue, hairy.

Wrinkled-leaved Sage. Shrub.

* * Ovatifòliæ. *Leaves petiolate, ovate-roundish, ovate, or ovate-lanceolate, rounded, truncate, or cuneated at the base, rarely almost sessile, and cuneated at the base.*

109 S. assu'rgens (H. B. et Kunth, nov. gen. amer. 2. p. 293.) stem herbaceous, a little branched, ascending, pubescent; leaves ovate-elliptic, acute at both ends, crenately serrated, nearly glabrous; whorls many-flowered: lower ones distant; calyx clothed with silky hairs, campanulate, having the upper lip ovate, obtuse, and mucronate, and the lower lip bifid, with obtuse, mucronate segments; tube of corolla ventricose, equalling the calyx. ♃. S. Native of Mexico, near Pazcuaro. Leaves almost glabrous on both surfaces, or pubescent on the veins beneath, 2 inches long. Calyx very pilose. Corolla pale violet. Stamens inclosed. Said to be nearly allied to *S prunelloìdes*.

Assurgent Sage. Pl. 1 foot.

110 S. helianthemifòlia (Benth. lab. p. 254.) stem herbaceous, erect; branches twiggy, pubescent; leaves on short petioles, oblong, acute, somewhat serrated, narrowed at the base, wrinkled, glabrous, or pubescent on both surfaces: floral leaves very minute; racemes simple; whorls 6-20-flowered, secund, remote, or the upper ones are approximate; calyx tubular, with pubescent nerves, having the upper lip entire, and the teeth of the lower lip acute; corolla about twice as long as the calyx: tube equal, inclosed: upper lip pubescent outside; style bearded. ♃. S. Native of Mexico, near Tlalpuxahua. Leaves $\frac{1}{2}$ to $1\frac{1}{2}$ inches long. Corollas blue.

Var. β; flowers white, smaller. ♃. S. Native of Mexico, near San Martin, Graham.

Sun-Rose-leaved Sage. Pl. 1 to $1\frac{1}{2}$ foot.

111 S. sideritoìdes (Presl, mss. ex Benth. lab. p. 255.) shrubby; branches erect, clothed with white tomentum; leaves on short petioles, oval, bluntish, serrately crenated, cuneated at the base, wrinkled, green above, and clothed with white tomentum beneath; racemes short; whorls about 6-flowered; calyx tubular, villous, having the upper lip entire, and the teeth of the lower lip acute. ♄. S. Native of Peru, at Huanuco, Hænke. This species differs from *S. spicàta* in the upper lip of calyx being entire, not tridentate.

Sideritis-like Sage. Shrub.

112 S. chamædryoìdes (Cav. icon. 2. p. 77. t. 197.) stem suffruticose, procumbent; branches clothed with hoary tomentum; leaves petiolate, ovate-oblong, obtuse, crenulated, narrowed or rounded at the base, wrinkled, clothed with hoary tomentum beneath: floral leaves broad-ovate, acuminated, longer than the calyxes, deciduous; racemes simple; whorls about 6-flowered; calyx tubular, striated, tomentose, the upper lip entire, and the teeth of the lower lip shortly cuspidate; corolla twice as long as the calyx, glabrous outside: tube hardly exserted, ventricose: middle lobe of lower lip large, bifid; style bearded at apex. ♄. S. Native of Mexico. Sims, bot. mag. t. 808. S. chamæ'drys, Willd. hort. berol. 1. p. 29. t. 29. S. chamædrifòlia, Andr. bot. rep. 6. p. 416. An humble branched, canescent shrub. Leaves wrinkled similar to those of *S. officinàlis*, but smaller. Corollas blue. Genitals equalling the corolla.

Germander-like Sage. Fl. June, Sept. Clt. 1795. Shrub $1\frac{1}{2}$ foot.

113 S. thymoìdes (Benth. lab. p. 255.) stem suffruticose, much-branched, canescent; leaves small, nearly sessile, oval, obtuse, quite entire, canescent, with sub-revolute edges: floral

leaves ovate, acuminated, deciduous; racemes short, few-flowered; whorls distinct, loosely 2-4-flowered; calyx ovate-tubular, striated, clothed with glandular pubescence, having the upper lip entire, and the teeth of the lower one bluntish; corolla twice as long as the calyx: tube ventricose, equal in length to the calyx: middle lobe of lower lip emarginate; style shortly bearded at apex. ♄. S. Native of New Spain, Moçino et Sesse. A much branched, humble, canescent shrub, with the habit of *Thymus*, or *Gardòquia*. Corollas bluish.

Thyme-like Sage. Shrub dwarf.

114 S. glechomæfòlia (H. B. et Kunth, nov. gen. amer. 2. p. 290. t. 141.) stems herbaceous, nearly simple, rather pilose at top; leaves ovate-triangular, obtuse, somewhat cordately truncate at the base, crenated, almost glabrous, rather pilose while young; whorls about 5-flowered, remote; calyx hairy, campanulate, striated, having the upper lip tricuspidate, and the segments of the lower lip cuspidate; tube of corolla ventricose, a little shorter than the calyx: middle lobe of lower lip emarginately 2-lobed. ♃. S. Native of New Spain, between the city of Guanaxuato and Santa Rosa. Stems many, procumbent. Leaves petiolate, 6-9 lines long. Floral leaves ovate, acuminated, ciliated, length of flowers deciduous. Corollas blue.

Ground-Ivy-leaved Sage. Pl. procumbent.

115 S. na'na (H. B. et Kunth, l. c. p. 289.) plant herbaceous, stemless; leaves ovate, obtuse, narrowed at the base, crenated, hispid above, and clothed with hairy tomentum beneath; spikes ovate, pedunculate; whorls usually 4-flowered; calyx clothed with glandular hairs, the upper lip tridentate, and the lower lip bifid: teeth all subulate. ♃. S. Native of New Spain, in dry places near the mine of Valentiana, in the valley of Guanaxuato. Leaves radical, nearly sessile, an inch long. Corolla blue, ex Bonpl. Spikes radical. Leaves more wrinkled than in *S. prunelloìdes*.

Dwarf Sage. Pl. small.

116 S. prunelloìdes (H. B. et Kunth, l. c. p. 289.? Benth. lab. p. 256.) stems herbaceous, nearly simple, erect, pilosely pubescent; leaves petiolate, ovate-oblong, obtuse, crenated, narrowed at the base, green on both surfaces, and nearly glabrous: floral leaves ovate, acuminated, deciduous; racemes simple, on long peduncles; whorls remote, sub-secund: upper whorls approximate, 6-10-flowered; calyx campanulate, striated, clothed with silky hairs, having the upper lip shortly tridentate, and the teeth of the lower lip lanceolate, acute; corolla about 3 times longer than the calyx, pubescent outside: tube ventricose, equalling the calyx: middle lobe of lower lip emarginate; style bearded. ♃. S. Native of Mexico, among rocks on the burning mount Jorullo. Stems many, ascending. Calyxes bluish. Corolla blue.

Prunella-like Sage. Pl. 1 to 1½ foot.

117 S. arena'ria (St. Hil. mss. ex Benth. lab. p. 257.) shrubby; branches glabrous; leaves petiolate, oblong, or lanceolate, acuminated, serrately crenated, cuneated, or narrowed at the base, green, and glabrous on both surfaces: floral leaves ovate, acuminated, deciduous; racemes short, simple; whorls 4-6-flowered, secund; calyx tubularly campanulate, striated, glabrous, smooth, with the upper lip entire, and the teeth of the lower lip ovate, acuminated; corolla about twice as long as the calyx, nearly glabrous outside: tube ventricose, a little exserted. ♄. S. Native of Brazil, in sandy places at the limits of the provinces of Minas Geraes and Rio Janeiro. Shrub much branched. Leaves 2-3 inches long. Style bifariously bearded.

Sand Sage. Shrub.

118 S. serra'ta (Benth. lab. p. 257.) stem herbaceous, erect, almost simple, and nearly glabrous; leaves petiolate, ovate, oblong, or lanceolate, acute, coarsely and irregularly serrated, cuneate at the base, or rounded, glabrous: floral leaves lanceolate-linear, shorter than the calyxes, reflexed, or deciduous; racemes elongated, simple; whorls all remote, 6-10-flowered; calyxes pedicellate, tubular, striated, pubescent, the upper lip entire, and the teeth of the lower lip acutish; corolla about 3 times as long as the calyx, pubescent outside: tube rather exserted, ventricose: middle lobe of lower lip large, emarginate; style bearded. ♃. S. Native of the South of Brazil. Habit of *S. uliginòsa*, but the inflorescence and flowers are very different. Corollas blue, almost an inch long.

Serrated-leaved Sage. Pl.?

119 S. Uruguaye'nsis (St. Hil. mss. ex Benth. lab. p. 257.) stem herbaceous, erect, nearly glabrous; leaves petiolate, ovate-lanceolate, or oblong, acute, serrately crenated, roundly cuneated at the base, nearly glabrous, green on both surfaces, or pale beneath; floral leaves ovate, acuminated, deciduous; racemes simple, elongated; whorls remote, 6-10-flowered; calyxes nearly sessile, tubular, striated, clothed with hoary villi, the upper lip entire, and the teeth of the lower lip ovate, acute; corolla about twice as long as the calyx, pubescent outside: tube ventricose, exceeding the calyx; style bearded below. ♃. S. Native of Brazil, on the banks of the Uruguay, in fields, at San Jozè; in the province of Rio Grande do Sul. Nearly allied to *S. pállida*, but the stems are erect, the leaves broader and less acuminated, and the flowers more numerous. It is probably only a variety of *S. pállida*.

Uruguay Sage. Pl. erect.

120 S. urticæfòlia (Lin. spec. p. 34.) plant herbaceous, erect, beset with rather glandular villi; leaves on short petioles, ovate-rhomboid, acutish, crenated, roundly subcordate at the base, cuneated at the petioles, nearly glabrous; floral leaves broad-ovate, deciduous; whorls many-flowered, remote; calyxes on short pedicels, campanulate, clothed with clammy villi, the upper lip entire, and the teeth of the lower lip ovate, acutish; corolla about twice as long as the calyx, pubescent outside: middle lobe of lower lip emarginately bifid; style bearded. ♃. H. Native of Carolina, Virginia, and Georgia. Pursh, fl. amer. sept. 1. p. 20.—Mor. hist. 3. p. 395. sect. 11. t. 13. f. 31.? Corollas blue, small.

Nettle-leaved Sage. Fl. June, July. Clt. 1799. Pl. 3 feet.

121 S. gra'cilis (Benth. lab. p. 258.) stem herbaceous? erect, almost glabrous; leaves on long petioles, ovate, acuminated, rounded at the base, serrated, pilosely pubescent on both surfaces; floral leaves ovate, acuminated, coloured, deciduous; racemes simple; whorls loose, 6-10-flowered: lower ones remote: upper ones approximate; calyxes on short pedicels, campanulate, striated, coloured, glabrous, having the upper lip entire, and the teeth of the lower lip setaceously acuminated; corolla twice as long as the calyx: tube ventricose, equalling the calyx: middle lobe of lower lip broad, emarginate; style bearded. ♃. S. Native of New Spain, Moçino and Sesse. Stems or branches simple, purplish. Leaves flaccid, 1½ inch long. Flowers small, flesh-coloured, size of those of *S. cárnea*. Allied to *S. cárnea;* but differs from it in the calyx being glabrous, and in the leaves not being cordate at the base.

Slender Sage. Pl.

122 S. leptóstachys (Benth. lab. p. 258.) stem herbaceous, erect, branched, clothed with hoary pubescence; leaves on long petioles, ovate-roundish, acute, truncate at the base, green, and finely pubescent on both surfaces; floral leaves ovate, subulately acuminated, deciduous; racemes simple, elongated; whorls at length all remote, about 6-flowered; calyx ovate-tubular, striated, hoary, having the upper lip entire, and the teeth of the lower lip acuminated; corolla twice as long as the calyx: tube rather ventricose, equalling the calyx: middle lobe of lower lip broad, emarginate; style glabrous. ♃. S. Na-

tive of New Spain, Moçino et Sesse. Leaves similar to those of *S. tiliæfòlia*, 1½ to 2 inches long: upper ones more sessile. Corollas blue.

Slender-spiked Sage. Pl. ?

123 S. membrana'cea (Benth. lab. p. 259.) stem herbaceous? erect, glabrous; leaves on long petioles, ample, broad-ovate, acute, crenated, rounded at the base or truncate, glabrous; floral leaves deciduous; racemes elongated, simple; whorls all remote, loose, about 10-flowered; calyxes pedicellate, nutant, campanulate, glabrous, the upper lip entire, and the teeth of the lower lip setaceoùsly acuminated; corolla twice as long as the calyx: tube ventricose, equalling the calyx: middle lobe of lower lip large, emarginate; style bearded. ♃. S. Native of Mexico, Moçino et Sesse. Herb glabrous. Leaves 3-6 inches long, membranous, often purplish beneath. Calyxes often purplish. Corollas blue, size of those of *S. angustifòlia*.

Var. β, acuminàta (Benth. l. c.) leaves long-acuminated at both ends; corollas shorter. ♃.? S. Native of Guayaquil, Tafalla.

Var. γ, villósula (Benth. lab. p. 720.) leaves smaller, and are, as well as the younger calyxes, villous. ♃. G. Native of Mexico, about Oaxaca.

Membranaceous-leaved Sage. Pl. 2 to 3 feet.

124 S. rhombifòlia (Ruiz, et Pav. fl. per. 1. p. 26. t. 36. f. b.) stem herbaceous, erect, branched, pubescent; leaves petiolate, broad-ovate or rhomboid, subcordate at the base, pubescent; floral leaves ovate-lanceolate, deciduous; racemes simple, few-flowered; whorls about 6-flowered, remote; calyx ovate, pubescent, the upper lip entire, and the teeth of the lower lip ovate, acute; corolla a half again as long as the calyx: tube inclosed, ventricose: middle lobe of lower lip emarginate; style glabrous. ⊙. S. Native of Peru, in the province of Camana, on the sandy hills of Lomas de Atiquipa and Pongo; plentiful about Chancay and near Lima; and also of Mexico. S. foliòsa, Benth. in bot. reg. t. 1429. S. pilòsa, Vahl, enum. 1. p. 240. Leaves 1½ to 2 inches long, coarsely crenated. Genitals exserted. Corollas blue.

Var. β, glàbrior (Benth. l. c.) calyxes more slender and glabrous. ⊙. H. Native near Lima.

Rhomb-leaved Sage. Fl. Year. Clt. 1827. Pl. 1½ foot.

125 S. herba'cea (Benth. lab. p. 720.) stem herbaceous, erect, a little branched, villous; leaves on long petioles, broad-ovate or rhomboid, rather cordate at the base, pubescent; floral leaves ovate, deciduous; racemes simple; whorls about 6-flowered, distinct; calyx ovate-tubular, hairy, green, the upper lip and the teeth of the lower one ovate-dilated; corolla half as long again as the calyx: tube inclosed. ⊙. H. Native of Mexico, at Tehuantepec, in Oaxaca. Nearly allied to the preceding, from which it differs in the stem and calyxes being more hairy, &c.

Herbaceous Sage. Pl. 1½ foot.?

126 S. Tafa'llæ (Benth. lab. p. 260.) stem herbaceous, erect, branched, villous; leaves petiolate, ovate, crenated, rounded at the base or cuneated, rather hispid; floral leaves ovate, acute, at length deciduous; racemes simple; whorls 6-10-flowered, remote; calyx ovate, nerved, villous, the upper lip entire, and the teeth of the lower lip ovate, acute; corolla a half as long again as the calyx: tube inclosed, ventricose: middle lobe of lower lip emarginate; style glabrous. ⊙. H. Native of Peru, at Tarma, Tafalla. Leaves hardly an inch long. Corollas small, blue.

Tafalla's Sage. Pl. 1½ foot.?

127 S. viola'cea (Ruiz, et Pav. fl. per. 1. p. 26. t. 43.) stem herbaceous, hairy; leaves ovate, acute, crenated, wrinkled; spikes short, terminal; whorls 6-flowered; upper lip of corolla dependent. ⊙. H. Native of Peru, in the province of Tarma. Flowers on short pedicels, propped by ovate, concave, opposite bracteas. Corolla bluish-violet, about 3 times as long as the calyx.

Violaceous-flowered Sage. Pl. 1 to 2 feet.

128 S. glanduli'fera (Cav. ann. hist. nat. 2. p. 3.) stem branched, beset with glanduliferous pili, as well as the branches, bracteas, and calyxes; leaves petiolate, serrated, villous; whorls 6-flowered; corolla hardly twice as long as the calyx. ⊙.? H. Native on Mount Chimboraco, Cav. Floral leaves short, acute. Calycine segments bluntish. Corolla purplish-violet. Stamens exserted.

Gland-bearing Sage. Pl. 1 to 3 feet.

129 S. Cruiksha'nksii (Benth. lab. p. 261.) stem herbaceous? erect, glabrous or pubescent; leaves on short petioles, ovate, obtuse, crenated, rounded at the base or subcordate, glabrous or pubescent beneath; floral leaves deciduous; racemes simple; whorls about 6-flowered, remote, somewhat secund; calyx tubularly campanulate, striated, pubescent, the upper lip entire, and the teeth of the lower lip ovate, acute; corolla thrice as long as the calyx: tube ventricose, inclosed: middle lobe of lower lip large, emarginate; style glabrous. ♃.?. S. Native of Peru, in the valley of Canta, near Obrajillo, Cruikshanks; and at Huamantanga, Mathews. S. rhombifòlia, β, Hook. bot. misc. Stem naked at the base, and leafy in the middle. Leaves 1 to 1½ inch long. Calyxes sessile. Corollas blue, nearly glabrous.

Cruikshanks's Sage. Pl. 1 to 1½ foot.

130 S. galea'ta (Ruiz, et Pav. fl. per. 1. p. 27. t. 42. f. a.) stem shrubby, much branched, naked at bottom; leaves nearly sessile, oval or ovate, serrated, wrinkled, pubescent; spikes terminal, by threes; whorls 6-10-flowered, propped by ovate deciduous bracteas; calyx ventricose at top, the upper lip concave; corolla twice as long as the calyx. ♄. S. Native of Peru, around Muna, in arid places. Flowers on short pedicels. Corollas pale violet. Genitals inclosed.

Galeate-calyxed Sage. Shrub 3 feet.

131 S. mi'tis (Ruiz, et Pav. fl. per. 1. p. 27.) stem shrubby, branched; branches pubescent; leaves petiolate, ovate, acute, serrated, tomentose, hoary beneath; spikes terminal: middle one longer, and leafless; whorls many-flowered, secund; calyx pubescent, subcampanulate: the upper lip bifid and acute. ♄. S. Native of Peru, in the valley of Canta, at Obrajillo. Flowers pedicellate. Whorls 6-12-flowered. Floral leaves oval, acuminated, pubescent, deciduous. Corolla whitish blue, a little longer than the calyx, pubescent outside. Stamens length of corolla. Stigma exserted.

Mild Sage. Shrub 2 feet.

132 S. incurva'ta (Ruiz, et Pav. fl. per. 1. p. 24. t. 42. f. b.) stem herbaceous, erect, clothed with fine hoary tomentum; leaves petiolate, ovate, acute, serrated, rounded at the base or cordate, clothed with soft white tomentum beneath; floral leaves deciduous; racemes simple; whorls 4-6-flowered, remote; calyx tubularly campanulate, pubescent, the upper lip entire, and the teeth of the lower lip ovate, acuminated; corolla twice as long as the calyx: tube inclosed, ventricose; style glabrous. ♃.? S. Native of Peru, around Muna. Leaves 2 inches long, approximate at the middle of the stem. Lips of fructiferous calyx incurved. Corolla purplish blue.

Incurved-calyxed Sage. Pl. 2 feet.

133 S. Hispa'nica (Lin. spec. 37.) stem herbaceous, erect, pubescent; leaves petiolate, ovate, acute, crenately serrated, narrowed or cuneated at the base, glabrous; floral leaves ovate, acuminated, ciliated, almost permanent; racemes dense, branched; whorls many-flowered, approximate; calyx inflately tubu-

lar, clothed with soft pubescence, the upper lip entire, and the teeth of the lower lip acute; corolla hardly exceeding the calyx: tube ventricose; style bearded. ⊙. H. Native of tropical America; Quito, near Chillo; Jamaica, among the mountains; Mexico; State of New York; and now apparently naturalized in the south of Europe, as in Spain, Portugal, Piedmont, Liguria, &c. Ker. bot. reg. t. 359. S. tetragòna, Mœnch, meth. p. 373. S. prismática, Cav. desc. 14.—Arduin. spec. 1. p. 10. t. 2.—Lam. ill. t. 20. f. 2. Leaves 2-3 inches long. Whorls usually 10-flowered. Corolla glabrous outside, pale blue. Genitals equalling the corolla.

Spanish Sage. Fl. June, Aug. Clt. 1739. Pl. 1 to 2 feet.

134 S. angula'ta (Benth. lab. p. 721.) stem herbaceous, erect, hardly pubescent; leaves petiolate, broad, ovate, acuminated, serrated, roundly cuneated at the base, clothed with fine pubescence, scarcely canescent beneath; floral leaves ovate, acuminated, deciduous; racemes many-flowered, elongated, branched; whorls loose, secund; calyx tubularly campanulate, scarcely pubescent, the upper lip entire, and the teeth of the lower lip acute; corolla exceeding the calyx a little, upper lip pubescent; style bearded. ⊙.? H. Native of Caraccas, Vargas. Habit of *S. polystàchya*. Calyx often coloured, angular. Corolla small, blue.?

Angular-calyxed Sage. Pl. 1 to 2 feet.

135 S. densiflòra (Benth. lab. p. 721.) stem herbaceous, erect, hardly pubescent; leaves petiolate, ovate, obtuse, crenated, roundly truncate at the base, or subcordate, much wrinkled, pubescent on both surfaces, green, or hardly canescent beneath; floral leaves deciduous; racemes almost simple, spike-formed; whorls many-flowered, approximate; calyx tubular, nearly glabrous, having the upper lip entire, and the teeth of the lower lip ovate, obtuse; corolla half as long again as the calyx; genitals exserted; style glabrous. ⊙. H. Native of the Island of Dominica. Allied to *S. polystàchya* and *S. Keèrlii*, but differs from both in the form of the calyx, small corolla, and exserted genitals.

Dense-flowered Sage. Pl. 1 to 2 feet.

136 S. polysta'chya (Ortega, dec. p. 55.) stem herbaceous, erect, clothed with hoary down; leaves petiolate, ovate, acuminated, serrated, rounded at the base or cordate, rather wrinkled above, and pubescent, nerved, and clothed with hoary pubescence beneath; floral leaves ovate, acuminated, deciduous; racemes dense, branched; whorls many-flowered, approximate, almost secund; calyx tubularly campanulate, pubescent or tomentosely villous, having the upper lip entire, and the teeth of the lower lip acute; corolla twice as long as the calyx: tube inclosed, ventricose; style bearded. ♃.? G. Native of Mexico, in many places; as among the mountains of Guanaxuato; shores of Lake Pazcuaro; near Tlalpuxahua, &c. Cav. icon. 1. p. 17. t. 27. bad. H. B. et Kunth, nov. gen. amer. 2. p. 296. S. cæ'sia, H. B. et Kunth. l. c. p. 295. S. lineatifòlia, Lag. gen. et spec. nov. 2. Stem nearly glabrous, but usually pubescent. Leaves 2-3 inches long. Whorls 15-20-flowered. Corolla blue. This species occurs in gardens, under the names of *S. spicàta*, *S. Breynítica*, *S. eremítica*, and *S. tetragòna*.

Many-spiked Sage. Fl. Oct. Dec. Clt. 1822. Pl. 1 to 2 feet.

137 S. Kee'rlii (Benth. lab. p. 263.) stem shrubby? erect, pubescent; leaves petiolate, ovate, obtuse, crenated, roundly truncate or cordate at the base, much wrinkled, clothed with hoary tomentum on both surfaces; floral leaves ovate, deciduous; racemes dense, paniculately branched; whorls many-flowered, approximate; calyx tubularly campanulate, pilosely hairy, having the upper lip entire, and the teeth of the lower lip acute; corolla twice as long as the calyx: tube inclosed, ventricose: upper lip pubescent; style glabrous or bearded above. ♄.? S. Native of Mexico, near Tlalpuxahua, Keerl. Nearly allied to *S. polystàchya*; but the leaves are smaller, obtuse, and much wrinkled, and more cordate at the base; the racemes shorter and more dense; the calyxes hairy, not clothed with hoary tomentum.

Keerl's Sage. Shrub 1 to 3 feet.?

* * * *Leaves petiolate, more or less cordate at the base.*

138 S. semiatra'ta (Zucc. acad. wiss. 1. p. 298.) stem shrubby; branches tomentosely pubescent; leaves petiolate, ovate, obtuse, crenated, cordate at the base, much wrinkled, clothed with white tomentum beneath; floral leaves ovate, small, deciduous; racemes simple; whorls 4-8-flowered, distant; calyxes pedicellate, tubular, striated, clothed with glandular villi, the upper lip entire, and the teeth of the lower lip obtuse; corolla twice as long as the calyx, pubescent outside: tube ventricose, a little exserted; style bearded beneath. ♄. S. Native of Mexico, Karwinski. Said to be nearly allied to *S. scorodònia*; but differs in the calyxes being twice the size; in the pedicels being elongated; and in the lower lip of the corolla being shorter and of a more intense colour.

Half-dark-flowered Sage. Shrub.

139 S. fruticulòsa (Benth. lab. p. 721.) stem shrubby, humble, much branched; branches clothed with white tomentum; leaves petiolate, ovate, obtuse, crenated, roundly truncate or subcordate at the base, much wrinkled, hardly pubescent above, and clothed with white tomentum beneath; floral leaves ovate, acuminated, deciduous; racemes simple; whorls about 6-flowered, distant; calyxes nearly sessile, tubularly campanulate, clothed with white tomentum, having the upper lip entire, and the teeth of the lower lip obtuse and truncate; corolla about 3 times as long as the calyx: tube a little exserted; style shortly bearded. ♄. S. Native of Mexico, about Oaxaca, Andrieux. Allied to *S. scorodònia* and *S. breviflòra*, but differs from both in habit. Leaves ½ inch long.

Fruticulose Sage. Shrub ½ foot.

140 S. scorodònia (Poir. suppl. 5. p. 46.) stem shrubby; branches clothed with hoary tomentum; leaves petiolate, ovate or oblong, obtuse, crenulated, roundly cordate at the base, much wrinkled, pubescent above, pale, or clothed with white tomentum beneath; floral leaves ovate, acuminated, deciduous; racemes simple; whorls 6-20-flowered, distant; calyxes nearly sessile, tubularly campanulate, striated, clothed with glandular villi, having the upper lip entire, and the teeth of the lower one bluntish; corolla twice as long as the calyx, pubescent outside: tube a little exserted, ventricose; style glabrous. ♄. S. Native of Mexico. S. melissodòra, Lag. nov. gen. et spec. 2. S. hírta, Schranck, in syll. pl. soc. ratisb. 2. p. 60.? Leaves 1-2 inches long. Corollas blue, white at the base; middle lobe of lower lip large, emarginate.

Garlick Sage. Shrub.

141 S. amarí'ssima (Ortega, dec. p. 4.) stem herbaceous, erect, branched, hispidly pilose; leaves petiolate, ovate-cordate, crenated, wrinkled, almost glabrous, canescent beneath; floral leaves ovate, acuminated, deciduous; racemes simple, dense-flowered; whorls distinct, rather remote, generally 10-flowered; calyx tubularly campanulate, striated, villous, having the upper lip entire, and the teeth of the lower lip acutish; corolla about 3 times as long as the calyx: tube ventricose, equalling the calyx: upper lip almost glabrous; style bearded above. ♃. G. Native of Mexico, in several places. Ker. bot. reg. t. 347. S. nepetoìdes, H. B. et Kunth, nov. gen. 2. p. 299. t. 150. S. amàra, Jacq. hort. schœnbr. 3. t. 255. S.

circinàta, Cav. icon. 4. p. 9. t. 318. Stem beset with long hairs, often glandularly hispid. Leaves $1\frac{1}{2}$ inch long. Corollas blue; middle lobe of lower lip broad, emarginate. Upper lobe of style twice as long as the lower one.

Very-bitter Sage. Fl. July, Aug. Clt. 1803. Pl. 3 to 6 feet.

142 S. cuspida'ta (Ruiz, et Pav. fl. per. 1. p. 23. t. 40. f. b.) suffruticose; branches pubescent; leaves petiolate, ovate, bluntish, crenated, cordate at the base, wrinkled, pale and pubescent beneath; floral leaves ovate, acuminated, deciduous; racemes elongated, almost simple; whorls usually 6-flowered, distant; calyx tubularly campanulate, villous, having the upper lip tricuspidate, and the teeth of the lower lip ovate, cuspidate; corolla about 3 times as long as the calyx: tube exserted a little, ventricose; style glabrous, or shortly pubescent. ♄. S. Native of Peru, on hills about Purrochuca and Cheuchin. Leaves an inch long, somewhat doubly crenated. Flowers almost like those of *S. scorodònia* and *S. amarissima*. Corollas blue.

Cuspidate-calyxed Sage. Shrub 4 to 6 feet.

143 S. cardiophy'lla (Benth. lab. p. 721.) herbaceous or suffruticose; branches pubescent; leaves petiolate, ovate, crenated, deeply cordate at the base, wrinkled, clothed with soft villi on both surfaces: floral ones deciduous; racemes elongated, simple; whorls about 6-flowered, distant; calyx tubularly campanulate, finely pubescent, having the upper lip entire, and the teeth of the lower lip ovate, acutish; corolla twice as long as the calyx: tube almost inclosed, ventricose; style glabrous. ♄.? G. Native of South America, without the tropic, in Banda Oriental. Habit of *S. cuspidàta*, from which it differs in the soft villous leaves, and larger, somewhat coloured calyxes, mutic teeth, and entire upper lip.

Heart-leaved Sage. Pl. 2 feet.?

144 S. Gillie'sii (Benth. lab. p. 264.) stem shrubby; branches clothed with hoary tomentum; leaves petiolate, ovate or ovate-lanceolate, bluntish, crenately toothed, truncately cordate at the base, wrinkled, nearly glabrous above, and clothed with hoary tomentum beneath; floral leaves ovate, acute, deciduous; racemes simple; whorls remote, 2-6-flowered; flowers nearly sessile; calyx campanulate, clothed with hoary pubescence, having the upper lip entire, and the teeth of the lower lip ovate, obtuse, mucronate, recurved; corolla about twice as long as the calyx, downy outside; style pubescent. ♄. G. Native of Chili; plentiful on the Andes near Mendoza, at Uspaleta; and on Mount Cerro de las Achiras. Branches tomentose, and furnished with red scattered glands. Leaves 1 to $1\frac{1}{2}$ inch long. Calyxes usually coloured. Corollas blue, like those of *S. urticæfòlia*, but smaller.

Gillies's Sage. Shrub humble.

145 S. racemòsa (Ruiz, et Pav. fl. per. 1. p. 25.) plant shrubby, hairy, erect, branched; leaves cordate, acute, sublanceolate, serrated; racemes terminal, numerous, compound; floral leaves ovate, acuminated, concave, deciduous. ♄. S. Native of Peru, among rubbish, and in waste places of Huanuco. Leaves on long petioles, usually spotted with livid purple. Flowers verticillate, on short pedicels. Corolla pale blue.

Racemose-flowered Sage. Shrub.

146 S. ca'rnea (H. B. et Kunth, nov. gen. 2. p. 300. t. 151.) stem shrubby, erect, branched, glabrous; leaves roundish-ovate, cordate, crenately serrated, hairy; floral leaves oblong, acuminated, shorter than the calyxes, deciduous; spikes terminal; whorls many-flowered: lower ones remote; calyx tubular, striated, hairy: upper lip ovate, acuminated, and the teeth of the lower lip acuminated; tube of corolla exceeding the calyx a little, rather ventricose: upper lip pubescent: middle segment of the lower lip emarginately 2-lobed. ♄. S. Native of New Granada, on the Andes of Quindiu. Leaves on long petioles, 2 to $2\frac{1}{2}$ inches long. Corolla pale red. Genitals a little exserted. Stigma glabrous.

Flesh-coloured Sage. Shrub.

147 S. procu'rrens (Benth. lab. p. 266.) stems creeping, and rooting at the base; floriferous branches ascending, glabrous, or villous; leaves petiolate, roundish, or broad-ovate, cordate at the base, crenated, glabrous, or villous: floral leaves broad-ovate, acutish, deciduous; racemes simple, on long peduncles; whorls 6-10-flowered, remote; flowers on short pedicels; calyx campanulate, hispid, having the upper lip entire, or shortly tridentate, and the teeth of the lower lip acute; corolla glabrous, about twice as long as the calyx: tube ventricose, equalling the calyx; style almost glabrous. ♃. G. Native of South America, in humid pastures and woods; in the province of Rio Grande do Sul, and the more southern parts of Brazil, St. Hil. and Sello; in moist woods at Porana, Tweedie; in ditches near Buenos Ayres, Gillies. Stem glabrous, or hispid from hairs, which are often glandular, clammy, pubescent while young. Leaves similar to those of Ground Ivy. Corolla blue.

Running Sage. Pl. creeping.

148 S. propínqua (Benth. lab. p. 267.) stems creeping at the base?; branches ascending, elongated, villous; leaves petiolate, ovate, obtuse, crenated, cordate at the base, villous on both surfaces; floral leaves deciduous; racemes simple; whorls about 6-flowered, remote; calyxes equal in length to the pedicels, tubular, striated, clothed with rufous villi, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla twice as long as the calyx: tube ventricose, equalling the calyx: lobes of lower lip roundish, emarginate; style glabrous. ♃. G. Native of the south of Brazil, Sello. Allied to *S. procúrrens*; but differs in the stem being firmer; in the leaves being more villous, on short petioles, and particularly in the flowers being larger; in the calyxes being on long pedicels, and tubular, not campanulate, clothed with rufous villi, not hispid.

Allied Sage. Pl. creeping.?

* * * * Sessilifòliæ. *Leaves sessile, or nearly so, rounded or truncate at the base. Species all natives of Brazil.*

149 S. ovalifòlia (St. Hil. mss. ex Benth. lab. p. 267.) stems creeping at the base; branches ascending, glabrous or villous; leaves on short petioles, oval, obtuse, crenated, rounded at the base, glabrous, rather coriaceous; floral leaves ovate-lanceolate, shorter than the calyxes, deciduous; racemes simple; whorls 6-10-flowered, remote; calyx tubular, striated, pubescent, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla twice as long as the calyx: tube ventricose, equalling the calyx: middle lobe of lower lip very broad, emarginate; style shortly bearded. ♃.? G. Native of Brazil, common in pastures in the missions of the Uruguay; and to the south of that, as well as in the province of Minas Geraes. S. rèpens, Benth. in herb. berol. Stems rather woody. Branches naked under the racemes. Leaves an inch and more long. Racemes on long peduncles.

Var. β, villòsa (Benth. lab. p. 267.) leaves deeply serrate-crenated, broadest at the base. ♃. G. Native near Salto Grande, on the banks of the Uruguay, in the province of Rio Grande do Sul.

Oval-leaved Sage. Pl. 1 to $1\frac{1}{2}$ foot.

150 S. lachnóstachys (Benth. lab. p. 267.) stem rooting at the base; branches ascending, simple, villous or spreadingly pilose; leaves nearly sessile, oval-oblong, obtuse, regularly crenulated, rounded or subcordate at the base, wrinkled, clothed with rufous tomentum above; floral leaves cordate-ovate, bluntish, rather shorter than the calyxes, almost permanent; racemes dense; whorls remotish, usually 10-flowered; calyx campanu-

late, pilosely hispid, having the upper lip entire, and the teeth of the lower lip acutish; corolla about twice as long as the calyx: tube about equal in length to the calyx, ventricose; style bifariously bearded. 2l. G. Native of Brazil, in the province of St. Paul, in fields near Registra de Curitiba, and the pastures near Fazenda da Fortaleza, St. Hil.; and in the south of Brazil, Sello. Stems clothed with rufous tomentum, or villous. Leaves 1 inch long, pubescent above. Corolla blue, a little smaller than those of *S. ovalifòlia*.

Woolly-spiked Sage. Pl. 1 to 2 feet.

151 S. vi'scida (St. Hil. mss. ex Benth. lab. p. 268.) suffruticose, clammy; branches clothed with glandular hairs; leaves nearly sessile, or the lower ones are ovate-lanceolate, acutish, serrately crenated or cordate at the base, green on both surfaces, soft, hispid; racemes elongated, almost simple; whorls generally 6-flowered, subsecund; calyx tubularly campanulate, villous, clammy, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla twice as long as the calyx: tube a little exserted, ventricose; style bearded above. ♄. G. Native of Brazil, in the woods called Carrascos, in Serra Negro, at the limits of the provinces of Minas Geraes and Rio Janeiro, St. Hil. Shrub decumbent at the base. Racemes numerous, ½ foot. Corollas blue.

Viscid Sage. Shrub 3 to 4 feet.

152 S. corda'ta (Benth. lab. p. 268.) stem herbaceous, erect, tall, villous; leaves on short petioles, ovate-oblong, acute, crenated, cordate, wrinkled, pubescent above, clothed with soft white tomentum beneath; floral leaves ovate, acute? deciduous; racemes simple; whorls distant, many-flowered; calyx tubularly campanulate, striated, pubescent, having the upper lip entire, and the teeth of the lower lip acute; corolla thrice as long as the calyx: tube a little exserted, ventricose: upper lip pubescent: middle lobe of lower lip very broad, emarginate; style glabrous. 2l. G. Native of the south of Brazil, Sello. Stems almost simple. Leaves 3-4 inches long. Whorls often 20-flowered. Corolla blue, above an inch long. Upper lobe of style very long, subulate.

Cordate-leaved Sage. Pl. 3 to 4 feet.

153 S. nervòsa (Benth. lab. p. 268.) stem herbaceous? erect, almost simple, clothed with rufous tomentum, and long spreading hairs; leaves sessile, ovate-lanceolate, acute, crenately serrated, rounded or subcordate at the base, coriaceous, wrinkled above, and glabrous, nerved, and clothed with fine rufous tomentum beneath; floral leaves ovate, acuminated, deciduous; racemes elongated; whorls numerous, 6-10-flowered; calyx ovate-tubular, striated, pubescent, having the upper lip entire, and the teeth of the lower lip broad-ovate, obtuse, or shortly acuminated; corolla twice as long as the calyx, tomentose outside: tube exserted, widened at top; style bearded. 2l.? G. Native of the south of Brazil, Sello. Stems naked at the base. Leaves 1-2 inches long. Whorls distant. Corolla bluish. Stamens inclosed. Upper lobe of style longest.

Nerved-leaved Sage. Pl. 2 to 3 feet.

154 S. ri'gida (Benth. lab. p. 269.) stems herbaceous, erect, villous or nearly glabrous; leaves sessile, lanceolate or linear, cordate at the base, with crenulated margins, glabrous, rather coriaceous, stiff; floral leaves minute, linear, deciduous; racemes simple; whorls 6-10-flowered, remote; calyx tubular, striated, villous, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla about twice as long as the calyx: tube ventricose, equalling the calyx; style shortly bearded beneath. 2l.? G. Native of Brazil, in the provinces of Minas Geraes, Rio Grande do Sul, and the south of Brazil, St. Hil. and Sello. Stems branched at the base. Branches almost simple. Leaves 1-2 inches long. Flowers almost sessile. Corolla blue, hardly half an inch long with the calyx.

Stiff Sage. Pl. 1 to 2 feet.

155 S. rosmarinoi'des (St. Hil. mss. ex Benth. lab. p. 269.) stem suffruticose; branches erect, twiggy, tomentosely villous; leaves sessile, linear or linear-lanceolate, acuminated, crenated, subcordate at the base, stiff, almost glabrous above, but clothed with hoary tomentum beneath; floral leaves ovate, acuminated, deciduous; racemes elongated, simple; whorls about 6-flowered, distant; calyx tubular, clothed with clammy villi, having the upper lip entire, and the teeth of the lower lip acute; corolla about thrice as long as the calyx: tube a little exserted; style bifariously pubescent. ♄. G. Native of Brazil, in fields in the Missions of the Uruguay, near El Salto Grande. Plant scentless. Racemes nearly a foot long. Corollas blue, marked with white lines.

Rosmary-like Sage. Shrub 2 feet.

§ 3. Axillariflòræ. *Floral leaves conforming to the cauline ones. Flowers axillary. Tube of corolla equal in height to the calyx, or hardly half as long again.—Humble undershrubs, with bluish flowers.*

156 S. axilla'ris (Moc. et Sesse, mss. ex Benth. lab. p. 270.) leaves oblong-linear, acute, quite entire, narrowed at the base, scabrous from hairs; whorls axillary, 2-6-flowered; calyxes almost sessile, tubular, striated, pubescent, having the upper lip tridentate, and the lower lip bifid: teeth all acute, and subulately acuminated. ♄. S. Native of New Spain, Moçino et Sesse. Habit of *Thymus* or *Saturèia*. Leaves 3-4 lines long. Corollas not seen.

Axillary-flowered Sage. Shrub humble.

157 S. cuneifòlia (Benth. lab. p. 270.) branches decumbent, villous; leaves sessile, ovate-cuneated, a little toothed, narrowed at the base, green on both surfaces; whorls axillary, few-flowered; calyx tubular, villous, having the upper lip shortly tricuspidate, and the lower lip bifid: lobes acuminated; corolla more than twice as long as the calyx: tube exserted, equal; style glabrous. ♄. G. Native of Mexico, near Chapultepec? Karwinski. Stems many, rising from a thick woody base. Leaves 3-4 lines long, furnished with one or two teeth on both sides: the upper ones quite entire. Flowers size of those of *Calamintha Nepeta*.

Wedge-leaved Sage. Shrub ½ foot.

158 S. calaminthæfòlia (Vahl, enum. 1. p. 233.) stem shrubby; branches canescent; leaves petiolate, broad-ovate, obtuse, crenated, cordate at the base, clothed with fine tomentum on both surfaces; whorls axillary, remote, generally 6-flowered; calyxes pedicellate, tubularly campanulate, nearly glabrous, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla about twice as long as the calyx, pubescent outside; style bearded above. ♄. S. Native of St. Domingo. Branches slender, purplish. Leaves hardly a nail in length. Corollas blue. Genitals a little exserted.

Calamint-leaved Sage. Shrub humble.

159 S. ballotæflòra (Benth. lab. 270.) leaves petiolate, ovate, roundish, obtuse, truncate or cordate at the base, nearly glabrous above, and clothed with white tomentum beneath; upper floral leaves bractea-formed; whorls few, axillary, 2-6-flowered, distant, or the 2 or 3 upper ones approximating into a short raceme; calyx pedicellate, tubularly campanulate, attenuated at the base, having the upper lip entire, and the teeth of the lower lip ovate, dilated after florescence; corolla about twice as long as the calyx: tube inclosed; style bifariously bearded. ♄. G. Native of Mexico, near Toliman, Karwinski. Shrub much branched. Leaves hardly ½ an inch long, when young clothed with mealy tomentum beneath, as well as the calyxes.

Ballota-flowered Sage. Shrub humble.

§ 4. Membrana'ceæ. *Floral leaves bractea-formed, dilately spreading, membranous. Tube of corolla inclosed, or hardly longer than the calyx.—Herbs or subshrubs, with bluish flowers.*

160 S. bupleuroi'des (Presl, mss. ex Benth. lab. p. 271.) herbaceous, nearly glabrous; leaves petiolate, ovate, acute, crenately-serrated, narrowed or cuneated at the base, green on both surfaces; axillary branches short; peduncles long, fascicled, with a solitary, terminal, many-flowered whorl on each peduncle; floral leaves exceeding the calyxes, permanent, broad, rounded, subcordate at the base, shortly acuminated at the apex, membranaceous, veiny, glabrous; calyxes sessile, membranous, having the upper lip entire, and the teeth of the lower lip acutish; corolla hardly longer than the calyx. ♃. G. Native of Mexico, Hænke. Flowers small. Very distinct from all other species in the inflorescence.

Bupleurum-like Sage. Pl.?

161 S. Moci'ni (Benth. lab. p. 271.) stem herbaceous, procumbent; branches ascending, clothed with short pubescence; leaves petiolate, ovate, acuminated, serrately-crenated, cuneated or truncate at the base, nearly glabrous; floral leaves large, orbicular, acuminated, membranous, veiny, spreading; racemes simple; whorls remote, 6-10-flowered; calyx almost sessile, ovate, tubular, canescent, having the upper lip entire, and the teeth of the lower lip acute, ciliated; corolla twice as long as the calyx: tube inclosed, ventricose: middle lobe of lower lip emarginate; style glabrous. ♃.? G. Native of New Spain, Moçino et Sesse. Leaves green on both surfaces, glabrous or downy: floral ones almost an inch broad. Corollas blue.

Moçino's Sage. Pl. procumbent.

§ 5. Bractea'tæ. *Floral leaves bractea-formed, permanent, green, broad-roundish, clasping the flowers. Tube of corolla inclosed, or hardly half as long again as the calyx.—Herbs and undershrubs, with bluish flowers.*

162 S. hirsu'ta (Jacq. schœnbr. 3. p. 1. t. 252.) stem herbaceous, ascending, branched, pubescent; leaves petiolate, oblong, acute, remotely serrated, narrowed at the base, villous; floral leaves sessile, broad-roundish, acuminated, ciliated, permanent, exceeding the whorls; racemes simple: whorls about 6-flowered, at length distant; calyxes sessile, tubularly campanulate, somewhat inflated, striated, pubescent or hispid, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla exceeding the calyx a little: tube inclosed, ventricose; style bearded beneath. ☉. G. Native of Mexico. S. nepetifòlia, Poir. suppl. 5. p. 48. S. cryptánthos, Schultes, obs. p. 12. S. siderítidis, Vahl, enum. 1. p. 250. S. bracteàta, Poir. dict. 6. p. 662.? S. ciliàta, Poir. dict. 6. p. 588. S. phlomoìdes, Cav. icon. 4. p. 10. t. 320. but not of Asso. Corollas blue.

Hairy Sage. Fl. May, July. Clt. 1801. Pl. 1 to 2 feet.

163 S. clinopodioi'des (H. B. et Kunth, nov. gen. amer. 2. p. 294. t. 145.) stem herbaceous, erect, clothed with white wool above; leaves ovate, bluntish, rounded at the base, crenated, pubescent beneath; floral leaves roundish-ovate, obtuse, pilose, permanent, exceeding the calyxes; whorls many-flowered, distant; calyx clothed with white hairs, tubularly campanulate, with an ovate-acuminated upper lip, and a reflexed lower bifid lip, with acuminated segments. ♃. S. Native of New Spain, between Pazcuaro and Aguasarco. Leaves petiolate, 2 inches long. Corollas pale blue: upper lip pubescent: tube a little longer than the calyx. Stamens equalling the upper lip of the corolla.

Clinopodium-like Sage. Pl.?

164 S. speciòsa (Presl, mss. ex Benth. l. c. p. 272.) shrubby; branches clothed with white villi; leaves petiolate, ovate, acute, serrated, rounded at the base or truncate, wrinkled, pubescent above, and clothed with white villi or tomentum beneath; floral leaves bractea-formed, broad-ovate, acuminated, longer than the calyxes, permanent, herbaceous, a little coloured; raceme dense, imbricate; whorls approximate, 6-10-flowered; calyx large, tubular, having the upper lip erect, and the teeth of the lower lip ovate, acute; corolla about twice as long as the calyx: tube equalling the calyx; genitals much exserted. ♄. S. Native of Peru, about the town of Huanuco, and on the mountains in the vicinity, Hænke. Corolla dark purple.?

Showy Sage. Shrub.

165 S. Parquere'nsis (Moc. et Sesse, mss. ex Benth. lab. p. 273.) stem herbaceous, erect, clothed with white wool above; leaves on long petioles, ample, ovate, acute, pubescent on both surfaces, rounded or cuneated at the base, running into the winged petioles; floral leaves sessile, rounded, obtuse, permanent, clasping the flowers; racemes simple; whorls densely globose, many-flowered, approximate, distinct; calyx tubularly campanulate, clothed with white hairs, having the upper lip ovate, acuminated, entire, and the segments of the lower lip acuminated, reflexed; corolla about thrice as long as the calyx: tube exserted, widened at top: middle lobe of lower lip large, emarginate; style pubescent. ♃.? S. Native of New Spain. Corollas blue, an inch long.

Parquero Sage. Pl.?

166 S. Mathe'wsii (Benth. lab. p. 722.) herbaceous?; branches very villous at top; leaves ample, petiolate, ovate, deeply cordate at the base, flaccid, green on both surfaces, glabrous or hardly hairy on the nerves; floral leaves bractea-formed, broad-ovate, membranous, coloured, almost permanent, equalling the calyxes; racemes elongated, loose; whorls 6-10-flowered; calyxes pedicellate, large, tubular, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla hardly twice as long as the calyx: tube equalling the calyx; genitals much exserted. ♃.? S. Native of Peru, at Purrochuca and Obrajillo, Mathews. Leaves 6-8 inches long. Calyxes hispid at the base, glabrous at apex, and coloured. Flowers like those of *S. speciòsa*.

Mathews's Sage. Pl.?

167 S. macrosta'chya (H. B. et Kunth, nov. gen. 2. p. 298.) stem shrubby, erect, hairy; leaves petiolate, roundish-ovate, acute, deeply cordate at the base, with rounded imbricate auricles, pubescently villous on both surfaces; floral leaves broad-ovate, villous, permanent, equalling the calyxes; spikes dense, thick; whorls many-flowered, closely approximate; flowers sessile; calyx tubular, villous, having the upper lip entire, and the teeth of the lower lip acute; corolla hardly exceeding the calyx. ♄. S. Native of Peru, near Guayaquil; and near Quito, Llactacunga, and Cuença. Leaves 2-3 inches long. Corolla blue: upper lip arched, emarginate, as well as the middle segment of the lower lip.

Long-spiked Sage. Shrub 4 to 6 feet.

§ 6. Eria'nthæ. *Floral leaves bractea-formed, deciduous. Calyxes densely clothed with tomentose wool. Tube of corolla hardly a half as long again as the calyx.—Herbs or shrubs. Flowers whitish or yellowish, rarely reddish.*

168 S. leucoce'phala (H. B. et Kunth, nov. gen. 2. p. 301. t. 156.) stem shrubby, erect, and is, as well as the branches, clothed with hoary tomentum; leaves ovate, bluntish, cordate, crenately serrated, clothed with hoary tomentum beneath; spikes

ovate: whorls many-flowered, closely crowded; calyx tubular, having the upper lip ovate, acute, and the segments of the lower lip acute; tube of corolla equalling the calyx. ♄. S. Native of Peru, in the province of Quito, near Alausi. Floral leaves ovate, acute. Corolla violaceous. Stamens hardly exserted. This is a very showy species.

White-headed Sage. Shrub 3 to 4 feet.

169 S. breviflòra (Moc. et Sesse, mss. ex Benth. lab. p. 274.) stem shrubby; branches clothed with hoary tomentum; leaves on short petioles, ovate, acute, crenulated, rounded at the base or subcordate, clothed with soft hoary pubescence above, and white tomentum beneath; floral leaves ovate, acuminated, equalling the calyxes; racemes spike-formed, dense, a little branched; whorls about 6-flowered, approximate, secund; flowers almost sessile; calyx tubularly campanulate, having the upper lip entire, and the teeth of the lower lip short, obtuse; corolla about twice as long as the calyx, tomentose outside, with equal lips; genitals exserted a little; style glabrous. ♄. S. Native of New Spain. Leaves almost like those of a species of *Lantàna*, scarcely an inch long. Upper lip of corolla shortly emarginate, and the middle segment of the lower lip large, bifid.

Short-flowered Sage. Shrub.

170 S. colli'na (H. B. et Kunth, l. c. p. 288.) shrubby; branches and under sides of leaves clothed with white tomentum, but pubescent above; leaves oblong-lanceolate, bluntish, acute at the base, crenated; floral leaves lanceolate, tomentose, deciduous; spikes on long peduncles; whorls many-flowered, approximate; calyx clothed with white tomentum, campanulate, striated, having the upper lip entire, acute, and the lower one bipartite, with acuminated segments. ♄. S. Native of Quito, on dry hills about Riobamba Nuevo. Shrub sweet-scented. Leaves an inch long, green above. Lower whorls distant. Corollas blue: lower lip spotted with white, ex Bonpl. This species differs from *S. breviflòra*, in the leaves being green above, and in their form.

Hill Sage. Shrub.

171 S. spica'ta (Rœm. et Schultes, syst. mant. 1. p. 202.) shrubby; branches glabrous, clothed with hoary pubescence while young; leaves lanceolate-oblong, obsoletely crenated towards the apex, pubescent above, but clothed with white tomentum beneath; floral leaves ovate, acuminated, clothed with white tomentum, tipped with blue, deciduous; spikes terminal, solitary, pedunculate; whorls many-flowered, approximate; calyx clothed with white tomentum, campanulate, striated, having the upper lip obtuse and tridentate, and the lower one bidentate: teeth all acute. ♄. S. Native of New Spain. S. salígna, Willd. herb. ex Link, Schwæg. et Dietr. spec. pl. 1. p. 308. S. Humbóldtii, Spreng. syst. 1. p. 64. S. Humboldtiàna, Dietr. gart. lex. 7. p. 418. S. pulchélla, H. B. et Kunth, nov. gen. 2. p. 288. t. 140. Leaves about an inch long. Corolla blue: tube equalling the calyx: upper lip galeate, concave, emarginate, pubescent. Calyx reddish, more villous than that of *S. breviflòra*.

Spicate-flowered Sage. Shrub 3 feet.

172 S. farina'cea (Benth. lab. p. 274.) stem herbaceous, erect, nearly glabrous; leaves petiolate, ovate-oblong, or lanceolate, bluntish, irregularly serrate-crenated, narrowed a long way at the base, nearly glabrous, green on both surfaces or canescent beneath; floral leaves small, deciduous; raceme elongated, simple; whorls many-flowered, almost secund, remote, or the upper ones are approximate; flowers almost sessile; calyx tubular, having the upper lip entire, and the teeth of the lower lip short and obtuse; corolla twice as long as the calyx: tube hardly exserted, ventricose; style bearded. ♃.? S. Native of Texas, between Rio Guadaloupe and Rio Colorado. Leaves like those of *S. uliginòsa* or *S. serràta*.

Mealy Sage. Pl.?

173 S. revolu'ta (Ruiz, et Pav. fl. per. 1. p. 28. t. 41. f. b.) stem shrubby, erect, clothed with white tomentum; leaves on short petioles, linear-lanceolate, obtuse, crenated, with revolute edges, wrinkled, clothed with white tomentum on both surfaces; lower floral leaves similar to the cauline ones: upper ones ovate, acuminated, deciduous; racemes simple; whorls about 6-flowered, remote, secund; calyx tubular, having the upper lip entire, and the teeth of the lower lip acute; corolla twice as long as the calyx: tube exserted, ventricose: lips equal in length; style hairy. ♄. S. Native of Peru, in the province of Canta. Shrub much branched. Leaves on short petioles, $1\frac{1}{2}$ inch long. Corolla whitish-violet.

Revolute-leaved Sage. Shrub 2 to 3 feet.

174 S. leuca'ntha (Cav. icon. 1. p. 16. t. 24.) stem shrubby; branches nearly terete, clothed with white wool; leaves on short petioles, lanceolate-linear, acute, minutely crenated, rounded at the base, wrinkled above, and pubescent, but clothed with white wool beneath; floral leaves ovate, acuminated, deciduous; raceme elongated; whorls many-flowered: lower ones remote; flowers almost sessile; calyx ovate, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla twice as long as the calyx, clothed with white tomentum outside: tube exserted, rather ventricose: lips short; style bearded. ♄. S. Native of Mexico. Leaves 2-6 inches long. Racemes usually purplish. Corolla white, rather contracted under the throat.

White-flowered Sage. Shrub 4 to 5 feet.

175 S. velati'na (Benth. lab. p. 275.) stem shrubby?; branches densely leafy, clothed with velvety wool; leaves almost sessile, oblong-lanceolate, obtuse, crenated, narrowed at the base, wrinkled, clothed with velvety wool beneath; floral leaves lanceolate, deciduous; racemes rather loose; whorls about 6-flowered; calyxes striated, tubular, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla half again as long as the calyx, clothed with white wool outside: tube wide: lips nearly equal; style glabrous. ♄.? S. Native of the South of Brazil, Sello. Nearly allied to *S. confertiflòra*. Corollas white.

Velvety Sage. Shrub.

176 S. erioca'lyx (Bertero, ex Rœm. et Schultes, syst. addit. to mant. 1. p. 246.) stem shrubby; branches divaricate, clothed with hoary pubescence; leaves oblong-lanceolate, acuminated, serrated, cuneated at the base, pubescent above, and densely clothed with hoary tomentum beneath; floral leaves ovate, acuminated, deciduous; racemes short, simple; whorls 6-10-flowered, approximate; calyx campanulate, having the upper lip entire, and the teeth of the lower lip ovate, obtuse; corolla exceeding the calyx a little, woolly outside: tube inclosed: lips short; style bearded. ♄. S. Native of Jamaica. Branches divaricate or procumbent. Leaves 3-4 inches long. Flowers nearly sessile. Wool of calyx generally reddish. Corollas like those of *S. confertiflòra*.

Woolly-calyxed Sage. Shrub.

177 S. confertiflòra (Pohl, pl. bras. 2. p. 134. t. 190.) stem shrubby?; branches clothed with rufous tomentum; leaves petiolate, ovate-oblong, acutish, crenated, cuneated at the base, and running into the petioles, a little wrinkled above, and clothed with adpressed tomentum, and densely clothed with rufous tomentum beneath; floral leaves ovate, long-acuminated, reflexed or deciduous; racemes elongated; whorls numerous, many-flowered; calyx ovate-tubular, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla one half longer than the calyx, clothed with yellow wool outside: tube

exserted, ventricose: lips short; style glabrous. ♄. S. Native of Brazil, near Rio Janeiro, and on Serra d'Estrella, and Padre Correa. Leaves 3-4 inches long, and 1½ broad. Bracteas long-acuminated, comose at apex. Whorls 10-20-flowered. Calyx reddish. Corolla reddish, small.

Crowded-flowered Sage. Shrub. ?

178 S. lasia'ntha (Benth. lab. p. 276.) shrubby; branches densely woolly; leaves almost sessile, oval-oblong, obtuse, crenated, rounded at the base or cordate, much wrinkled above, hispid, clothed with soft white wool beneath: floral ones ovate, acuminated, shorter than the calyxes, deciduous; racemes elongated, simple; whorls distant, many-flowered; calyxes tubular, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla one half longer than the calyx: tube hardly exserted, ventricose, pubescent outside: lips nearly equal; style glabrous. ♄. S. Native of Mexico. Shape of leaves and habit of *S. scorodònia.* Racemes reddish or yellowish. Inflorescence of *S. eriocàlyx.*

Woolly-flowered Sage. Shrub.

§ 7. Longiflòræ. *Tube of corolla 2-3 times longer than the calyx: lower lip generally shorter, rarely longer than the upper one.—Herbs, undershrubs, or shrubs. Corollas white, yellowish, orange-coloured, bluish, scarlet, or purple.*

* A'lbidæ. *Corollas white or whitish.*

179 S. tomente'lla (Pohl, pl. bras. 2. p. 138. t. 194.) herbaceous? erect, clothed with rufous tomentum; leaves sessile, ovate-oblong, obtuse, crenated, narrowed at the base, wrinkled, and rather hispid above, and clothed with tomentose pubescence beneath; floral leaves deciduous; racemes elongated; whorls 6-10-flowered, remote; calyxes tubular, striated, tomentosely pubescent, having the upper lip entire, and the teeth of the lower one acute; corolla twice as long as the calyx, clothed with white wool outside: tube exserted: lips short; lateral lobes of lower lip reflexed: middle one concave; style shortly bearded. ♃.? S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Leaves 2-3 inches long, few. Corolla 15 lines long, white.

Woolly Sage. Pl. 2 to 3 feet.

* * Auranti'acæ. *Corollas yellowish or orange-coloured.*

180 S. lu'tea (H. B. et Kunth, nov. gen. 2. p. 297. t. 148.) stems shrubby, and are, as well as the branches, pilose; leaves oblong, acutish, cordate, crenated, glabrous above, and clothed with white tomentum beneath; whorls many-flowered: lower ones distant; floral leaves ovate, acute, shorter than the calyxes, deciduous; calyx subcampanulate, clothed with glandular hairs, the upper lip tridentate, the teeth acuminately mucronate, and the segments of the lower lip acuminately subulate. ♄. S. Native of Peru, between Loxa and Mount Saraguru, in the province of Quito. Leaves 1½ inch long. Corolla yellow, glandularly pilose on the back: tube ventricose, thrice as long as the calyx.

Yellow-flowered Sage. Shrub.

181 S. puncta'ta (Ruiz, et Pav. fl. per. 1. p. 27. t. 39.) stem suffruticose, erect, clothed with glandular pubescence; leaves petiolate, ovate, acute, serrated, rounded at the base, quite entire, coriaceous, veiny, clammy above, of the same colour beneath, pubescent or glabrous; floral leaves ovate, acuminated, deciduous; racemes simple; whorls 1-10-flowered, remote; calyx campanulate, hairy, having the upper lip entire, obtuse, or shortly tridentate, and the teeth of the lower lip ovate, acute; corolla pubescent, thrice as long as the calyx: tube exserted, rather ventricose: lips nearly equal; style bearded. ♄. S. Native of Peru, on hills of Huanuco.—A fetid ferruginous plant. Branches purplish. Leaves hardly an inch long. Corollas white, but usually yellowish or whitish-violet, size of those of *S. lamiifòlia.*

Dotted Sage. Shrub 2 to 3 feet.

182 S. Pavònii (Benth. lab. p. 278.) stem shrubby, bifariously pubescent; branches beset with glandular villi at top; leaves petiolate, ovate, obtuse, quite entire, cuneated at the base, glabrous; floral leaves ovate, acuminated, deciduous; racemes simple; whorls many-flowered, distant; calyx campanulate, clothed with glandular villi, having the upper lip entire, and the teeth of the lower lip broad-ovate, acute; corolla pubescent outside, about 4 times longer than the calyx: tube much exserted, inflated in the middle: lips short, erect; style bearded above. ♄. S. Native of Peru. Allied to *S. punctàta;* but differs in the quite entire obtuse leaves, and longer corollas. Corollas yellowish.

Pavon's Sage. Shrub.

183 S. integrifòlia (Ruiz, et Pav. fl. per. 1. p. 26. t. 36. f. b.) stem shrubby, glabrous; leaves petiolate, ovate, quite entire, rounded at the base, glabrous, clammy, rather fleshy; floral leaves lanceolate, acute, deciduous; racemes short, simple; whorls about 6-flowered, distant; calyx tubular, glabrous, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla thrice as long as the calyx, pubescent: tube exserted, nearly equal; style glabrous. ♄. S. Native of Peru, at Caxatamba, near the hot baths of Cheuchin, and among rocks, where it is called *Succoncha* by the natives. Stem much branched. Branches clammy, purplish. Leaves scarcely half an inch long, obtuse or acute. Corolla more than an inch long, of a coppery-yellow colour. Genitals exserted.

Entire-leaved Sage. Shrub 2 to 3 feet.

184 S. oppositiflòra (Ruiz, et Pav. fl. per. 1. p. 26. t. 43. f. a.) stem suffruticose, procumbent at the base; branches erect, finely pubescent; leaves petiolate, ovate, obtuse, rounded at the base or cordate, wrinkled, pubescent; floral leaves deciduous; racemes simple; whorls 2-flowered, secund; calyx tubular, striated, the upper lip entire, and the teeth of the lower lip ovate, acute; corollas 4 times as long as the calyx, pubescent outside: tube much exserted: lips nearly equal; style glabrous.? ♄. S. Native of Peru, in elevated, exposed, arid places of Tarma. S. gràta, Vahl, enum. 1. p. 244. Plant with a grateful scent. Leaves 1 to 1½ inch long. Corollas a little smaller than those of *S. tubiflòra,* scarlet. The vernacular name of the plant is *Chenchelcoma.*

Opposite-flowered Sage. Shrub.

185 S. gluma'cea (H. B. et Kunth, nov. gen. 2. p. 298.) stem suffruticose, erect, and is, as well as the branches, pubescent; leaves ovate, obtuse, cordate, almost quite entire, coriaceous, nearly glabrous; whorls 2-flowered, distant; floral leaves oblong, acute, ciliated, glumaceous, about equal in length to the calyxes; calyx nearly glabrous, tubular: lips ciliately pilose: upper lip and segments of the lower lip acuminated. ♄. S. Native of New Spain, in temperate places. Corolla scarlet.?

Glumaceous-bractead Sage. Shrub.

186 S. strictiflòra (Hook. bot. misc. 2. p. 234.) stem shrubby; branches clothed with tomentose pubescence; leaves petiolate, ovate, acute, crenately serrated, cordate at the base, thickish, rather fleshy, nearly glabrous; floral leaves ovate, acute, membranous, deciduous; racemes elongated; whorls 2-flowered, secund; calyx tubular, striated, pubescent, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla more than twice as long as the calyx: tube elongated, incurved, tomentose outside: lips nearly equal, hardly spreading: lateral lobes of lower lip very short; genitals exserted;

style glabrous. ♄. S. Native of Peru, between Yazo and Obrajillo, in the valley of Canta. Leaves 1½ to 2 inches long. Corolla of a yellowish scarlet colour.

Strict-flowered Sage. Shrub 4 to 6 feet.

187 S. tubiflòra (Smith, icon. ined. t. 26.) stem suffruticose, erect, villous; leaves petiolate, ovate, obtuse, crenately-serrated, cordate at the base, pubescent above, or villous, and clothed with white wool beneath, or the lower ones are nearly glabrous; floral leaves ovate, acute, membranous, deciduous; racemes simple; whorls 2-flowered, secund; calyx tubular, striated, woolly or villous, having the upper lip entire, and the teeth of the lower lip lanceolate, acute; corolla 3 times as long as the calyx: tube elongated, incurved, tomentose outside: lateral lobes of lower lip small: middle one concave; genitals exserted a little; style glabrous. ♄. S. Native of Peru, on the mountains. S. biflòra, Ruiz, et Pav. fl. per. et chil. 1. p. 24. t. 38. f. a. Stem and branches densely villous. Floral leaves and calyxes glumaceous, usually clothed with soft, silky, white tomentum. Corolla of a golden scarlet colour, 1½ inch long.

Var. β, *glabràta* (Benth. lab. p. 279.) lower leaves of the same colour on both surfaces, and nearly glabrous. ♄. S. Native of Peru, common in sandy places in the town of Atiquipa, in the province of Camana. S. excìsa, Ruiz, et Pav. fl. per. 1. p. 25. t. 36. f. a. Stem and racemes less villous; the younger leaves constantly tomentose beneath.

Tube-flowered Sage. Fl. June, July. Clt. 1820. Shrub 2 to 3 feet.

* * * Cocci'neæ. *Corollas scarlet or purple.*

188 S. leonuroi'des (Glox. obs. bot. 15. t. 2.) stem suffruticose, nearly glabrous; leaves petiolate, ovate, or rhomboid, obtuse, crenated a little, truncate or subcordate at the base, nearly glabrous above, veiny and canescent beneath; floral leaves similar to the others; whorls about 6-flowered; flowers about equal in length to the leaves; pedicels shorter than the petioles; calyx tubularly campanulate, glabrous: the upper lip entire, and the lobes of the lower lip broad-ovate, acute; corolla about twice as long as the calyx: tube ventricose: lips nearly equal: upper lip pubescent outside; stamens inclosed; style exserted, bearded, with subulate lobes. ♄. S. Native of Quito, in temperate places near Chillo, Ichubamba, and Huanuco. Lam. ill. t. 20. f. 3. S. comòsa, Lher. stirp. 1. p. 41. t. 21. Mirb. ann. mus. 15. t. 15. f. 6. S. nodòsa, Ruiz, et Pav. fl. per. 1. p. 25. t. 41. f. a. S. pyrifòlia, Dombey, ex Cav. Júngia formòsa, Mœnch. Branches furrowed, nodose, glabrous, or clothed with fine hoary tomentum. Leaves rarely quite entire, but usually sinuated or crenated. Corolla scarlet.

Lion's-tail-like Sage. Shrub 4 to 6 feet.

189 S. plumòsa (Ruiz, et Pav. fl. per. 1. p. 26. t. 37. f. a.) shrubby, clothed with rusty tomentum; branches woolly; leaves petiolate, subcordate, acute, crenated, veiny, wrinkled, very woolly beneath; peduncles 4-5, axillary, 6-flowered, propped by subulate bracteoles; calyx tubular, scabrous inside; corolla hairy outside, twice as long as the calyx: lips equal: upper one emarginate: lower one trifid; style plumose, purplish. ♄. S. Native of Peru, in the province of Tarma, among broken rocks at Huassahuassi. Corollas purple: tube not ventricose. Very nearly allied to the preceding.

Plumose-styled Sage. Shrub.

190 S. Balausti'na (Pohl, pl. bras. 2. p. 133. t. 189.) suffruticose, erect, pilose; leaves petiolate, oblong, acute, serrated, narrowed at the base, green on both surfaces, pilose; floral leaves conforming to the others; whorls axillary, remote, 6-flowered; calyx tubular, pilose, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla thrice as long as the calyx: tube much exserted; style bearded. ♄. S. Native of Brazil, among bushes, by way sides near Engenho da Varge, in the province of Rio Janeiro. Branches reddish-brown. Leaves 2 to 2½ inches long. Bracteas lanceolate, hardly longer than the pedicels. Corolla 2 inches long, scarlet. Stamens inclosed.

Pomegranate-flowered Sage. Shrub 3 feet.

191 S. asperifòlia (Benth. lab. 281.) stem suffruticose, erect, clothed with short pubescence; leaves sessile, oblong, crenated, narrowed at the base, tubercled and very rough above, but nearly glabrous beneath; floral leaves ovate, acuminated, membranous, ciliated, deciduous; racemes elongated; whorls about 6-flowered, somewhat secund: lower ones remote; calyx tubular, pubescent, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla 3 times as long as the calyx, pubescent: tube elongated, widened above: lateral lobes of lower lip deflexed; style exserted, plumose. ♄. S. Native of Brazil, in the provinces of Goyaz and Minas Geraes. Stem nearly naked above. Leaves 3-4 inches long. Corolla 1½ inch long, scarlet.

Rough-leaved Sage. Shrub.

192 S. sca'brida (Pohl, pl. bras. 2. p. 140. t. 195.) stem suffruticose, erect, clothed with short pubescence; leaves almost sessile, oblong-lanceolate, obtuse, crenated, narrowly rounded at the base, rough from tubercles above, and nearly glabrous beneath; floral leaves ovate, acuminated, deciduous; racemes simple, elongated; whorls few-flowered; calyx tubular, pubescent, having the upper lip entire, and the segments of the lower lip ovate, acute; corolla thrice as long as the calyx, pubescent: tube elongated, hardly widened; style plumose. ♄. S. Native of Brazil, in grassy pastures at St. Lucia, in the province of Goyaz; and about Barbacena and Registo Velho, in the province of Minas Geraes. This differs from *S. asperifòlia*, in the narrower leaves; in the whorls being usually 2-4-flowered, and in the tube of the corolla being less widened. Corolla of a beautiful red colour.

Scabrous Sage. Shrub.

193 S. persicæfòlia (St. Hil. mss. ex Benth. lab. p. 281.) shrubby; branches villous above; leaves nearly sessile, oblong-lanceolate, acuminated, a little serrated, narrowed at the base, rather scabrous above, and of the same colour on both surfaces, nearly glabrous beneath; floral leaves bractea-formed, ovate, acuminated, deciduous; racemes simple; whorls about 6-flowered, distant; calyx campanulate, clothed with long purple wool outside, having the upper lip entire, and the teeth of the lower lip ovate, acutish; corolla more than twice as long as the calyx, villous: tube widened above; style plumose. ♄. S. Native of Brazil, in woods near Rio Vermelho, in the eastern part of the province of Minas Geraes. Leaves 2-3 inches long, villous on the veins beneath, the rest glabrous. Racemes and calyxes densely clothed with purple articulated hairs. Corolla scarlet, more than 2 inches long. Style exserted.

Peach-leaved Sage. Shrub 5 to 7 feet.

194 S. Maria'na (Mart. mss. ex Benth. lab. p. 282.) shrubby; branches clothed with tomentose villi; leaves on short petioles, oblong-lanceolate, narrowed a long way at both ends, pubescent on both surfaces, pale beneath; floral leaves bractea-formed, ovate, acuminated, deciduous; racemes simple; whorls about 6-flowered, distant; calyx tubularly campanulate, densely clothed with brownish-white, rather silky adpressed wool, having the upper lip entire, and with the teeth of the lower lip very short, ovate-acute; corolla twice as long as the calyx, villous: tube much exserted; style bearded. ♄. S. Native of Brazil, in the province of Minas Geraes, in humid parts of woods at Mariana, and elsewhere in the same province. This differs from *S. persicæfòlia*, in the leaves being narrower, and rather

tomentose beneath; in the woolly calyx and shorter corolla. Corolla 1½ inch long, scarlet.

Mariana Sage. Shrub.

195 S. Hila'rii (Benth. lab. p. 282.) shrubby; branches glabrous; leaves petiolate, oblong or ovate-lanceolate, acuminated, subserrated, narrowly cuneated at the base, green on both surfaces, smoothish, glabrous; floral leaves linear, almost deciduous; racemes simple, short; whorls few, 2-4-flowered, approximate; calyx tubularly campanulate, corrugated from short wool outside, having the upper lip entire, and the teeth of the lower lip very short, ovate, bluntish; corolla twice as long as the calyx, woolly: tube much exserted; style bearded. ♄. S. Native of Brazil, St. Hil. Leaves almost like those of *S. persicæfòlia*, but broader, and on longer petioles. Flowers size of those of *S. persicæfòlia*, or a little smaller, but differs in the wool of the corolla and calyx.

St. Hilaire's Sage. Shrub.

196 S. salicifòlia (Pohl, pl. bras. 2. p. 140. t. 196.) shrubby; branches glabrous, pubescent, or clothed with rufous villi; leaves on short petioles, oblong-lanceolate, somewhat crenately serrated, narrowed at both ends, glabrous or hispid above, and clothed with fine rufous tomentum beneath; floral leaves ovate, acute, deciduous; racemes elongated; whorls about 6-flowered; calyx tubularly campanulate, glabrous or pubescent, having the upper lip entire, and the teeth of the lower lip very short and acute; corolla more than twice as long as the calyx: tube much exserted; style bearded. ♄. S. Native of Brazil, among bushes about Queluz, in the province of Minas Geraes, and elsewhere in the same province. This species differs from *S. persicæfòlia*, in the glabrous or pubescent calyxes, &c.

Willow-leaved Sage. Shrub.

197 S. Hæ'nkei (Benth. lab. p. 283.) shrubby; branches clothed with hoary tomentum and clammy villi at top; leaves on short petioles, ovate-oblong or oblong-lanceolate, acute, serrated, rounded at the base, wrinkled, clothed with white tomentum beneath; floral leaves bractea-formed, lanceolate, deciduous; racemes elongated, simple, or the lower whorls are irregularly cymose, and a little branched; calyx tubularly campanulate, clothed with clammy villi, having the upper lip entire, and the teeth of the lower lip bluntish; corolla about 3 times as long as the calyx, clothed with clammy villi: tube much exserted; genitals exserted; style glabrous. ♄. S. Native of Peru, Hænke. Upper whorls 6-flowered, but sometimes 8-10-flowered: lower ones elongated, or the racemes are branched at the base. Corolla 15-16 lines long, scarlet: tube slender, hardly widened at top. This species is very distinct in the form of the leaves and inflorescence.

Hænke's Sage. Shrub.

198 S. hi'rta (H. B. et Kunth, nov. gen. amer. 2. p. 296.) stem shrubby, erect, bifariously pilose; leaves ovate-oblong, acuminated, crenately-serrated, clothed with hoary pubescence beneath; spikes panicled; whorls remote, few-flowered; floral leaves ovate, acuminated, hairy, shorter than the calyxes, deciduous; calyx clothed with rather glandular hairs, tubularly campanulate: upper lip acuminated, entire: segments of the lower lip acuminately mucronate; corolla thrice as long as the calyx. ♄. S. Native of the Andes of Peru, near Ayavaca, and elsewhere. Leaves petiolate, 2 inches long. Corolla purple.

Hairy Sage. Shrub.

199 S. tortuòsa (H. B. et Kunth, nov. gen. amer. 2. p. 292. t. 142.) stems shrubby, erect, clothed with fuscescent tomentum; leaves petiolate, ovate-oblong, acuminated, narrowed at the base, serrated, clothed with fuscescent tomentum beneath, and pubescence above; spikes secund; whorls about 6-flowered, approximate; calyx tubularly campanulate, clothed with villous tomentum, having the upper lip entire, ovate, acuminated, subulate, and the segments of the lower lip acuminately subulate; corollas 2-3 times longer than the calyx, pubescently villous; genitals a little exserted. ♄. S. Native of New Granada, on the Andes of Quindiu. Branches twisted, clothed with fuscescent tomentum. Flowers on long pedicels. Corolla an inch long: upper lip emarginate, villous outside, and middle segment of the lower lip obcordate: tube widened above.

Twisted-branched Sage. Shrub.

200 S. curviflòra (Benth. lab. p. 284.) shrubby; branches clothed with tomentose pubescence; leaves petiolate, ovate-oblong, acute, crenately serrated, rounded or narrowed at the base, pubescent above, but clothed with soft hoary tomentum beneath; floral leaves acuminated, deciduous; flowers secund, incurvedly reflexed, nearly sessile; whorls 6-10-flowered; calyx tubular, pubescent, having the upper lip as well as the teeth of the lower lip acuminated; corolla about 4 times longer than the calyx, pubescent outside: tube rather widened above; stamens inclosed; style exserted, quite glabrous. ♄. G. Native of Mexico, near Tlalpuxahua. Shrub divaricately branched. Leaves 1 to 1½ inch long. Corolla reddish scarlet, nearly 1½ inch long: tube bidentate inside at bottom.

Curved-flowered Sage. Shrub.

201 S. Neovide'nsis (Benth. lab. p. 284.) shrubby?; branches finely pubescent; leaves petiolate, ovate, acuminated, serrately crenated, rounded at the base, soft, pubescent above, and pale and clothed with hoary tomentum beneath; upper leaves sessile: floral leaves lanceolate-subulate, longer than the calyxes, at length deciduous; racemes elongated, simple; whorls loose, remote, secund, 2-6-flowered; calyxes tubularly-campanulate, pubescent, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla 4-5 times longer than the calyx, nearly glabrous: tube slender at the base, and much widened at top: lower lip very short; genitals exserted; style glabrous. ♄. S. Native of Brazil, near Rio Janeiro, Prince Maximilian Neuwied. Nearly allied to *S. curviflòra*. Corolla 14-15 lines long, scarlet.

Neuwied Sage. Shrub.

202 S. fruticetòrum (Benth. lab. p. 284.) herbaceous, erect, tall, nearly glabrous; leaves petiolate, ovate, acuminated, serrated, cuneated at the base, green on both surfaces, glabrous, or clothed with fine pubescence; floral leaves deciduous; racemes elongated, simple; whorls about 6-flowered, distant; calyx tubular, striated, pubescent, having the upper lip entire, and the teeth of the lower lip ovate, obtuse; corolla about 3 times as long as the calyx, villous outside: lower lip very short; stamens shorter than the corolla; style pubescent. ♃. S. Native of Brazil, among bushes at Arrayal, Prince Maximilian Neuwied. Leaves 3 inches long. Calyx green. Corollas deep red, form of those of *S. Neovidénsis*.

Bush Sage. Pl. 4 feet.

203 S. alti'ssimum (Pohl, pl. bras. 2. p. 136. t. 192.) suffruticose; branches erect, tall, nearly glabrous; leaves petiolate, ovate-oblong, acute, serrated, narrowly cuneated at the base, glabrous above, and clothed with fine pubescence beneath; floral leaves ovate, acuminated, deciduous; racemes elongated, simple; whorls distant, many-flowered; calyx tubular, villous, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla more than twice as long as the calyx, glabrous: tube much exserted: lips equal; style pilose. ♄. S. Native of Brazil, among bushes at Arrayal Santa Rita, in the province of Goyaz. Branches, as well as the nerves of the leaves and calyxes, clothed with glandular villi. Corolla pure red, 14 lines long: tube scarcely widened at top. Leaves 4-5 inches long.

Tallest Sage. Shrub 6 to 7 feet.

204 S. moscha'ta (H. B. et Kunth, nov. 2. p. 293, t. 143.) shrubby, erect, glabrous; leaves petiolate, ovate, acute, cuneated at the base, serrated, glabrous or pilose; whorls 5-6 flowered, distant; calyx tubular, striated, glabrous or pilose, having the upper lip ovate, acuminated, entire, and the segments of the lower lip acuminated; corolla thrice as long as the calyx; tube widened at top: upper lip emarginate: middle segment of the lower lip short, retuse; style villous on the upper side. ♄. S. Native of New Granada, near Almaguer, among bushes. Plant exhaling a scent of musk. Leaves 2 inches long; pilose on the veins beneath. Spikes terminal, pedunculate. Corolla purple. Calyxes clothed with fuscescent hairs while young. Allied to *S. Neovidénsis* and *S. altíssima*.

Musky-scented Sage. Shrub, 4-6 feet.

205 S. squa'lens (H. B. et Kunth, nov. gen. amer. 2. p. 297.) stem shrubby, erect, and are, as well as the branches, pilose and clammy; leaves petiolate, ovate-oblong, obtuse, cordate, crenated, coriaceous, wrinkled above, and pilose but clothed with hoary tomentum beneath; whorls 2-flowered, distant; floral leaves ovate-oblong, shorter than the calyxes, deciduous; calyx tubular, hairy, striated, the upper lip, and segments of the lower lip, acuminated; corolla twice as long as the calyx, pubescent; stamens exserted. ♄. S. Native of Peru, on the Andes. Branches purple. Leaves 1½ to 2 inches long. Spikes terminal. Corolla purple.

Filthy Sage. Shrub.

206 S. rube'scens (H. B. et Kunth, nov. gen. amer. 2. p. 301. t. 154.) stem shrubby, erect, canescent, glabrous; leaves on long petioles, ovate, narrowly-acute, cordate, crenated, clothed with fine hoary tomentum beneath; spikes panicled; whorls 4-6 flowered, distant; calyx densely clothed with clammy hairs, tubular, purple, having the upper lip ovate, acute, entire, and the teeth of the lower lip acuminated; corolla glabrous, twice as long as the calyx. ♄. S. Native of Quito, in temperate places. Leaves 4 inches long. Leaves pubescent above. Corolla beautiful purple.

Reddish-flowered Sage. Shrub.

207 S. hirte'lla (Vahl. enum. 1. p. 249.) stem herbaceous? ascending, clothed with clammy villi; leaves petiolate, ovate-oblong, acute, crenated, roundly-cuneated at the base, green on both surfaces, and nearly glabrous; floral leaves ovate, acute, deciduous; racemes elongated, simple; whorls about 6-flowered, remote; calyx tubular, very hairy, having the upper lip entire, and the teeth of the lower lip ovate, obtuse; corolla more than twice as long as the calyx, villous outside: tube much exserted: lips nearly equal; genitals much exserted. ♄.? S. Native of Peru, Dombey. Corolla scarlet, an inch long; tube dilated a little at top.

Hairy Sage. Shrub.

208 S. secu'nda (Benth. lab. p. 285.) stem herbaceous, erect, glabrous; branches pubescent; leaves petiolate, oblong, narrowed at the base, acute, serrated, rather hispid above, and glabrous beneath: floral leaves ovate, acuminated, deciduous; whorls about 6-flowered, secund; calyx tubular, striated, pubescent, having the upper lip entire, and the teeth of the lower lip acute; corolla one half longer than the calyx, pubescent outside: tube a little exserted, nearly equal, or hardly contracted at the throat: lips short, nearly equal; genitals inclosed; style glabrous. ♃.? G. Native of the South of Brazil, Sello. Leaves 2-3 inches long. Corolla scarcely half an inch long. Hairs of branches reflexed.

Var. β; leaves clothed with hoary tomentum beneath. ♄. G. Native of Brazil, in the province of Minas Geraes.

Secund-flowered Sage. Pl.?

209 S. cilia'ta (Benth. lab. p. 286.) stem herbaceous?; branches elongated, glabrous, or the angles and petioles are ciliated; leaves petiolate, ovate, acute, crenately serrated, roundish or subcordate at the base, nearly glabrous: floral leaves ovate, acuminated, ciliated at length, deciduous; whorls about 10-flowered; calyx tubular, striated, pubescent, having the upper lip entire, and the teeth of the lower lip acute; corolla pubescent outside, 2-3 times longer than the calyx: tube widened at top: lips nearly equal; style glabrous, exserted. ♃.? S. Native of Mexico, among bushes, at Papantla. Leaves downy on the nerves. Corolla scarlet. Allied to S. *lamiifólia*, like the preceding.

Ciliated Sage. Shrub.?

210 S e'legans (Vahl. enum. 1. p. 238.) stem herbaceous, erect, glabrous, or furnished with scattered hairs; leaves petiolate, ovate, acuminated, serrated, rounded or narrow at the base, rather hispid above, and glabrous beneath; floral leaves sessile, ovate, acuminated, deciduous; whorls remote, about 6-flowered; flowers on short pedicels; calyx campanulate, clothed with glandular villi, having the upper lip almost entire, or with 1-3 short awns, lower lip shortly bidentate, 2-awned; corolla pubescent outside, six times as long as the calyx: tube slender, incurved: lips equal, oblong; stamens a little exserted, bearded. ♃? S. Native of Mexico, near Tlalpuxahua and Guanaxuato. S. incarnàta, Cav. ann. sc. 2. p. 112. H. B. and Kunth, nov. gen. amer. 2. p. 293. t. 144. S. microcaúlis, Poir. dict. 6. p. 614. Branches purplish at the base. Leaves 1 to 1½ inch long. Corolla blood-red, more than an inch long. Tube toothless inside.

Elegant Sage. Pl. 4 feet.

211 S. me'ntiens (Pohl, pl. bras. 2. p. 137. t. 193.) herbaceous, erect; stem glabrous at the base, but furnished with spreading hairs at apex; leaves petiolate, ovate, acuminated, serrated, rounded at the base, green and glabrous on both surfaces; floral leaves small, deciduous; racemes simple, elongated; whorls remote, few-flowered; calyx tubularly campanulate, green at the base, villous, membranous, and coloured at top, having the upper lip entire, and the teeth of the lower lip ovate, subulately acuminated; corolla 4-5 times longer than the calyx: tube much exserted: lips short, nearly equal, broad; genitals inclosed; style glabrous. ♃? S. Native of Brazil, at Serra d'Estrella, and about Fazenda de Padre Correa, in the province of Rio Janeiro, and about the town of Rio Janeiro. Herb nearly simple. Calyx scarlet at top. Corolla scarlet, nearly glabrous, 18-22 lines long. Tube widened a little at top.

Disguising Sage. Pl. 1½ foot.

212 S. sple'ndens (Sello ex Rœm. et Schultes, syst. mant. 2. p. 185. Benth. lab. p. 287.) shrubby; branched; branches glabrous; leaves petiolate, ovate, acuminated, crenately serrated, cuneate, rounded or subcordate at the base, glabrous on both surfaces; floral leaves ovate, acuminated, coloured, deciduous; whorls 2-flowered; calyx campanulate, membranous, coloured, glabrous, or the nerves and pedicels are villous, having the upper lip entire, and the teeth of the lower lip broad, ovate, acute; corolla glabrous outside, about three times as long as the calyx: tube exserted, widened a little: lower lip short; stamens exserted; style glabrous. ♄. G. Native of Brazil, in woods at Guaxindiba, near Rio Janeiro. Ker. bot. reg. t. 687. Rchb. hort. bot. 1. t. 51. Colla in acad. taur. 31. p. 331. t. 17. S. colòrans, Hortul. S. Brasiliénsis, Spreng. syst. 2. p. 56.—An elegant species, very common in gardens, having the floral leaves, calyxes, and corollas scarlet. Corolla 2 to 2½ inches long. This species is a very great ornament in the autumn, if planted out in the open ground against a south wall.

Shining Sage. Fl. Sept. Nov. Clt. 1822. Shrub 3 to 4 feet.

213 S. involucra'ta (Cav. icon. 2. p. 114. t. 105.) stem

shrubby; branches elongated, glabrous; leaves petiolate, ovate, acuminated, crenately serrated in the middle, roundly serrated at the base, glabrous; floral leaves bractea-formed, sessile, broad-ovate, acuminated, coloured, imbricated before florescence, deciduous; whorls about 6-flowered, approximate; calyx tubularly campanulate, striated, having the upper lip entire, and the teeth of the lower lip short, ovate, setaceously acuminated; corolla 2-5 times as long as the calyx: tube ventricose, glabrous: lips short, nearly equal; style bearded. ♄. G Native near to the city of Mexico and Tlalpuxahua. Bot. reg. 1205. Hook, bot. mag. t. 2872. S. lævigàta, H. B. et Kunth, nov. gen. amer. 2. p. 295. t. 147. Corolla rose-coloured.

Involucrated-flowered Sage. Fl. July, Aug. Clt. 1825. Shrub 2-4 feet.

214 S. Sesse'i (Benth. lab. p. 288.) stem shrubby; branches nearly glabrous: leaves petiolate, ovate-oblong, acuminated, rounded, cuneated, or narrowed at the base, glabrous on both surfaces, or pubescent beneath; floral leaves smaller: uppermost ones minute, deciduous; whorls few-flowered, panicled; calyx inflately-campanulate, membranous, coloured, glabrous, having the upper lip entire, and the teeth of the lower lip ovate, rounded; corolla about three times as long as the calyx, pubescent outside; tube much exserted, nearly equal; style glabrous. ♄. G. Native of New Spain, on the western declivity of Cordillera de Guchillaque. Leaves 2-3 inches long, rather coriaceous. Panicles short, loose. Fructiferous calyx large, scarlet. Corolla nearly 2 inches long, scarlet. Upper lobe of style very long.

Sessé Sage. Shrub.

215 S. agglutina'ta (Lag. gen. et spec. nov. p. 2. no. 120.) leaves cordate-ovate-lanceolate, acute, serrated, white beneath; corolla pubescent, four times longer than the calyx, which is inflated; stem hairy, clammy. ♄. S. Native of New Spain. S. fruticòsa, Cervantes. Leaves clothed with clammy villi, particularly while young. Whorls about 6-flowered, bracteate. Bracteas ovate, acuminated, concave, deciduous, shorter than the calyxes. Corolla scarlet. Style bearded. This species agrees with *S. Sessèi* in the calyx; but the leaves are very distinct.

Clammy Sage. Shrub.

216 S. pube'scens (Benth. lab. p. 723.) stem shrubby; branches tomentosely pubescent; leaves petiolate, ovate, bluntish, rounded at the base, wrinkled, pubescent above, and clothed with hoary villi beneath; floral leaves smaller: upper ones minute, deciduous; whorls few-flowered, rather panicled; flowers nearly sessile; calyx inflately tubular, rather incurved, coloured at top, having the upper lip entire, and the teeth of the lower lip broad-ovate, obtuse; corolla twice as long as the calyx, pubescent outside: tube much exserted, nearly equal: lips nearly equal; style shortly bearded. ♄. S. Native of Mexico at San Dionicio, in Oaxaca. Allied to *S. Sessèi* and *S. Règla*.

Pubescent Sage. Shrub.

217 S. Re'gla (Cav. icon. 5. p. 33. t. 455.) stem shrubby; branches glabrous or pubescent under the axils; leaves petiolate, rounded, obtuse, sinuately crenated, broadly subcordate at the base, coriaceous, wrinkled, rather hispid above, nerved and pubescent beneath; floral leaves conforming to the others; whorls terminal, few-flowered; flowers nearly sessile; calyx tubular, coloured, having the upper lip entire, and the teeth of the lower lip broad-ovate, acutish; corolla twice as long as the calyx, pubescent outside: tube ventricose; style glabrous, exserted. ♄. S. Native of Mexico at Vilalpando and Regla. Branches purplish. Leaves $1\frac{1}{2}$ inch long, fuscescent beneath. Flowers, crowded in the number of 3 to 6, at the tops of the branches. Calyx pubescent. Corolla scarlet.

Regla Sage. Shrub 5 to 6 feet.

218 S. Graha'mii (Benth. in bot. reg. t. 1370.) stem shrubby; branches glabrous or bifariously pubescent; leaves petiolate, oval, obtuse, rounded or cuneated at the base, irregularly crenated in the middle, nearly glabrous; floral leaves ovate, acuminated, ciliated, deciduous; racemes elongated; whorls 2-flowered; calyx tubular, striated, pubescent on the nerves, having the upper lip entire, and the teeth of the lower lip acute; corolla twice as long as the calyx, glabrous outside: tube much exserted, ventricose: middle lobe of lower lip very broad, emarginate; style shortly bearded. ♄. S. Native of Mexico, in several places. Calyxes usually coloured. Flowers smaller than those of *S. microphýlla;* but the leaves are larger.

Graham's Sage. Shrub.

219 S. microphy'lla (H. B. et Kunth, nov. gen. amer. 2. p. 294.) stem shrubby; branches finely pubescent: leaves petiolate, ovate, obtuse, minute, regularly crenated, rounded at the base, wrinkled, pubescent; floral leaves ovate, acuminated, deciduous; racemes short; whorls 2-flowered; calyx tubular, striated, with pubescent nerves, having the upper lip entire, and the teeth of the lower lip acuminated; corolla twice as long as the calyx, glabrous outside: tube ventricose, exceeding the calyx: throat contracted: middle lobe of lower lip broad; style shortly bearded. ♄. G. Native of New Spain, near Santa Rosa, Moran, and Pachucan. Leaves 3-4 lines long. Corolla reddish, purple, or scarlet.

Small-leaved Sage. Shrub 1 foot.

220 S. subrotu'nda (St. Hil. mss. ex. Benth. lab. p. 290.) herbaceous, erect; branches glabrous; leaves petiolate, broad-ovate, roundish, bluntish, crenately serrated, rounded or truncate at the base, green and glabrous on both surfaces; racemes elongated, simple; whorls loose, 2-6-flowered; flowers pedicellate; calyx tubularly campanulate, pubescent, coloured at top; corolla more than twice as long as the calyx: tube exserted, widened: middle segment of lower lip very broad; genitals exserted; style glabrous. ♃. ? S. Native of Brazil. Nearly allied to *S. coccínea*.

Roundish-leaved Sage. Pl. 1 to 2 feet?

221 S. coccínea (Lin. mant. p. 88.) stem herbaceous, erect, clothed with hoary pubescence; leaves petiolate, ovate, acute, crenated, cordate at the base, pubescent above, and clothed with hoary tomentum beneath; floral leaves ovate, acuminated, deciduous; racemes simple; whorls 6-10-flowered, remote; calyx tubularly campanulate, striated, pubescent, having the upper lip entire, and the teeth of the lower lip acute; corolla glabrous, twice as long as the calyx: tube exserted, widened at top: upper lip short: middle segment of the lower lip broad, emarginate. ♃. S. Native of Florida, Georgia, Mexico, Cuba, Jamaica, Brazil, in the province of Goyaz; East Indies, on the banks of the Ganges, and about Madras, but probably escaped from gardens. Murr. comm. gœtt. 1778. p. 86. t. 1. S. ròsea, Vahl. enum. 1. p. 244. S. glaucéscens, Pohl. pl. bras. 2. p. 136. t. 192. Hormìnum coccíneum, Mœnch. Stem branched, hoary, sometimes hispid at the base from pili. Leaves 1-2 inches long, very soft beneath: floral ones shorter than the calyxes. Calyx often purplish. Corolla scarlet.

Scarlet-flowered Sage. Fl. April, Oct. Clt. 1772. Pl. 1 to 3 feet.

222 S. pseu'do-cocci'nea (Jacq. coll. 2. p. 302. icon. rar. p. 22. t. 209.) stem herbaceous, erect, hispid from long spreading hairs; leaves petiolate, ovate, acute, crenated, rounded or subcuneated at the base, pubescent above, and clothed with hoary tomentose pubescence beneath; floral leaves ovate, acuminated, deciduous; racemes simple; whorls 6-10-flowered, remote; calyx tubular, striated, pubescent, having the upper lip entire, and the teeth of the lower lip acute; corolla pubescent outside, twice as long as the calyx: tube exserted, equal: middle lobe of lower lip very broad, emarginate; style exserted, glabrous. ♃. S. Native of tropical America in New Andalusia, on the

declivity of Mount Tumiriquiri; also of Caraccas, and Trinidad. Bot. mag. 2864. This species differs from *S. coccínea*, in being taller, beset with long hairs, not with hoary tomentum; and in the leaves being rounded at the base, not cordate, &c. Corollas scarlet.

False-scarlet Sage. Fl. June, Aug. Clt. 1797. Pl. 2 to 3 feet.

223 S. phœnícea (H. B. et Kunth, nov. gen. amer. 291.) stems shrubby, erect, and are, as well as the branches, muricately hispid; leaves ovate, acute, subcordate, serrated, glabrous; racemes terminal; whorls many-flowered, distant; calyx tubular, hispidly glandular, having the upper lip entire and acute, and the segments of the lower lip acuminated; corolla downy outside, twice as long as the calyx: middle segment of lower lip large, emarginately 2-lobed; stamens much exserted. ♄. S. Native of Quito, at the roots of the mountains of Colopaxi and El Corazon, between Mulalo and Tambillo. Leaves pilose on the middle nerve, above $1\frac{1}{2}$ inch long, strong-scented. Peduncles purplish, glandularly pilose, as well as the floral leaves. Corolla blood-coloured. A plant intermediate between *S. pseùdo-coccínea* and *S. pulchélla*. Leaves quite glabrous. Allied to *S. glumàcea*, yet the flowers are very different.

Crimson-flowered Sage. Shrub 3 to 4 feet.

224 S. linea'ta (Benth. lab. p. 724.) branches bifariously pubescent; leaves petiolate, ovate, obtuse, crenated, truncate at the base, green on both surfaces, and clothed with fine pubescence; floral leaves broad-ovate, deciduous; racemes simple; whorls 4-6-flowered; calyx tubularly-campanulate, green, pubescent, having the upper lip entire, and the teeth of the lower lip ovate, scarcely acuminated; corolla twice as long as the calyx: tube exserted, ventricose: throat contracted: upper lip villous; stamens enclosed; style plumose. ♄.? S. Native of Mexico, Karwinski. Leaves almost like those of *S. Grahàmi*. Corollas form of those of *S. fúlgens*, but smaller. Floral leaves imbricate before florescence, pubescent, ciliated. Leaves crenated.

Lined-leaved Sage. Shrub.

225 S. pulche'lla (D. C. cat. hort. monsp. p. 142. Benth. lab. p. 291.) stem shrubby; branches pubescent; leaves petiolate, ovate, narrowed at apex, bluntish, crenated, broad and cordate at the base, membranous, wrinkled a little, nearly glabrous; floral leaves membranaceous, acuminated, deciduous; racemes simple; whorls about 10-flowered; calyx tubular, striated, finely-pubescent, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla twice or thrice as long as the calyx, glabrous outside: tube much exserted, bidentate inside at the base: middle segment of the lower lip broad-roundish, shortly-emarginate; style shortly-bearded above. ♄. G. Native of Mexico. S. dolióstachys *Lag.* Colla, hort. rip. p. 125. t. 16. Allied to *S. fúlgens*, but differs in the thinner nearly glabrous leaves, and more glabrous stem, and shorter glabrous corollas, &c. Corollas scarlet.

Pretty Sage. Fl. Oct. Feb. Clt. 1821. Shrub 2 feet.

226 S. fu'lgens (Cav. icon. 1. p. 15. t. 23.) stem shrubby; branches pilosely-hairy; leaves petiolate, ovate, acute, crenately-serrated, cordate at the base, pubescent above, clothed with white tomentum or wool beneath; floral leaves sessile, ovate, acuminated, deciduous; whorls 6-flowered; calyxes longer than their pedicels, tubularly-campanulate, pubescent, having the upper lip entire, and the teeth of the lower lip ovate, shortly and bluntly-acuminated; corolla twice as long as the calyx: tube exserted, ventricose, bidentate inside at the base: throat contracted: upper lip villous outside; stamens enclosed; style plumose, hardly exserted. ♄. G. Native of Mexico, on the mountains. Sweet, fl. gard. n. s. 1. t. 59. Bot. reg. t. 1356. S. cardinàlis. H. B. et Kunth, nov. gen. amer. 2. p. 301. t. 151. S. spléndens Nova, Loud. gard. mag. 5. p. 577. f. 116. Leaves variable in hairiness, and size from 1 to 3 inches long: floral leaves usually coloured, deciduous. Corollas showy, scarlet, 2 inches long: upper lip a little longer than the lower one.

Fulgent Sage. Fl. May, Oct. Clt. 1829. Shrub 2 to 5 feet.

227 S. Ayavace'nsis (H. B. et Kunth, nov. gen. amer. 2. p. 298.) stem shrubby, erect, and is, as well as the branches, beset with yellow hairs; leaves petiolate, ovate, acute, cordate, crenated, pilose beneath; spikes terminal, sessile; whorls 6-8 flowered, distant; calyx tubular, striated, glandularly pilose, having the upper lip, and the teeth of the lower lip, subulately acuminated. ♄. S. Native of Peru, in temperate places between Ayavaca and the river Cutaco. Leaves 2 to $2\frac{1}{2}$ inches long. Rachis and pedicels hairy. Corolla purple, ex Bonpl. Allied to *S. rubéscens* and *S. squàlens*, but differs in the corolla being blue.

Ayavaca Sage. Shrub 4 to 6 feet.

228 S. acumina'ta (Ruiz, et Pav. fl. per. 1. p. 24. t. 37. f. b.) stem suffruticose, erect, villous; leaves petiolate, ovate, acuminated, crenately-serrated, cordate at the base, wrinkled, rather hispid above, and of the same colour beneath, pubescent on the nerves: floral leaves about equal in length to the calyxes, ovate-oblong, obtuse, membranous, ciliated, deciduous; racemes almost simple; whorls about 6-flowered, remote; flowers pedicellate; calyx tubular, striated, pubescent, having the upper lip entire, and the teeth of the lower one lanceolate and a little incurved; corolla twice as long as the calyx: tube exserted, a little incurved: lips nearly equal. ♄. S. Native of Peru, in Pillao and Canta. Floral leaves glumaceous, flesh coloured. Calyx almost an inch long. Corolla flesh coloured.

Acuminated-leaved Sage. Shrub 5 to 6 feet.

229. S. longiflo'ra (Ruiz, et Pav. fl. per. 1. p. 23. t. 10. f. a.) stem shrubby, erect, villous, clammy; leaves petiolate, ovate, acuminated, serrated, cordate at the base, pubescently-hairy, clothed with white tomentum beneath; floral leaves ovate, acute, coloured, deciduous; raceme simple; whorls few-flowered, distant; calyx ovate, inflated, coloured, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla very long, five times longer than the calyx, hairy outside: tube ample, much exserted: lips nearly equal; style glabrous. ♄. S. Native of Peru in Tarma at Huichay. Shrub much branched. Leaves ample. Racemes elongated, nutant. Corolla 5 inches long, showy, colour of wool.

Long-flowered Sage. Shrub 10 to 15 feet.

* * * * Cæru'leæ. *Corollas blue, or bluish-violet.*

230 S. rumicifòlia (H. B. et Kunth, nov. gen. amer. 2. p. 305.) stem shrubby, erect, and is, as well as the branches, pubescently-hairy; leaves petiolate, oblong, hastate, bluntish, crenated, clothed with hoary tomentose wool beneath; panicles terminal; whorls 2-flowered, remote; calyx clothed with glandular hairs, campanulate, striated, having the upper lip entire and acute, and the teeth of the lower lip acutish. ♄. S. Native near the city of Quito, at the foot of Mount Javirac. Leaves wrinkled and pilose above, 4 inches long and $2\frac{1}{2}$ broad. Peduncles, and branches of panicle beset with glandular hairs. Corolla unknown. A beautiful species, intermediate between sections *Brachyánthæ* and *Longiflòræ*.

Dock-leaved Sage. Shrub 4 to 5 feet.

231 S. petiola'ris (H. B. et Kunth, nov. gen. amer. 2. p. 304.) stems herbaceous, erect, branched, pubescent; leaves on very long petioles, deltoid, cordately-hastate, bluntish, irregularly crenate-serrated, hairy; spikes terminal, on long peduncles, usually by threes; whorls 2-flowered, distant; calyx clothed with glandular hairs, campanulate, having the upper lip tridentate, and the lower one bifid, with acuminated segments.

♃. S. Native of tropical America, on the banks of the river Magdalena. Leaves 3 inches long. Corolla blue, pubescent.

Petiolate-leaved Sage. Pl. 1½ foot.

232 S. sagitta'ta (Ruiz, et Pav. fl. per. 1. p. 23. t. 35. f. a.) stem herbaceous, erect, villous; leaves petiolate, triangularly sagittate, acute, crenately serrated, much wrinkled, clothed with soft villi; floral leaves ovate, acuminated, deciduous; racemes elongated, branched; whorls remote, 2-6-flowered; flowers pedicellate; calyx ovate, villous, having the upper lip broad-ovate, obtuse, or tridentate, and the teeth of the lower lip acutish; corolla 4 times longer than the calyx: tube exserted, rather inflated beneath: middle lobe of lower lip emarginate; style glabrous. ♃. S. Native of Peru, plentiful in gardens, and in waste places of Tarma and Huanuco, and at Obrajillo; and of New Granada, on Mount Quindiu. Stem much branched at bottom. Branches villous, and glandularly pubescent. Leaves 2-3 inches long. Calyx purplish-violet. Corolla pale blue, downy outside. The vernacular name of this species in Peru is *Salvia Real*, where the plant is used as a substitute for common sage.

Sagittate-leaved Sage. Pl. 4 to 6 feet.

233 S. vitifòlia (Benth. lab. p. 724.) stem herbaceous, erect, villous; leaves petiolate, broadly deltoid, angularly lobed, truncate at the base, or broadly and sagittately cordate, thick, villously hairy, and green on both surfaces, or rufescent beneath; floral leaves ovate-lanceolate, acuminated, deciduous; racemes elongated, branched; whorls remote, 2-6-flowered; flowers pedicellate; calyx ovate-campanulate, villous, having the upper lip somewhat tridentate, and the teeth of the lower lip acuminated; corolla 3-4 times longer than the calyx: tube a little exserted, ventricose: limb gaping: upper lip falcate; style glabrous. ♃. S. Native of Mexico, on Mount San Felipe, near Oaxaca. Habit of *S. petiolàris*, *S. sagittàta*, and *S. macrophýlla*, but differs in the form of the leaves. Corollas blue, almost like those of *S. petiolàris*.

Vine-leaved Sage. Pl.?

234 S. macrophy'lla (Benth. lab. p. 725.) stem herbaceous, erect, pilosely hispid; leaves on long petioles, ample, ovate, cordate: upper ones hastate, a little wrinkled, green on both surfaces, hispid; floral leaves ovate, deciduous; racemes elongated, branched, clammy; whorls remote, 2-6-flowered; flowers pedicellate; calyx campanulate, at length elongated, villous, having the upper lip very shortly tridentate, and the lower one bifid: the teeth all ovate, acute; corolla about 4 times as long as the calyx: tube exserted, widened: lips nearly equal; style glabrous. ♃. S. Native of Peru, in the valley of Huanuco. Allied to *S. sagittàta*; but differs in the taller stature, in the larger broader leaves, with the auricles rounded at the base.

Long-leaved Sage. Pl. 5 to 6 feet.

235 S. scutellarioi'des (H. B. et Kunth, nov. gen. amer. 2. p. 303. t. 158.) plant herbaceous; branches pilosely pubescent, or nearly glabrous; leaves petiolate, ovate, deltoid, acutish, crenately-serrated, cordately hastate at the base, hairy on both surfaces; floral leaves ovate, deciduous; racemes nearly simple, elongated; whorls distant, generally 2-flowered; calyx campanulate, clothed with clammy villi, having the upper lip shortly tridentate, and the lower lip bifid: teeth all acute; corolla 3 times longer than the calyx: tube much exserted, ventricose: middle segment of the lower lip emarginate; genitals much exserted. ♃. S. Native of tropical America, as of the province of Quito, near Chillo; and in humid sandy places near Santa Fe de Bogota. Stems procumbent at the base. Branches a foot long, nearly naked in the upper part. Leaves 1½ inch long, and nearly the same in breadth. Corolla an inch long, blue, pubescent outside. Form of calyx and lower lip of corolla almost as in section *Brachyánthæ*.

Skullcap-like Sage. Pl. 1 foot.

236 S. pa'tens (Cav. icon. 5. p. 33. t. 454.) stem herbaceous, erect, pilose; leaves petiolate, ovate-deltoid, crenated, hastate at the base, or the upper ones are rounded, hispid on both surfaces; floral leaves lanceolate-linear; whorls few, remote; flowers large; calyx campanulate, villous, having the upper lip very shortly tricuspidate, and the lower lip bifid: teeth acuminated; corolla about 3 times as long as the calyx: throat widened; stamens much exserted; style very long, glabrous. ♃.? G. Native of Mexico, near Tlalpuxahua, Guanaxuato, and Santa Rosa, and near Real del Monte. S. grandiflòra, Nee, ex Cav. S. spectàbilis, H. B. et Kunth, nov. gen. amer. 2. p. 304. Stems nearly simple. Lower leaves petiolate: upper ones nearly sessile, paler beneath: floral leaves quite entire, clothed with glandular villi. Corolla blue, more than 2 inches long, pubescent outside; middle lobe of lower lip very broad, emarginate.

Spreading Sage. Pl. 1 to 2 feet.

237 S. longi'styla (Benth. lab. p. 295.) stem herbaceous? erect, clothed with tomentose villi; leaves petiolate, broad, ovate, acuminated, crenated, amply cordate at the base, wrinkled, clothed with soft pubescent villi on both surfaces: superior ones sessile; floral leaves ovate, long-acuminated, ciliated, deciduous: uppermost ones rather comose; whorls 6-10-flowered; calyx elongated, tubular, striated at the base, clothed with soft pubescence, having the upper lip entire, and the teeth of the lower lip very short, and setaceously acuminated; corolla hardly twice as long as the calyx: tube equal: middle lobe of lower lip bifid; genitals exserted; style glabrous, the upper lobe very long and subulate. ♃.? G. Native of Mexico, near Zinepecuaro, Graham. Corolla blue, a little incurved.

Long-styled Sage. Pl.?

238 S. amethy'stina (Smith, icon. ined. 2. p. 27. t. 27.) shrubby; branches clothed with white villi; leaves petiolate, ovate, acute, deeply cordate at the base, with rounded auricles, wrinkled, pubescent above, but clothed with hoary or white tomentum beneath; floral leaves lanceolate, deciduous; racemes elongated, simple; whorls loose, 6-flowered, remote; calyx tubularly campanulate, villous outside, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla about twice as long as the calyx: tube exserted, ventricose: lips nearly equal: middle lobe of lower lip almost entire; genitals inclosed; style bearded. ♄. S. Native of tropical America, on the Andes of Quindiu, &c. Leaves 2 to 3½ inches long, serrated. Corollas form of those of *S. fúlgens*, or *S. Mexicàna*, but blue, and 1 inch long. Leaves similar to those of *S. fúlgens*.

Amethyst-flowered Sage. Fl. Aug. Sept. Clt. 1817. Shrub 2 to 4 feet.

239 S. Karwi'nskii (Benth. lab. p. 725.) stem shrubby?; branches clothed with rufous wool; leaves petiolate, ovate, acuminated, crenated, rounded at the base, rather wrinkled above, and roughish, and clothed with rufous wool beneath; floral leaves deciduous; whorls many-flowered; calyx ample, tubular, clothed with glandular villi, having the upper lip entire, and the teeth of the lower lip very short, long-acuminated; corolla twice as long as the calyx; genitals equalling the corolla; style glabrous. ♄.? G. Native of Mexico, Karwinski. Allied to *S. longistyla* and *S. amethýstina*. Habit of *S. Hæ'nkei*, but the corolla is blue.

Karwinski's Sage. Shrub.

240 S. cya'nea (Benth. lab. p. 296. but not of Fisch.) stem shrubby; branches clothed with hoary pubescence; leaves petiolate, ovate, acuminated, serrately crenated, cordate at the base, pubescent on both surfaces; floral leaves ovate, acuminated, membranous, deciduous; racemes simple; whorls loosely

6-10-flowered, rather secund; calyx tubular, clothed with rufous villi: upper lip very short, tricuspidate, and the teeth of the lower lip lanceolate-acute; corolla about 3 times as long as the calyx: tube exserted, ventricose above: lips nearly equal; style bearded. ♄. G. Native of New Spain, Moçino et Sessé. Allied to *S. amethýstina;* but differs in the more acuminated leaves, and particularly in the slenderer calyxes being clothed with rufous villi, and in the tricuspidate upper lip.

Azure-flowered Sage. Shrub.

241 S. Mexica'na (Lin. spec. p. 37.) stem shrubby, erect, tomentose; leaves petiolate, ovate or oblong, narrowed at both ends, crenately serrated, pubescently tomentose; floral leaves ovate, acute, deciduous, scarcely longer than the pedicels; whorls 6-20-flowered; calyx tubular, with ciliated nerves, having the upper lip entire, and the teeth of the lower lip ovate, acute, and mutic; corolla twice as long as the calyx: tube inflated at the middle, contracted under the throat: lips nearly equal: upper lip pubescent: middle lobe of lower lip smaller than the lateral ones, roundish, emarginate; style bearded, with subulate unequal lobes. ♄. S. Native of Mexico, near Pazcuaro, and near the city of Mexico. Cav. icon. 1. p. 16. t. 26. S. melissæfòlia, Desf. cat. hort. par. Sclàrea Mexicàna, Dill. hort. elth. 339. t. 254. f. 330. Mill. dict. no. 14. Júngia altíssima, Mœnch. meth. Leaves 2-3 inches long. Corolla blue; tube oblong, bidentate inside.

Var. β, màjor (Benth. lab. p. 297.) younger leaves more densely and velvety tomentose. ♄. S. S. papilionàcea, Cav. icon. 4. p. 9. t. 319. S. nitidifòlia, Ortega, dec. p. 9. This is a large handsome plant. The wings of the corolla figured by Cavanilles, must be the side lobes of the lower lip split up by accident, ex Benth.

Mexican Sage. Fl. May, July. Clt. 1724. Shrub 4 to 6 feet.

242 S. glabra'ta (H. B. et Kunth, nov. gen. amer. 2. p. 299.) shrubby? glabrous; leaves petiolate, ovate, acuminated, serrately crenated, cordate at the base, green on both surfaces, glabrous; floral leaves small, deciduous; racemes elongated, simple; whorls loose, 6-10-flowered; flowers on long pedicels; calyx tubularly campanulate, nearly glabrous, having the upper lip entire, and the teeth of the lower lip subulately acuminated; corolla more than twice as long as the calyx: tube much exserted, ventricose: lips rather short: upper lip villous: middle lobe of lower lip very broad; style bearded. ♄. S. Native of Mexico, Karwinski; and of New Spain, at the monastery of Caripe, and the village of Coccollar. Larger leaves 2-4 inches long. Corolla violaceous, an inch long. Stamens inclosed. Style a little exserted.

Glabrous Sage. Shrub.

243 S. cóncolor (Lamb. herb. ex Benth. lab. p. 297.) stem shrubby?; branches glabrous; leaves petiolate, ovate, acuminated, serrated, truncate at the base, glabrous; floral leaves deciduous; racemes elongated, simple; whorls remote, many-flowered; flowers on long pedicels; calyx tubular, striated, villous, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla twice as long as the calyx, pubescent outside: tube slender, exserted, ventricose at top: lips nearly equal; style glabrous. ♄. S. Native of Mexico. This differs from *S. amethýstina*, in the leaves being glabrous, truncate at the base, not cordate; in the long pedicels. Calyx bluish, villous; hairs usually glanduliferous. Corolla blue. Leaves same colour on both surfaces, sometimes pubescent in the young state.

Self-coloured-leaved Sage. Shrub. ?

244 S. cæru'lea (Benth. lab. p. 298.) stem herbaceous? erect; branches glabrous, or spreadingly pilose; leaves petiolate, ovate, long-acuminated, truncate, rounded or subcordate at the base, glabrous; floral leaves deciduous; whorls 2-6-flowered, somewhat secund; calyx tubular, having the upper lip entire, and the teeth of the lower lip very short and bluntish; corolla about 3 times as long as the calyx: tube exserted, widened at top: lips nearly equal: upper lip pubescent outside; connective minutely toothed behind; style glabrous. ♃.? G. Native of the south of Brazil, Sello. Upper part of branches generally hispid from glanduliferous hairs. Leaves usually hispid from a few scattered hairs above, 4 inches long. Flowers on short pedicels. Calyxes green or bluish, pubescent. Corolla blue, $1\frac{1}{2}$ to 4 inches long. Stamens equalling the lower lip.

Blue-flowered Sage. Pl. ?

245 S. tubiflòra (Cav. icon. 1. p. 16. t. 25.) stem herbaceous, nearly glabrous; leaves petiolate, broad-ovate, serrately-crenated, roundedly truncate or subcuneated at the base, nearly glabrous above, or clothed with hoary pubescence beneath; floral leaves deciduous; racemes simple; whorls about 6-flowered, secund; flowers nearly sessile; calyx tubular, striated, nearly glabrous, having the upper lip entire, and the teeth of the lower lip ovate, acuminated; corolla 3-4 times as long as the calyx, glabrous outside, or pubescent: tube exserted, equal, a little incurved: lips short; style bearded. ♃.? S. Native of Mexico, Moçino et Sessé. S. longiflòra, Willd. spec. 1. p. 141. Stems purplish, glabrous or pubescent on the angles. Corolla violaceous, 12-15 lines long. Stamens a little exserted.

Tube-flowered Sage. Fl. June, July. Clt. 1820. Pl. 2 to 3 feet.

246 S. Guarani'tica (St. Hil. mss. ex Benth. lab. p. 298.) shrubby; branches beset with spreading hairs; leaves petiolate, ovate, acute, serrated, truncately cordate at the base, much wrinkled, hispid, clothed with rather hoary tomentum beneath; racemes numerous, simple, secund; whorls few-flowered, loose, approximate; calyx tubular, nearly glabrous, having the upper lip entire, and the teeth of the lower lip ovate, acute; corolla about 3 times as long as the calyx: tube much exserted: lips elongated, equal; stamens shorter than the corolla; style bearded beneath. ♄. S. Native of Brazil, among bushes near Santa Anjo, in the Missions of the Uruguay, St. Hilaire. This is a showy species. Leaves 1 to $1\frac{1}{2}$ inch long. Corolla 15-16 lines long, deep blue. Calyx usually glabrous, sometimes hispid from glanduliferous hairs.

Guaranitic Sage. Shrub.

247 S. lamiifòlia (Jacq. schœnbr. 3. p. 37. t. 318.) stem shrubby, erect, nearly glabrous; leaves petiolate, ovate, acuminated, serrately crenated, rounded or cuneated at the base, glabrous; floral leaves membranous, ovate-lanceolate, deciduous; racemes elongated; whorls 6-10-flowered; flowers almost sessile; calyx tubular, having the upper lip entire, and the teeth of the lower lip acute; corolla scarcely twice as long as the calyx: tube nearly equal: upper lip villous outside; stamens equalling the corolla in length; style bearded. ♄. S. Native of the Islands of St. Vincent and Trinidad. S. Boosiàna, Jacq. fil. ecl. 1. p. 69. t. 47. S. Boòsii, Tratt. obs. bot. fasc. 2. p. 59. t. 92. S. hyemàlis, Boose, ex Jacq. fil. l. c. S. cyánea, Fisch, cat. hort. gorenki. p. 21. S. thymiflòra, Willd. enum. suppl. p. 2. S. amœ'na, Sims, bot. mag. t. 1294. Andr. bot. rep. 6. t. 446. S. violàcea, Donn, hort. cantabr. ed. 4. S. latifòlia, Anders. in trans. soc. arts et man. vol. 25. p. 210. S. azùrea, and S. cærùlea, Hortul. Branches often pubescent while young. Leaves 3-4 inches long. Corolla blue.

Dead-nettle-leaved Sage. Fl. March, April. Clt. 1821. Shrub 2 to 4 feet.

248 S. affi'nis (Cham. et Schlecht, in Linnæa, 5. p. 99.) stem shrubby; branches glabrous; leaves petiolate, ovate, acuminated, serrately crenated, rounded at the base, glabrous or

finely pubescent; floral leaves ovate, membranaceous, deciduous; racemes elongated, nearly simple, many-flowered; whorls somewhat approximate, 6-10-flowered, secund; flowers pedicellate; calyx tubular, pubescent, having the upper lip entire, and the teeth of the lower lip subulately acuminated; corolla about 3 times as long as the calyx: tube exserted, equal, slender: lips nearly equal; genitals exserted; style glabrous. ♄. S. Native of Mexico, near Jalapa, Schiede et Deppe; and of the Cordillera de Guchilapa, Berlandier. Corollas pale violet.

Allied Sage. Shrub.

249 S. purpu'rea (Cav. icon. 2. p. 52. t. 166.) stem herbaceous, erect, nearly glabrous; leaves petiolate, ovate, acuminated, serrated, rounded or cordate at the base, glabrous or clothed with fine hoary pubescence; floral leaves small, ovate, acuminated, deciduous; racemes dense, branched; whorls many-flowered, approximate, secund; calyx tubular, clothed with white or purple wool, having the upper lip entire, and the teeth of the lower lip subulately mucronate; corolla about 3 times as long as the calyx: tube exserted, incurved: upper lip pubescent; style bearded on all sides. ♃. S. Native of Mexico. Jacq. schœnbr. 3. p. 2. t. 253. Habit of *S. polystàchya;* but differs in the stem being more glabrous; in the flowers being secund, densely woolly: and in the corolla being twice as long, tubular, and of a reddish purple colour.

Purple-flowered Sage. Fl. May, July. Clt. 1825. Pl. 2 to 3 feet.

† *Species doubtful whether belonging to the present section.*

250 S. cupheæfòlia (H. B. et Kunth. nov. gen. amer. 2. p. 288.) stem herbaceous, bifariously pilose; leaves petiolate, ovate-elliptic, bluntish, acute at the base, crenated, glabrous, with hairy margins; whorls 2-flowered, very remote; calyxes glabrous, ciliated, tubular, striated, having the upper lip ovate, entire, acute, and the teeth of the lower lip acute. ♃. S. Native of Peru, in woods. Stem branched. Leaves 6-9 lines long. Pedicels hairy. Bracteas ovate-lanceolate, acuminated, glabrous, with ciliated margins, deciduous. This species ought probably to be placed in section *Longiflòræ Aurantìacæ.*

Cuphea-leaved Sage. Pl. 1½ foot.

251 S. ru'fula (H. B. et Kunth, l. c. p. 291.) stem suffruticose, erect, clothed with rufous tomentum; leaves ovate, acuminated, narrowed at the base, petiolate, serrated, clothed with rufous pubescence beneath; whorls about 6-flowered, distant; calyx rather pilose, having the upper lip entire and acute, and the lower one bifid; genitals inclosed. ♄. S. Native of New Granada, on the Andes of Quindiu, near Los Gallegos. Leaves rather hairy above, 2-3 inches long. Bracteas ovate, acuminately subulate, pubescent, ciliated. Corolla purple: upper lip pubescent.

Rufous Sage. Shrub 2 to 3 feet.

252 S. Tolime'nsis (H. B. et Kunth, l. c. p. 292.) stem shrubby, erect, clothed with rufous pubescence; leaves ovate-lanceolate, acute at both ends, petiolate, densely pubescent beneath; whorls about 6-flowered, distant; calyx hairy, having the upper lip ovate, entire, acute, and the lower lip bifid; stamens inclosed. ♄. S. Native on Mount Quindiu, between Ibague and Tolima. Leaves nearly glabrous above, but beset with short scattered hairs beneath, 2-3 inches long. Bracteas ovate, acute, serrulated, pubescent beneath. Upper lip of corolla pubescent outside.

Tolima Sage. Shrub 3 to 4 feet.

253 S. di'scolor (H. B. et Kunth, l. c. p. 146.) stem shrubby, erect, clothed with hoary tomentum; young branches clammy; leaves petiolate, ovate-lanceolate, acutish, rounded at the base, quite entire, glabrous above, and clothed with white tomentum beneath; whorls about 8-flowered, distant; bracteas caducous; calyx clothed with white tomentum, campanulate, striated, having the upper lip ovate, acute, and the teeth of the lower lip short, acute; corolla twice as long as the calyx: middle segment of the lower lip 2-lobed; stamens inclosed. ♄. S. Native of the Andes of Peru, in shady places along the valley of the river Guamcabamba. Leaves 2 inches long. Corolla violaceous. This is a very distinct species, and ought probably to be placed in section *Longiflòræ Cærùleæ.*

Two-coloured-leaved Sage. Shrub 2 to 3 feet.

254 S. acutifòlia (Ruiz, et Pav. fl. per. 1. p. 24. t. 38. f. b.) shrubby, branched; branches tomentose; leaves petiolate, cordate, acute, bluntly and unequally serrated, wrinkled above, and tomentose, and very veiny beneath; whorls 6-12-flowered, approximate; flowers on short pedicels, secund; bracteas ovate-lanceolate, acute, keeled, deciduous, tomentose; calyx tomentose, having the upper lip entire, and the lower one bifid; corolla twice as long as the calyx; stamens length of corolla; stigma villous, exserted. ♄. S. Native of Peru, plentiful in meadows and humid places in Cheuchin, where it is called *Succhonca* by the natives.

Acute-leaved Sage. Shrub 4 to 5 feet.

255 S. pauciflòra (H. B. et Kunth, nov. gen. amer. 2. p. 303.) stems shrubby, erect, and are, as well as the branches, hairy; leaves petiolate, ovate, obtuse, cordate, crenated, clothed with fine white tomentum beneath; whorls 2-flowered, distant; calyx pubescent, tubular, striated, having the upper lip acute, and the segments of the lower lip acuminated; genitals exserted. ♄. S. Native of New Spain, in hot places. Branches purplish. Leaves pubescent above, 1 inch long. Bracteas oblong, shorter than the calyxes, deciduous. Corolla purple, with a hairy upper lip.

Few-flowered Sage. Shrub 1 to 2 feet.

Sect. IX. Echino'sphace (from *εχινος, echinos,* a hedge-hog; and *σφακος, sphakos,* sage; so called in reference to the spiny floral leaves and bracteas.) Benth. lab. p. 302. Floral leaves and bracteas imbricate, spinose. Calyx ovate: upper lip tridentate: lower lip shorter, bifid: teeth all spinose. Tube of corolla furnished with a ring of hairs inside; upper lip straight, emarginately bifid: lateral lobes of lower lip small, and the middle lobe large, and lacerately fringed. Connective fixed by the middle, remote, stretched out behind, and bearing a polliniferous cell, nearly similar to the other.—A Californian herb. Flowers heaped in many-flowered dense whorls, propped by bracteas.

256 S. cardua'cea (Benth. lab. p. 302.) stem herbaceous, erect, almost simple, clothed with white wool; leaves petiolate, oblong, pinnatifid, clothed with loose wool beneath: lobes ovate, sinuately toothed: teeth spinosely acuminated; whorls remote, densely many-flowered; calyx inflated, woolly; tube of corolla almost inclosed; connective free behind, and bearing an almost empty cell. ♃.? H. Native of California, Douglas. Habit of *Morìna Pérsica*, or a species of *Cárduus.*

Thistle-like Sage. Pl. 1 to 2 feet.

Sect. X. Pychno'sphace (so called from *πυχνος, pychnos,* dense; and *σφακος, sphakos,* sage; in reference to the dense whorls of flowers.) Benth. lab. p. 302. Floral leaves and bracteas imbricate, mutic. Calyx ovate; upper lip tridentate; lower lip bifid: teeth all subulate. Tube of corolla furnished with a ring of hairs inside; upper lip straight: middle lobe of the lower lip entire or emarginate. Connective fixed by the middle, remote, and extended behind, bearing a

polliniferous, almost conform cell.—A Californian herb. Whorls densely many-flowered.

257 S. columba'ria (Benth. lab. p. 302.) herbaceous, erect, a little branched; leaves deeply pinnatifid, wrinkled, almost glabrous: lobes oblong-linear, obtuse, erosely toothed or cut: terminal lobe hardly broader than the rest; floral leaves bractea-formed; whorls solitary or twin, hemispherical, densely many-flowered; bracteas broad, ovate, acuminated, membranous; calyx pubescent: upper lip elongated, concave; tube of corolla inclosed: middle lobe of lower lip crenulated; connective bearing an empty cell behind. ♃.? H. Native of California, Douglas. Habit of *Scabiòsa columbària*. Stems pubescent. Corollas a little longer than the calyxes, bluish, size of those of *S. Nilótica*.

Pigeon Sage. Pl. ½ to 1 foot.

† *A species doubtful whether belonging to sect.* X.

258 S. Leònia (Benth. lab. p. 303.) herbaceous, pubescent, branched; leaves cordate, crenated, wrinkled, petiolate; whorls 5-6-flowered, propped by sessile, ovate, acuminated bracteas; flowers pedicellate; calyx with a truncate tridentate upper lip, and a bidentate lower lip; upper lip of corolla keeled, erect, shorter than the lower lip: middle lobe of lower lip larger, emarginate; stigma trifid? the lower segments the longest; stamens 2-forked at top, with an anther on each division. ♃. G. Native of Mexico, at Chignagua, in Santa Rosa. Leònia salvifòlia, Llave ex Lexarza, nov. pl. mex. fasc. 2. p. 6.

Leon Sage. Pl. 1 foot.

Sect. XI. Hetero'sphace (from ἕτερος, *heteros*, variable; and σφακος, *sphakos*, sage.) Benth. in Hook. bot. misc. vol. 3. lab. p. 303. Floral leaves deciduous. Calyx tubular: upper lip truncate, tridentate. Tube of corolla furnished with a pilose ring inside: upper lip short, straight; lateral lobes of the lower lip small, spreading a little. Connective fixed by the middle, remote, and extended behind, bearing a polliniferous, almost conform cell.—Herbs, natives of the Mediterranean, Africa, Asia, and North America. Flowers racemose; whorls loose, few-flowered. Calyxes often coloured.

259 S. Nilótica (Vahl, enum. 1. p. 258.) stem herbaceous, erect, villous; lower leaves petiolate, ovate, crenated, erose or lyrate, rather narrowed at the base: upper ones broad, heart-shaped, nearly sessile, all green on both surfaces, and villous; floral leaves ovate-lanceolate, very acute, rather shorter than the calyxes; racemes short, branched; whorls 6-10-flowered, distinct; calyx ovate-campanulate, pubescent: teeth of lower lip lanceolate, very acute; corolla half as long again as the calyx: tube nearly equal, naked inside: middle lobe of lower lip emarginate; connective bearing an empty cell behind. ♃. H. Native of Egypt. Murr. comm. gœtt. 1778. p. 98. t. 2. Jacq. hort. vind. 3. p. 48. t. 92. S. intermèdia, Schultes, obs. bot. 9. S. napæfòlia, of many authors, but not of Jacq. S. Abyssínica, Jacq. icon. rar. 1. p. 2. t. 6, but not of Lin., but probably of Lin. fil. suppl. p. 81.? S. Nùbia, Murr. comm. gœtt. 1770. p. 90. t. 3. Vahl, enum. 1. p. 259, and probably of Ait. S. applanàta, Willd. enum. suppl. 3. Hormìnum Nilóticum, Mœnch. meth. Hormìnum napifòlium, Mill. dict. no. 4.? Hairs of stem rather clammy. Floral leaves and calyxes bluish. Corollas pale blue.

Nile Sage. Fl. June, Aug. Clt. 1775. Pl. 2 to 3 feet.

260 S. sylvi'cola (Burch. cat. geogr. no. 6052.) stem herbaceous, ascending, villous; leaves on short petioles, broad-ovate, acute, toothed, cordate at the base, a little lobed, villous on both surfaces; floral leaves ovate, acuminated, shorter than the calyxes; racemes simple; whorls secund, loose, 6-flowered, distant; calyx tubularly campanulate, villous: teeth of lower lip lanceolate, all setaceously acuminated; corolla twice as long as the calyx: tube slender, exserted: upper lip, and middle lobe of lower lip emarginate. ♃.? S. Native of the Cape of Good Hope. Stems almost simple. Leaves furnished with one or two lobes on each side, canescent beneath. Corollas almost like those of *S. aurìta*, but one half smaller.

Wood Sage. Pl. 2 feet.

261 S. tenuifòlia (Burch. cat. geogr. no. 298.) stems herbaceous, erect, branched at the base, villous; leaves on long petioles, ovate-roundish, obtuse, toothed, or a little cut, subcordate, truncate or subhastate, or lobed at the base, villous on both surfaces; floral leaves rather shorter than the pedicels, ovate-lanceolate, acute; racemes simple; whorls subsecund, 2-6-flowered, remote; flowers pedicellate; calyx tubular, coloured, striated, pubescent; corolla about twice as long as the calyx: tube exserted, equal: upper lip very short: middle lobe of lower lip emarginate; connective bearing an empty cell behind. ♃.? G. Native of the Cape of Good Hope. Corolla blue. Genitals exserted. Herb small, leafy and branched at the base.

Thin-leaved Sage. Pl. ½ to 1 foot.

262 S. auri'ta (Thunb. prod. p. 96.) stem herbaceous, erect, villous; leaves petiolate, lyrately pinnatifid or pinnate, with erosely toothed segments, veiny beneath, and clothed with hoary pubescence; floral leaves minute, ovate, acute; racemes simple; whorls 6-10-flowered, distant, secund; calyx sessile, tubular, elongated, coloured, striated, pubescent: teeth of upper lip setaceous, of the lower lip lanceolate, very acute; corolla more than twice as long as the calyx: tube slender, much exserted, equal: upper lip very short: middle lobe of lower lip emarginate; connective bearing an empty cell behind. ♃. G. Native of the Cape of Good Hope. Stem nearly simple, erect or ascending. Calyxes bluish-purple at top. Corollas size and form of those of *S. lyràta*, but more slender.

Eared-leaved Sage. Fl. May, June. Clt. 1795. Pl. 1 to 2 feet.

263 S. sca'bra (Thunb. prod. p. 97.) stem herbaceous, erect, panicled, branched; leaves lyrately pinnatifid, wrinkled, scabrous, with erosely curled margins, veiny and canescent beneath; floral leaves minute, ovate-lanceolate; racemes elongated, a little branched; whorls 6-flowered, distant; calyx campanulate, pubescent: teeth of upper lip setaceous, of the lower lip lanceolate, acute; corolla twice as long as the calyx: tube nearly equal: middle lobe of lower lip emarginate; connective bearing an empty cell behind. ♃.? G. Native of the Cape of Good Hope. Stem stiff, scabrous, pubescent. Corolla blue, similar to those of *S. runcinàta*, but a little larger.

Scabrous Sage. Fl. April, Aug. Clt. 1774. Pl. 2 feet.

264 S. runcina'ta (Lin. mant. 80.) stem herbaceous, erect, panicled, branched; leaves runcinately pinnatifid, wrinkled, rather hispid above: lobes deeply crenated: terminal lobe the largest; floral leaves minute, ovate-lanceolate, acute; racemes a little branched, few-flowered; whorls 2-6-flowered, remote; calyx ovate, pubescent: teeth of upper lip minute, setaceous, and of the lower one lanceolate-acute; corolla twice as long as the calyx: tube nearly equal: middle lobe of lower lip emarginate; connective bearing an empty cell behind. ♃.? G. Native of the Cape of Good Hope. Jacq. hort. schœnbr. 1. p. 5. t. 8. S. eròsa, Desf. cat. hort. par. p. 68. Poir. suppl. 5. p. 49. Herb usually clothed with hoary pubescence. Corollas blue. Genitals a little exserted.

Runcinate-leaved Sage. Fl. April, Sept. Clt. 1774. Pl. 1 to 2 feet.

265 S. stenophy'lla (Burch. cat. geogr. no. 1881.) plant herbaceous, erect, nearly glabrous; leaves petiolate, oblong-lanceolate or linear, runcinately-sub-pinnatifid, wrinkled: floral leaves minute, ovate-lanceolate, acute; racemes a little branched; whorls about 6-flowered, remote; calyx ovate, glabrous: teeth of lower lip lanceolate, acutish, all mutic; corolla twice as long as the calyx: tube nearly equal, hardly exserted: lips short, nearly equal; connective bearing an empty cell behind. ♃.? G. Native of the Cape of Good Hope. Allied to *S. runcinàta*, but is nearly glabrous, the stem taller and less branched, &c.

Narrow-leaved Sage. Pl.?

266 S. re'pens (Burch. cat. geogr. no. 2830.) herbaceous, quite glabrous; stems creeping at the base, leafy; floriferous branches ascending, nearly naked; leaves nearly all radical, petiolate, elongated, runcinately pinnatifid, hardly wrinkled: floral leaves ovate-lanceolate, acute, shorter than the calyxes; racemes nearly simple; whorls somewhat secund, about 6-flowered, remote; calyx ovate, with the teeth of the lower lip lanceolate, all setaceously-acuminated. ♃.? G. Native of the Cape of Good Hope. Leaves like those of *S. stenophýlla*, but the flowers are a little larger.

Creeping Sage. Shrub.?

267 S. lyra'ta (Lin. spec. p. 33.) stem herbaceous, erect, nearly simple, pilose; radical leaves lyrate, erosely-toothed, rather hispid on both surfaces; cauline leaves few, oblong-lanceolate, narrowed a long way at the base: floral leaves oblong-linear, rather shorter than the calyxes; racemes nearly simple; whorls 6-flowered, loose, distant: calyx tubularly-campanulate, nutant, pilose, with the teeth of the lower lip lanceolate, acute, of the upper one short and distant; corolla about three times as long as the calyx: tube much exserted, widened at top: middle lobe of lower lip very broad, emarginate: connective bearing an empty cell behind. ♃. H. Native of North America, in Philadelphia, Virginia, Carolina, and Georgia. Cunìla lyràta, Schranck, in syll. pl. soc. ratisb. 2. p. 57. Hormìnum lyràtum, Mill. dict. no. 2. Hormìnum Virgínicum, Lin. spec. p. 832.—Dill. elth. 219. t. 175. f. 216.—Mor. hist. 3. sect. 13. t. 27. Radical leaves 2-3 inches long. Flowers pedicellate. Calyxes coloured, ciliated with long spreading hairs. Corolla purplish, violet, 9-10 lines long.

Lyrate-leaved Sage. Fl. June, July. Clt. 1728. Pl. ½ to 1 foot.

268 S. obova'ta (Elliott, bot. carol. 1. p. 33.) stem herbaceous, erect, rather pilose; leaves broad-obovate, entire, sinuated, nearly glabrous, narrowed a long way at the base; floral leaves ovate, rather shorter than the calyxes; racemes nearly simple; whorls 6-flowered, dense, remote; calyx tubularly-campanulate, nutant, pilose: teeth of lower lip lanceolate, acute; corolla about three times longer than the calyx: tube much exserted, widened at top; connective bearing an empty cell behind. ♃. H. Native of Georgia, at the river Oakmulgee, and of New Orleans. Nearly allied to *S. lyràta*.

Obovate-leaved Sage. Pl. 1 foot.

269 S. acau'lis (Vahl. enum. 1. p. 257.) stem herbaceous, erect, nearly simple, pilose; leaves obovate, entire, sinuated, rather hispid on both surfaces, narrowed a long way at the base: floral leaves ovate, rather shorter than the calyxes; racemes almost simple; whorls 6-flowered, remote; calyx tubularly-campanulate, nutant, pilose, the teeth of the lower lip lanceolate, acute; corolla more than twice as long as the calyx: tube slender, much exserted, widened above; connective bearing an empty cell behind. ♃.? G. Native of the East Indies, Rottler. *S. ocymoìdes*, Roxb. et Benth. Wall. pl. rar. 1. p. 68. This species differs from *S. obovàta*, in the corollas being smaller and slenderer, and in the leaves being narrower. Perhaps not distinct from *S. obovàta*.

Stemless Sage. Pl. ½ foot?

270 S. Japónica (Thunb. jap. p. 22. t. 5.) stem herbaceous, erect, branched, glabrous; leaves petiolate, pinnate; leaflets ovate, acuminated, narrowed at the base, deeply-toothed, or pinnatifid, glabrous; floral leaves lanceolate, shorter than the calyxes; racemes almost simple; whorls about 6-flowered, distinct; calyx tubularly campanulate, glabrous, striated, having the upper lip entire, ovate, obtuse, and the teeth of the lower lip acute; corolla twice as long as the calyx: tube hardly exserted, equal: middle lobe of the lower lip emarginate; genitals exserted. ⊙. H. Native of Japan. Corollas blue, size of those of *S. verticillàta*. Leaves 3-4 inches long. This is a very elegant annual species.

Japan Sage. Pl. 1 foot?

271 S. Chine'nsis (Benth. lab. p. 725.) stem herbaceous, erect, pubescent; leaves petiolate, entire, or the lower ones ternate, broad-ovate, obtuse, crenated, truncate or cordate, pilose above, and glabrous beneath: floral leaves small, bractea-formed; racemes nearly simple; calyx tubularly-campanulate, striated, glabrous or hispid; corolla about twice as long as the calyx: tube hardly exserted, upper lip incurved, lower one spreading. ⊙. H. Native of China, near Kia-nang, Sir G. Staunton. Herb fasciculately-branched. Leaves about an inch long. Calyx coloured. Corolla pubescent outside. Flowers similar to those of *S. Japónica*.

China Sage. Pl.

† *Species belonging to sect.* XI. *but are not well known.*

272 S. triangula'ris (Thunb. prod. p. 96.) plant hispidly villous; stem erect, branched; leaves petiolate, cordate, triangularly-spatulate, toothed; whorls remote; flowers pedicellate; calyx angular, awned, a little shorter than the corolla. ⊙.? H. Native of the Cape of Good Hope. Branches and branchlets divaricate. Leaves hardly an inch long. Petioles length of leaves. Easily distinguished from *S. aurìta* by the petioles being without auricles, and by the stem being branched.

Triangular-leaved Sage. Pl. 2 feet.

273 S. obtusa'ta (Thunb. prod. p. 97.) villous; stem erectish, simple, or branched; leaves petiolate, ovate, deeply crenated, rarely sub-hastate, glabrous above, and pilose on the veins beneath, with ciliated edges; whorls 2-flowered; flowers pedicellate; calyxes narrow, scabrous, awned, about half the length of the corollas. ♃.? G. Native of the Cape of Good Hope. Leaves hardly an inch long. Petioles ciliated.

Blunt-leaved Sage. Pl. 1 foot.

274 S. Claytònii (Elliott, bot. carol. 1. p. 32.) stem herbaceous, erect; leaves ovate and cordate, lanceolate, pinnatifid, wrinkled, pubescent on the veins and margins; segments toothed; floral leaves ovate-cordate, acuminated, toothed, pubescent: whorls 6-flowered; calyx sub-campanulate, hispid on the margins and veins: the teeth of the upper lip connivent, and the segments of the lower lip acuminated, mucronate. ♃. H. Native of South Carolina, in arid, sandy pastures about Beaufort, abundant. Root thick; almost tuberous. Anthers black. Connective antheriferous at both ends.

Clayton's Sage. Pl. 1 foot.

Sect. XII. Notio'space (from *νοτιος*, *notios*, humid, and *σφακος*, *sphakos*, sage; the species contained in this section are inhabitants of humid places.) Benth. in Hook. bot. misc. 3. p. 374. lab. p. 309. Floral leaves and bracteas minute. Calyx ovate, the upper lip entire or shortly tridentate, with the teeth connivent; lower lip bifid. Corolla small; tube inclosed; upper lip straight, lower lip spreading a little. Connective fixed by the middle, remote, and extended behind, bearing a conform fertile cell.

275 S. plebe'ia (R. Br. prod. p. 501.) stem herbaceous, erect, branched, pubescent; leaves petiolate, oblong, wrinkled; whorls loose, about 6-flowered, racemose; racemes fastigiately-panicled; calyxes campanulate, the upper lip quite entire, and the teeth of the lower lip obtuse; corolla hardly longer than the calyx, the upper lip arched; connective bearing an empty cell behind. ♃. ? G. Native of the East Indies in humid places; of Nipaul, Oude, Hindostan, and Silhet, Wall.; Deyra Dhoon, and the banks of the river Jumna, Royle; Cashmere, Jacquemont; China, Reeves; Tropical New Holland, R. Br. S. minutiflòra, Bunge, enum, pl. chin. p. 50. S. brachiàta, Roxb. hort. beng. 4. fl. ind. 1. p. 146. S. parviflòra, Roxb. hort. beng. 4.? O'cymum fastigiàtum, Roth, nov. spec. 277. Lumnítzera fastigiàta, Spreng. syst. 2. p. 687. Leaves 2-3 inches long. Corolla having the upper lip and the middle segment of the lower lip emarginate.

Plebeian Sage. Pl. 2 to 3 feet.

276 S. Ægypti'aca (Lin. spec. p. 33.) stems procumbent, humble, much branched, clothed with hoary pubescence; cauline leaves small, remote, sessile, lanceolate-linear, acute, toothed, or the lower ones are oblong, narrowed into the petioles at the base; floral leaves minute; racemes elongated, a little branched; whorls remote, usually 2-flowered; calyx ovate, pubescent, having the upper lip shortly tridentate, and the lower lip bifid, with lanceolate subulately-acuminated teeth; corolla scarcely exceeding the calyx; connective bearing an empty cell behind. ☉. S. Native of the North and West coast of Africa, as of Egypt, Libya, Arabia, Canary Islands, Cape Verd Islands, Persia, &c. Thymus Sýrticus, Spreng. syst. 2. p. 697. Thymus hírtus, Viv. fl. libyc. p. 30. t. 14. f. 1. Melíssa perénnis, Forsk. fl. ægypt. p. 108. S. Ægyptìaca, Jacq. hort. vind. 2. p. 49. t. 108. Plant woody at base. Branches and leaves pubescent and canescent. Leaves ½ inch long. Corolla and stamens as in *S. plebèia*.

Egyptian Sage. Pl. ½ to ¾ foot.

277 S. pu'mila (Benth. lab. p. 726.) stem humble, erect, tufted, bearded by long stiff hairs; leaves approximate at the base of the stem, oblong or linear, narrowed at the base, much wrinkled, green on both surfaces: floral leaves minute; racemes a little branched; whorls remote, 2-6-flowered: upper whorls sterile; calyx ovate, pilose: upper lip shortly-tridentate: lower lip bifid, with broad-lanceolate, very acute teeth; corolla hardly exceeding the calyx; connective bearing an empty cell behind. ♃. H. Native of Cashmere, Royle. Very nearly allied to *S. Ægyptìaca*, but differs in the stems being erect and hardly branched, and in the root being perennial.

Dwarf Sage. Pl. ¼ to ½ foot.

Sect. XIII. Gymnósphace (from *γυμνος*, *gymnos*, naked; and *σφακος*, *sphacos*, sage; probably so called from the naked floriferous branches.) Benth. in Hook. bot. misc. 3. p. 374. lab. p. 310. Calyx ovate-tubular; upper lip entire, recurved; lower lip bifid. Tube of corolla short, ample, furnished with a ring of hair inside; lips short: upper one erect: lobes of lower lip spreading. Connective remote behind, deflexed, filiform, acute. Filaments erect, somewhat continuous with the connective. Perhaps a proper genus.

278 S. saxícola (Wall. ex Benth. in Wall. pl. rar. asiat. 1. p. 68. lab. p. 310.) stems tufted, branched at the base; floriferous branches erect, almost naked; radical leaves and lower cauline ones roundish-cordate, crenated, glabrous; cauline leaves very few, ovate-lanceolate, deeply-toothed: floral leaves minute, ovate; racemes a little branched; whorls loose, distinct, or the upper ones are spicate; calyx tubularly-campanulate, drooping, glabrous: teeth of lower lip lanceolate, acutish; corolla hardly exceeding the calyx; fertile anthers all adnate. ♃. F. Native of Nipaul, Wall. Stems numerous, from a thick radicant base, simple or branched under the raceme, glabrous at the base; axis of raceme villous. Radical leaves 2-3 inches long, pale beneath. Corolla small, blueish.

Rock Sage. Pl. ½ to 1½ foot.

Sect. XIV. Hemi'sphace (from *ἡμι*, *hemi*, half; and *σφακος*, *sphakos*, sage.) Benth. in Hook. bot. misc. 3. p. 374. lab. p. 310. Calyx tubular; upper lip truncate, tridentate; lower lip bifid. Tube of corolla furnished with a pilose ring inside; upper lip erectly-spreading, arched, and the lobes of the lower lip spreading. Connective remote behind, drawn out a little, deflexed, acute. Filaments straight, somewhat continuous with the connective. Herbs, native of the region of the Mediterranean, with the habit of those species contained in Sect. *Heterósphace*. Perhaps a proper genus.

279 S. verticilla'ta (Lin. spec. 37.) stems herbaceous, erect, pilosely-hispid; leaves cordate at the base, lyrate: terminal lobe very large, ovate, roundish, or entire, sinuately-crenated, hispid or woolly on both surfaces; racemes branched; whorls 20-40-flowered, remote; calyx tubular, villous: teeth of lower lip setaceously-acuminated; corolla about twice as long as the calyx: tube almost inclosed. ♃. H. Native of the South of Europe, and the North of Africa, and Caucasus.—Barrel, icon. t. 199. Hormìnum verticillàtum, Mill. dict. no. 3. Leaves large, irregularly crenated or sinuated, hispid on the nerves; floral leaves bractea-formed, broad, ovate, acuminated, ciliated, shorter than the calyxes. Calyx usually coloured. Corolla bluish violet. The whole plant is hoary.

Var. β. móllis (Benth. lab. p. 311.) leaves clothed with soft wool on both surfaces. ♃. H. S. móllis, Donn, hort. cant. edit. 1804, but not of Jacq. Corolla bluish purple.

Var. γ. pállida (Benth. lab. p. 311.) leaves almost quite entire, and are, as well as the stems, clothed with pale villi. ♃. H. Young leaves densely woolly beneath.

Whorled Sage. Fl. June, Nov. Clt. 1628. Pl. 2 to 3 feet.

280 S. napifòlia (Jacq. hort. vind. 2. p. 71. t. 152.) stem herbaceous, erect, pilosely-hispid; lower leaves lyrate, terminal lobe large, and is, as well as the superior leaves, ovate-oblong, sinuately-crenated, rounded, or cordate at the base, rather villous on both surfaces; racemes scarcely branched; whorls 6-12-flowered, remote; calyx tubular, villous, teeth all setaceously-acuminated; corolla half as long again as the calyx: tube inclosed. ♃. H. Native of Syria, among bushes about Smyrna, and of the island of Cois. S. verticillàta, var. D'Urv. in mem. soc. lin. par. 1. p. 260.? This hardly differs from *S. verticillàta*, except in the whorls being usually 10, but never 20-flowered, and in the corollas being about half the size. The leaves, as in *S. verticillàta*, are also sometimes entire. Corollas blueish purple.

Turnip-leaved Sage. Fl. June, July. Clt. 1776. Pl. 2 to 3 feet.

281 S. Russe'llii (Benth. lab. p. 312.) stems herbaceous,? erect, pubescent; leaves petiolate, oblong, acute, sinuately-toothed, thick, wrinkled, clothed with white wool on both surfaces: floral leaves ovate, acuminated, shorter than the calyxes; whorls loosely many-flowered, remote; calyx tubular: teeth all acuminated; corolla half as long again as the calyxes: tube inclosed. ♃. H. Native of Syria, near Aleppo, Russell. Flowers similar to those of *S. verticillàta*, but smaller; and the leaves are almost like those of *S. pomífera*.

Russell's Sage. Pl. 2 to 3 feet.?

† *Species, the names of which are alone known.*

1 S. bysanti'na, Juss. ex. Steud. nom. p. 725. 2. *S. Hallèri*, Fisch. ex Steud. nom. 726. 3. *S. rostràta*, Schmidt, abhandl. boh. wiss. 1. p. 11.

Cult. Many of the species of *Sálvia* are very showy when in blossom, particularly most of those species belonging to sections *Hormìnum*, *Eúsphace*, and *Calósphace*, § 7, *Longiflòræ*. Most of them thrive in a rich, light soil. The shrubby kinds are readily increased by young cuttings, under a hand-glass; those of the stove species in heat; the herbaceous perennial kinds by dividing at the root. The seeds of the annual and biennial kinds only require to be sown in the open border where they are intended to remain.

XXX. AUDIBE'RTIA (named after M. Audibert, a nurseryman of Tarascon.) Benth. in bot. reg. 17. no. 1469. lab. p. 312; but not of Benth. in bot. reg. 15. no. 1282.

Lin. syst. *Diándria*, *Monogýnia*. Calyx ovate, bilabiate; upper lip concave, entire, or shortly tridentate; lower lip bifid; throat naked inside. Corolla having the tube equal in length to the calyx, or exserted; limb bilabiate: upper lip bifid, with spreading lobes: lower lip trifid, having the lateral lobes ovate or oblong, and the middle lobe very broad and emarginate. The two lower stamens fertile, ascending, usually exserted; the rudiments of the two upper ones small and club-shaped or wanting; anthers dimidiate with a linear connective, which is articulated in the filament, ascending, bearing a one-celled linear anther at top, but not drawn out behind, or very shortly acuminated. Style subulately-bifid.—A californian genus intermediate between *Rosmarìnus* and sections *Echinósphace* and *Pychnósphace* of *Sálvia*.

1 A. grandiflòra (Benth. lab. p. 312.) stem tall, villous; leaves oblong-elliptic, sinuately-crenated, cordate at the base, wrinkled; whorls dense, many-flowered; bracteas broad-ovate, and are, as well as the calyxes, ample, membranous, coloured, and villous; stamens much exserted. ♃. ? H. Native of North California, Douglas. Lower leaves petiolate, 3-4 inches long, villous, pale or canescent beneath: upper ones sessile, smaller: floral leaves stem-clasping. Tube of corolla exserted. Upper lip of calyx obtuse.

Great-flowered Audibertia. Pl. 2 to 3 feet.

2 A. hu'milis (Benth. lab. p. 313.) suffruticose; leaves approximate at the base of the stem, petiolate, oblong-lanceolate, obtuse, crenulated, narrowed a long way at the base, wrinkled, canescent: floral leaves and bracteas lanceolate, acute, villous; genitals exserted. ♄. F. Native of North California, Douglas. Habit of a small variety of *Sálvia officinàlis*. Stem leafy and hoary at bottom, but villous at top. Lower leaves 1 to 1½ inch long. Whorls many-flowered. Upper lip of calyx tridentate. Tube of corolla hardly exserted.

Humble Audibertia. Shrub ½ foot.

3 A. stachyoi'des (Benth. lab. p. 313.) suffruticose; branches stiff, leafy; leaves on short petioles, oblong-lanceolate, obtuse, crenulated, narrowed at the base, wrinkled, canescent beneath: floral leaves and bracteas ovate, acuminated; genitals rather shorter than the corolla. ♄. F. Native of North California. Branches tomentosely-pubescent, clammy and villous above, as well as the bracteas and calyxes. Leaves 2-3 inches long, green above; petioles dilated, and stem-clasping as in the preceding species. Teeth of calyx spiny.

Stachys-like Audibertia. Shrub.

4 A. nívea (Benth. lab. p. 313.) suffruticose; branches stiff, clothed with white tomentum above; leaves nearly sessile, lanceolate, obtuse, rounded at the base, wrinkled, clothed with white tomentum on both surfaces: floral leaves and bracteas ovate-lanceolate; raceme simple; genitals exserted. ♄. F. Native of North California, Douglas. Leaves distant, 1 to 1½ inch long. Lips and teeth of calyx almost obsolete. Tube of corolla a little exserted.

Snowy Audibertia. Shrub.

5 A. inca'na (Benth. in bot. reg. t. 1469.) suffruticose; branches divaricate, branched, canescent; leaves obovate-oblong, obtuse, quite entire, narrowed at the base, canescent: floral leaves broad-ovate; racemes simple; genitals exserted. ♄. F. Native of North-west America, on the plains of the river Columbia, near Priest's rapid, and on argillaceous hills. Leaves 1 to 1½ inch long, pubescent; upper floral leaves orbicular, sessile, ciliated. Calyx pubescent; upper lip entire, obtuse. Corolla pale blue; tube exserted.

Hoary Audibertia. Fl. July, Sept. Clt. 1827. Shrub 1½ foot.

6 A. polysta'chya (Benth. lab. p. 314.) suffruticose, clothed with hoary tomentum; leaves petiolate, oblong-lanceolate, obtuse, crenulated, narrowed at the base, wrinkled, hoary on both surfaces: floral leaves and bracteas loose, lanceolate; racemules numerous, approximating into a dense, elongated panicle; genitals much exserted. ♄. F. Native of North California, Douglas. Upper lip of calyx obtuse, almost entire. Tube of corolla scarcely exserted.

Many-spiked Audibertia. Shrub 3 to 4 feet.?

Cult. The species will grow in common garden soil, and will be readily increased by cuttings and seeds. Being rather tender, they will require some shelter in winter.

XXXI. ROSMARI'NUS (from *ros*, *dew*, and *marinus*, of the sea, on account of its affecting maritime situations.) Tourn. inst. t. 92. Lin. gen. no. 38. Schreb. gen. no. 49. Juss. gen. p. 111. Benth. lab. p. 314.

Lin. syst. *Diándria*, *Monogýnia*. Calyx ovate-campanulate, bilabiate; upper lip entire; lower lip bifid; throat naked inside. Corolla with an exserted tube, glabrous inside; throat a little inflated; limb bilabiate; lips nearly equal: upper lip erect, emarginate: lower lip spreading trifid: lateral lobes oblong, erect, twisted a little: middle lobe, large, concave, dependent. Stamens 2, ascending, exserted from the superior lip, without any rudiments of upper ones; filaments inserted in the throat of the corollas, shortly-toothed near the base; anthers linear, somewhat 2-celled, with connate margins, and divaricate-confluent cells. Upper lobe of style very short; stigmas minute, terminal. Achenia dry, smooth. A South European shrub, with the calyx of *Sálvia* and *Audibértia*, and corolla and stamina of *Monárda*, unless the tooth at the base of each filament, which is probably an appendage analogous to those of *Ocymum* and *Phlòmis*.

1 R. officina'lis (Lin. spec. p. 33.) ♄. H. Native of Europe and Africa, in the region of the Mediterranean; as of Portugal, Spain, South of France, Italy, Naples, Sicily, Greece, Syria, Balearic Islands, &c., on dry hills and among rocks. Sibth. and Smith, fl. græc. 1. p. 11. t. 14. Woodv. med. bot. t. 87. R. latifolià, Mill. dict. no. 2.—Riv. mon. irr. t. 39.—Blackw. icon. 159.—Sabb. hort. rom. 3. t. 67. A densely-branched and densely-leafy shrub. Leaves sessile, linear, entire, with revolute margins, canescent beneath. Flowers disposed in short axillary racemes, few, approximate, almost sessile. Calyx purplish. Corollas white, or pale blueish-purple. Rosemary has a fragrant smell and a bitter, pungent taste. The leaves and tops are strongest in their sensible qualities; the flowers ought not to be separated from their calyxes, the active matter residing principally, if not wholly, in the latter. Rosemary yields its qualities completely to rectified spirit, but only partially to water. The leaves and tops distilled with water yield a thin, light, pale, essential oil, of great fragrancy, though not quite so agreeable as the rosemary itself. From one hundred pounds of the herb in flower eight ounces of oil have been obtained. The virtues of rosemary depend entirely on its essential oil, which seems to be combined with camphor, not only from its peculiar taste, but

from its possessing chemical properties which depend upon the presence of camphor, and from its depositing crystals of camphor when long kept. Rosemary is reckoned one of the most powerful of those plants which stimulate and strengthen the nervous system; it has, therefore, been recommended in various affections supposed to proceed from debilities or defective excitement of the brain and nerves; as in certain headachs, deafnesses, giddinesses, palsies, &c., and in some hysterical and dyspeptic symptoms.

The ancients were well acquainted with this shrub; and it is mentioned by Dioscorides, Galen, and Pliny. It has ever been treated with great respect for comforting the brain and strengthening the memory; hence the frequent allusions to this property in our old poets. Its supposed quality of strengthening the memory made rosemary an emblem of fidelity in lovers: it was accordingly worn at weddings, and perhaps, on the same principle, at funerals. Rosemary is a principal ingredient in what is known by the name of Hungary water; and the herb is taken as tea by many persons for headachs, and disorders called nervous.

There are several varieties of the rosemary, as, 1. R. angustifòlia, Mill. dict. no. 1. The narrow-leaved or garden rosemary. 2. The silver-striped-leaved rosemary. 3. The golden-striped-leaved rosemary.

Officinal, or Common Rosemary. Fl. Jan. April. Clt. 1548. Shrub 4 to 12 feet.

Cult. Rosemary thrives best on dry rocky soils by the seaside, in the countries where it grows wild. It is hardy enough to bear our winters in the open air, provided it be planted upon a poor, dry, gravelly soil, or against a wall. Rosemary, if by accident rooted in a wall, will endure the greatest cold of our winters. The striped-leaved varieties are more tender, and therefore require the protection of a frame or green-house in winter. Rosemary may be increased by planting the young cuttings in the spring just before the plants begin to shoot, in light earth under a hand-glass. When the cuttings are rooted transplant them where they are intended to remain in September.

XXXII. MONA'RDA (so called from Nic. Monárda or Monárdes, a physician of Seville in the sixteenth century.) Benth. lab. p. 315. Monárda species of Lin. and other authors. Monárda and Cheilýctis, Rafin. Monárda and Coryánthus, Nutt.

Lin. syst. *Diándria, Monogýnia.* Calyx tubular, elongated, 15-nerved, nearly equal, 5-toothed; throat villous inside, rarely almost naked. Corolla with an exserted or inclosed tube, glabrous or pubescent inside, exannulate; throat dilated a little; limb bilabiate; lips linear or oblong, nearly equal: upper lip erect, entire, or emarginate: lower lip spreading, shortly trifid at apex: the lateral lobes ovate, obtuse: the middle one narrower, oblong, retuse, or emarginate. Stamens 2 (inferior) ascending, usually exserted from the upper lip of the corolla; the rudiments of the two superior ones almost wanting; filaments toothless, inserted at the throat of the corolla; anthers linear, somewhat 2-celled: cells divaricate, confluent, with connate margins. Style almost equally bifid at top; stigmas minute, terminal. Achenia dry, smooth.—Herbs, with entire, usually toothed or crenated leaves. Flowers collected into a few dense whorls, propped by bracteas.

Sect. I. Eumona'rda (from *eu*, well, and *Monárda*. This section is supposed to contain the true species of the genus.) Benth. lab. p. 726. Genitals much exserted.

1 M. dídyma (Lin. spec. p. 32.) leaves petiolate, ovate-lanceolate, acuminated, roundly-subcordate at the base, rather hispid on both surfaces, rarely glabrous: floral leaves sessile, and are, as well as the outer bracteas, oblong-lanceolate, narrowed a long way at the base, coloured; calyx incurved, striated, coloured, with an almost naked throat; corollas quite glabrous. ♃. H. Native of North America, from Canada to North Carolina. Curt. bot. mag. t. 548. Mill. fig. t. 183. f. 1. Trew. ehret. t. 66. M. fistulòsa, var. Curt. bot. mag. t. 145.? S. coccínea, Michx. fl. bor. amer. 1. p. 16. M. purpùrea, Lam. dict. 4. p. 256. M. Kalmiàna, Pursh, fl. amer. sept. 1. p. 17. t. 1. bad. M. purpuráscens, Wender. ind. sem. hort. marb. 1828. M. Oswegoensis, Bart, prod. fl. pennsyl. 1. p. 34.? Stems fistular, acutely-tetragonal. Leaves 2-3 inches long. Whorls solitary or twin. Bracteas, calyxes, and corollas scarlet. The leaves emit a very grateful, refreshing odour.

Didymous Monarda, or Oswega tea. Fl. June, August. Clt. 1752. Pl. 2 to 3 feet.

2 M. fistulòsa (Lin. spec. p. 32.) leaves petiolate, ovate-lanceolate, roundly-subcordate at the base, glabrous, pubescent or hispid on both surfaces: floral leaves sessile, and are, as well as the outer bracteas, a little coloured; calyxes a little incurved, scarcely coloured: throat hispid inside; corolla villous. ♃. H. Native of North America, among bushes, &c., very common, West Coast, Canada, the States; Texas, and near Jalapa in Mexico. Rchb. icon. exot. 2. p. 28. t. 172. Mill. fig. t. 183. f. 2. M. altíssima, Willd. enum. p. 33. Rchb. icon. exot. 2. p. 27. t. 170. M. longifòlia, Lam. dict. 4. p. 255. M. glàbra, Lam. dict. 4. p. 256. M. rugòsa, Ait. hort. kew. ed. 2d. 1. p. 51. M. oblongàta, Ait. hort. kew. ed. 2d. 1. p. 51. M. purpùrea, Pursh, fl. amer. sept. 1. p. 17, but not of Lam. M. clinopòdia, Lin. spec. p. 32. M. allophýlla, Michx. fl. bor. amer. 1. p. 16. M. affìnis, Link, enum. 1. p. 9. Rchb. icon. exot. 2. p. 31. t. 182. M. undulàta, Tausch, Rchb. icon. exot. 2. p. 31. t. 181. M. mèdia, Willd. enum. p. 32. Sweet, fl. gard. 1. p. 98. M. violàcea, Desf. cat. hort. par. p. 66. M. involucràta, Wender. in ind. sem. hort. marb. 1828. M. commutàta, Wender, l. c. M. lilácina, Wender, l. c. M. hýbrida, Wender, l. c. M. barbàta, Wender, l. c. M. vàrians, Bart. prod. fl. penns. 1. p. 34.? M. cœrùlea, M. cristàta, M. dùbia, &c., Hortul. This species is very variable in downiness, size and colour of flowers and bracteas, and differs from *M. dídyma* in being taller; in the calyxes and bracteas being less coloured, in the corollas being smaller, more or less pubescent, and particularly in the throat of the calyx being hispid from pili inside, and usually closed. Stems fistular or filled. Leaves green or canescent. Corollas pale red or purplish, rarely deep violet or purple, never scarlet.

Var. β. *móllis* (Lin. spec. 32.) leaves clothed with soft pubescence; upper lip of corolla densely bearded. ♃. H. Native of the northern regions of North America; as the species is of the southern regions. M. móllis, Lin. amœn. acad. 3. p. 399. Rchb. icon. exot. 2. p. 28. t. 171. M. menthæfòlia, Graham, in edinb. phil. journ. vol. 21. (1829) p. 347. Hook, bot. mag. t. 2958.

Fistular-stemmed Monarda. Fl. June, Aug. Clt. 1656. Pl. 2 to 5 feet.

3 M. Bradburia'na (Beck, in Sill. amer. journ. scienc. 10. p. 260.) leaves nearly sessile, ovate-lanceolate, rounded at the base, clothed with canescent tomentum beneath, pilose on both surfaces: floral leaves and outer bracteas roundedly-sub-cordate at the base, coloured; calyx smoothish, striated, contracted above, with a hairy throat, and subulate-awned teeth; corolla hardly twice as long as the calyx, almost glabrous outside: upper lip very slender, and bearded at top. ♃. H. Native of North America in uncultivated places, near St. Louis, Beck; along the Missouri and Ohio, Torrey. M. fistulòsa, Hook. bot. mag. t. 3310, exclusive of the syn. Stems glabrous or ciliated on the angles. Whorls solitary, size of those of M. fistulòsa. Corolla pale, scarcely twice as long as the calyx; lower lip marked with purple dots.

Bradbury's Monarda. Pl. 3 feet.

4 M. Russellia'na (Nutt. trav. in ark. territ. p. 141.) almost glabrous; leaves nearly sessile, lanceolate, roundly-subcordate at the base: floral leaves and outer bracteas sessile, coloured, narrowed a long way at the base, acute, mutic; calyx nearly glabrous, with an almost naked throat, and nearly equal, lanceolate, short stiff teeth; corolla glabrous: tube much exserted: lower lip dotted. ♃. H. Native of the Arkansas, and among the Rocky Mountains, Sims, bot. mag. t. 2513. Hook, exot. fl. 2. t. 130. Sweet, fl. gard. 2. t. 166. Stem glabrous or ciliated on the angles. Leaves shining beneath, smoothish or ciliated on the edges, remotely toothed; floral leaves and outer bracteas purplish. Corolla slender, pale, elongated, dotted on the lower lip. (fig. 77.)

FIG. 77.

Russell's Monarda. Fl. Aug. Sept. Clt. 1823. Pl. 2 to 3 feet.

Sect. II. Cheily'ctis (from χειλος, *cheilos*, a lip.) Benth. lab. p. 726. Cheilýctis, Rafn. Coryánthus. Nutt. in amer. phil. trans. 5. p. 186. Stamens shorter, or equal in length to the upper lip of the corolla.

5 M. puncta'ta (Lin. spec. p. 32.) clothed with fine pubescence; leaves petiolate, lanceolate, narrowed at the base: floral leaves and outer bracteas sessile, coloured a little at the base, mutic; calyxes pubescent, having the throat shortly bearded, and the teeth nearly equal, lanceolate, short, and stiff; corolla glabrous: tube hardly exserted: lower lip dotted. ♃. H. Native from Virginia and New Jersey to Florida, Carolina, and New Orleans. Andr. bot. rep. 8. t. 546. Ker. bot. reg. t. 85. M. lùtea, Michx. fl. bot. amer. 1. p. 16. Stem ascending, branched. Leaves 2 inches long, sparingly toothed or entire. Whorls few, remote, all shorter than the leaves. Genitals equal in length to the upper lip of corolla. Corolla yellowish, dotted with brown.

Dotted-flowered Monarda. Fl. June, Oct. Clt. 1714. Pl. 1 to 1½ foot.

6 M. arista'ta (Nutt. trav. in ark. territ. ex Benth. lab. p. 318.) canescent; leaves oblong-lanceolate, narrowed at the base; floral leaves and outer bracteas sessile, a little coloured, subulately awned at apex; calyx striated, pubescent, with a bearded throat, and nearly equal, long, subulate teeth, which are pencilled at apex; tube of corolla hardly exceeding the calycine teeth. ♃. H. Native of Arkansas; Texas, at Bejar; and Rio de la Trinidad, &c. M. citriodòra, Cerv. ex Lag. nov. gen. et spec. 2. Habit and stature of *M. punctàta*. Leaves sharply and remotely toothed. Bracteas ciliated, often purplish or yellowish. Corolla yellowish?: lower lip almost dotless. Stamens shorter than the upper lip of corolla.

Awned-bractead Monarda. Fl. July, Sept. Clt. 1825. Pl. 1 to 1½ foot.

† *Species not sufficiently known.*

7 M. sca'bra (Beck, in Sill. amer. journ. 10. p. 260.) stem nearly glabrous; leaves ovate-lanceolate, subcordate, serrated, with revolute edges, scabrous, thick, dotted, on short petioles, rather villous; bracteas ovate-lanceolate; whorls of flowers large, terminal, by threes; calyx hairy, with a densely bearded throat, and short, acute, erectish teeth; corolla hairy; stamens equal in length to the upper lip. ♃. H. Native in woods on the banks of the Mississippi, near St. Louis. Stem branched. Leaves 2 to 2½ inches long. Corolla pale purple.

Scabrous Monarda. Pl. 3 feet.

8 M. gra'cilis (Pursh, fl. amer. sept. 1. p. 17.) quite glabrous; heads small, nearly naked, lateral and terminal; outer bracteas linear, ciliated; calyxes pubescent, ciliated; corolla short, very slender, glabrous; leaves linear-lanceolate, acuminated, serrated, glabrous; stem obtuse-angular, glabrous. ♃. H. Native of South Carolina and Virginia, among the mountains. Perhaps a species of *Blephília*; but there are no specimens in Pursh's herbarium to ascertain this point. Corollas purple.

Slender Monarda. Pl. 1 to 2 feet.

N.B. M. praténsis, M. rígida, and M. virgàta, Rafin, med. fl. 2. p. 37. not being recognizable by the descriptions given, are therefore excluded.

Cult. The species are of easy culture and propagation, growing freely in any soil; and are readily increased by dividing at the root. The *M. punctàta* and *M. aristàta* are more shy of cultivation than the others; and for this reason it is safer to grow them in pots, in a mixture of peat and sand.

XXXIII. BLEPHI'LIA (probably from βλεφαρις, *blepharis*, the eye-lash, in allusion to the ciliated bracteas.) Rafin. ex Benth. lab. p. 319. Monárda species of Lin. and other authors.

Lin. syst. *Diándria*, *Monogýnia*. Calyx ovate-tubular, 13-nerved, naked inside the throat, bilabiate; upper lip tridentate, with the teeth awned; lower lip bidentate, with the teeth mutic, or shortly awned. Corolla having the tube a little exserted, and exannulate inside; the throat dilated, and the limb bilabiate: lips nearly equal: the upper one erect and entire: the lower one spreading and trifid: the lateral lobes ovate-roundish, and the middle one narrower, oblong, retuse and emarginate. Rudiments of upper stamens wanting, or small and filiform: lower two fertile, ascending, exserted from the upper lip of the corolla; filaments toothless, inserted in the throat of the corolla; anthers linear, somewhat 2-celled, with connate margins, and divaricate confluent cells. Style equally bifid at top; stigmas minute, terminal. Achenia dry, smooth.—Herbs, with a habit and character between *Monárda* and *Zizíphora*; the leaves of the first, and the flowers of the latter genus. Whorls numerous, globose: upper ones approximating into a spike.

1 B. cilia'ta (Rafin, journ. phys. 89. 98.) leaves almost sessile, ovate-oblong, narrowed at the base, canescent beneath; lower floral leaves conforming to the cauline ones: upper ones and outer bracteas ovate, acute, coloured, equalling the calyxes. ♃. H. Native of Pennsylvania, Virginia, Carolina, Missouri, and near St. Louis. Monárda ciliàta, Lin. spec. 32, but not of Michx.—Mor. hist. 3. p. 374. sect. 11. t. 8. f. 6.—Pluck. phyt. t. 24. f. 1. alm. t. 164. f. 3. Stems pubescent, furnished with retrograde hairs on the angles. Leaves 2 inches long, nearly glabrous or pubescent. Whorls all distinct. Bracteas ciliated, reddish at top. Corollas blue, marked with dark purple spots.? Root creeping.

Ciliated Blephilia. Fl. July. Clt. 1798. Pl. 1 to 2 feet.

2 B. hirsu'ta (Benth. lab. p. 320.) leaves petiolate, ovate, roundly cordate at the base, hairy on both surfaces; lower floral leaves conforming to the cauline ones: upper floral leaves and bracteas linear-subulate, shorter than the calyxes; calyxes pubescent, recurved. ♃. H. Native of Virginia, on the moun-

tains; at Lake Michigan; and on the banks of the Missouri. Monárda hirsùta, Pursh, fl. amer. sept. 1. p. 19. Monárda ciliàta, Michx, fl. amer. bot. 1. p. 16. but not of Lin. Habit more branched and loose than in *B. ciliàta*. Whorls more numerous: upper ones approximate. Calyx smaller, and more hairy. Corolla more exserted, and nearly glabrous, purple or blue.

Hairy Blephilia. Fl. July, Sept. Clt. 1798. Pl. 1 to 2 feet.

Cult. For culture and propagation see *Monárda*, p. 758.

XXXIV. ZIZI'PHORA (said to be from *zizi* of the Indians; and φορεω, *phoreo*, to bear.) Lin. gen. no. 36. Schreb. gen. no. 47. Juss. gen. 111. Gærtn. fruct. 1. p. 316. t. 66. Benth. lab. p. 320.

Lin. syst. *Diándria, Monogýnia.* Calyx tubular, elongated, 13-nerved, villous inside the throat, bilabiate; upper lip tridentate, with mutic teeth. Corolla having the tube hardly exserted, and exannulate inside; the throat dilated, and the lips nearly equal: upper lip erect, entire: lower one spreading, trifid, with rounded lobes, the middle lobe longer and emarginate. Rudiments of the superior stamens almost wanting: the 2 lower ones fertile, ascending under the upper lip, and equal in length to it, or longer; filaments inserted at the throat of the corolla, toothless; anthers linear, somewhat 2-celled, with divaricate, confluent cells, and subconnate margins. Upper lobe of style very short; stigmas minute, terminal. Achenia dry, smooth.—Herbs or subshrubs, with a habit between *Monárda* and *Thỳmus*. Leaves quite entire, or furnished with a few minute teeth, lined with diverging veins beneath; floral leaves almost similar to the others, but sometimes broader, and sometimes narrower. Whorls few-flowered, usually approximate at the tops of the branches. Pedicels short, flattened, erect. Bracteas almost wanting. Flowers intermediate between those of *Blephília* and *Thỳmus*.

§ 1. *Permanent suffruticose plants.*

1 Z. clinopodioi'des (Bieb. fl. cauc. 1. p. 17.) suffruticose; leaves ovate-oblong or lanceolate; floral leaves similar to the others, or narrower, loose; whorls approximating into a roundish terminal head; calyx clothed with hoary pubescence, or ciliated with a few hairs. ♄. F. Native of Armenia, Iberia, Caucasus, Siberia, Altaian mountains, in grassy places. Habit of a large variety of *Thỳmus serpýllum*. Branches diffuse, purplish, canescent from short tomentum, like the leaves and calyxes. Corolla bluish purple. Stamens a little exserted.

Var. α, *canéscens* (Benth. lab. p. 321.) leaves for the most part narrow; calyxes less pilose. ♄. F. Cunìla capitàta, Lin. spec. p. 30. Thỳmus punctàtus, Willd. phyt. 1. p. 8. ex Rœm. et Schultes. Thymus lùcidus, Ehrh. beitr. 7. p. 150. ex Rœm. et Schultes. Z. clinopodioìdes, α. Cunìla, and β. acinoìdes, Rudolph. in mem. acad. sc. petrop. 2. p. 313. Z. tenùior, Falck. topogr. 1. p. 98. ex Rudolph. l. c. Z. Mussìni, Adam. ex Rudolph. l. c. Z. serpyllàcea, Bieb. fl. cauc. 1. p. 17. Rudolph. in mem. acad. sc. petrop. 2. p. 315. t. 12.

Var. β, *mèdia* (Benth. lab. p. 321.) leaves for the most part ovate; calyxes rather pilose. ♄. F. Native of the Caucasus, and the Altaian mountains. Z. clinopodioìdes, Rudolph. in mem. acad. petrop. 2. p. 311. t. 11. exclusive of var. α. and β. Z. serpyllàcea, Sims, bot. mag. t. 906. bad. Z. mèdia, Link, enum. 1. p. 17. Corollas reddish purple.

Clinopodium-like Ziziphora. Fl. July, Aug. Clt. 1803. Shrub trailing, ½ to 1 foot long.

2 Z. dasya'ntha (Bieb. fl. cauc. 1. p. 18.) suffruticose; leaves ovate or oblong; floral leaves conforming to the others, loose; whorls approximating into an oblong head, or the lower ones are distinct; calyx hispid, very pilose. ♄. F. Native of Caucasus and Iberia, in alpine places. Z. Puschkìni, Adams, in Web. et Mohr. cat. 1. p. 42. ex Rœm. et Schultes. Sims. bot. mag. t. 1093. bad. This differs from *Z. clinopodioìdes*, in the broader leaves, longer heads of flowers, and the very hispid calyxes; the calycine teeth are also a little longer, the corollas usually shorter, and the stamens rarely exserted. Corollas purplish blue.

Thick-flowered Ziziphora. Fl. June, Aug. Clt. 1803. Shrub procumbent.

3 Z. cane'scens (Benth. lab. p. 321.) suffruticose?; leaves ovate, clothed with hoary pubescence on both surfaces; floral leaves similar to the others; whorls approximate into a terminal head; calyx clothed with soft pubescence. ♄.? F. Native of Syria and Egypt, Labillardiere. Habit of *Z. Hispánica*. Flowers capitate, as in *Z. clinopodioìdes*, but the leaves are broader, and the calyxes smaller; but is distinguished from both in the hoary pubescence.

Canescent Ziziphora. Shrub.

§ 2. *Annual plants.*

4 Z. Hispa'nica (Lin. spec. p. 31.) annual; leaves nearly sessile, ovate or oblong; floral leaves rhomboid, longer than the calyxes; whorls distinct, axillary, approximate, 6-10-flowered; calyxes sessile. ⊙. H. Native of Spain. Lam. ill. t. 18. f. 1.—Herb branched at base; branches stiff, villous. Teeth of calyx connivent. Corolla hardly exceeding the calyx, purplish blue.

Spanish Ziziphora. Fl. June. Clt. 1759. Pl. ½ to 1½ foot.

5 Z. acinoi'des (Lin. spec. p. 31.) annual; leaves on short petioles, broad-ovate: floral ones similar to the others, longer than the calyxes; whorls few, distinct, axillary, loose, 6-10-flowered; calyxes pedicellate. ⊙. H. Native of Spain. Allied to *Z. Hispánica*; but the stems are longer and looser, the flowers larger, and the calyxes pilosely hispid.

Acinos-like Ziziphora. Fl. July, Aug. Clt. 1786. Pl. ½ foot.

6 Z. capita'ta (Lin. spec. p. 31.) leaves lanceolate, narrowed at the base: floral ones very broad, rhomb-ovate, acuminated; whorls approximating into a terminal, nearly globose head; calyxes pilosely hispid. ⊙. H. Native of the region of the Mediterranean, as of the south of Russia, in fields and on hills; on Mount Atlas, in cultivated ground; Spain; south of Italy, Armenia, Caucasus, Island of Cyprus, Tauria; Soongarian mountains, in Siberia, &c. Rudolph. in mem. acad. sc. petrop. 2. p. 308. t. 10. Lam. ill. t. 18. f. 3. Sibth. et Smith, fl. græc. 1. p. 10. t. 13.—Buxb. cent. 3. p. 28. t. 51. f. 1.—Mor. hist. sect. 11. t. 8. f. 5. Herb divaricately branched, pubescent. Floral leaves ciliated. Corolla a little longer than the calyx, red: tube slender, exserted. Stamens equalling the corolla.

Capitate-flowered Ziziphora. Fl. July, Aug. Clt. 1752. Pl. ½ to 1½ foot.

7 Z. tenu'ior (Lin. spec. p. 31.) leaves lanceolate, narrowed at the base; floral leaves almost conform to the rest; whorls all distinct, axillary; calyx very pilose, hispid; corolla exserted a very little from the calyx. ⊙. H. Native of the region of the Mediterranean; of the south of Russia, on hills; Spain, Mount Atlas, Caucasus, Altaia, &c. Lam. ill. t. 18. f. 2. S. spicàta, Cerv. ann. sc. matr. 4. p. 259. Z. serpyllàcea, Tenore, syll. p. 16.? but not of Bieb. Branches numerous, pubescent. Leaves 1 inch long, quite entire or denticulated, ciliated on the margins and middle nerve, especially the upper ones, rarely all

naked; floral leaves longer than the flowers. Teeth of calyx connivent. Corolla purplish. Stamens inclosed.

Slenderer Ziziphora. Fl. June, July. Clt. 1752. Pl. ½ to 1 foot.

8 Z. Tau'rica (Bieb. fl. taur. 3. p. 259.) leaves lanceolate, narrowed at the base: floral ones similar to the others; whorls all distinct, axillary; calyx very pilose, hispid; corolla twice as long as the calyx. ⊙. H. Native of Tauria, in dry gravelly places; Arabia and Persia. Corollas reddish purple. Very like *Z. tenùior*, but differs in the corollas being as large as those of *Thymus alpìnus*.

Taurian Ziziphora. Fl. June, Sept. Clt. 1816. Pl. ½ foot.

† *A doubtful species.*

9 Z. Java'nica (Blum. bijdr. p. 822.) flowers capitately spicate, terminal; bracteas subulate, ciliated; calyxes villous; leaves petiolate, ovate, erosely and coarsely serrated, clothed with prostrate pubescence on both surfaces. ⊙. ? H. Native of Java, in the province of Cheribon, on the top of the burning Mount Tjerimai. Upper lip of corolla reflexed, entire: lower one 3-lobed. Stamens 2, hardly exserted. Stigma unequally bifid.

Java Ziziphora. Pl. ?

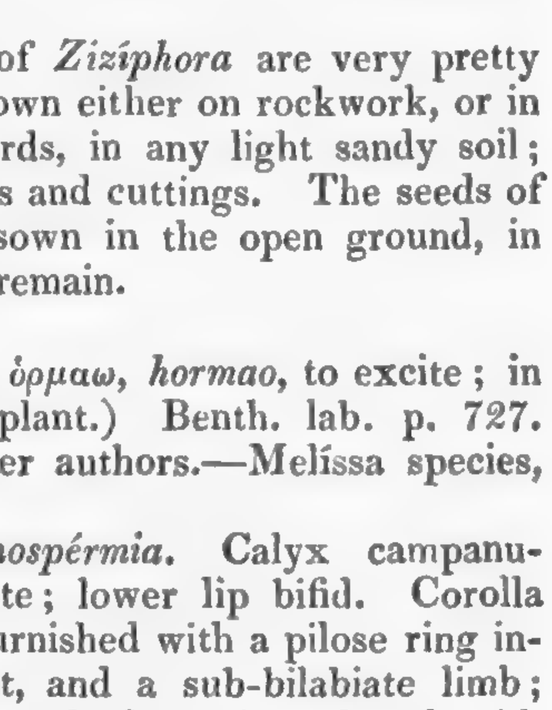
N.B. *Z. thymoìdes* of Rœm. et Schultes, is an imaginary species.

Cult. The perennial species of *Zizíphora* are very pretty rock plants. They should be grown either on rockwork, or in small pots well drained with sherds, in any light sandy soil; they are readily increased by seeds and cuttings. The seeds of annual species only require to be sown in the open ground, in April, where they are intended to remain.

XXXV. HORMI'NUM (from *ὁρμαω, hormao*, to excite; in allusion to the qualities of the plant.) Benth. lab. p. 727. Hormìnum species, Lin. and other authors.—Melíssa species, Jacq.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, bilabiate; upper lip tridentate; lower lip bifid. Corolla with an exserted tube, which is furnished with a pilose ring inside, an elongated widened throat, and a sub-bilabiate limb; the upper lip truncate, emarginate: the lower lip 3-lobed, with broad, short, rounded segments. Stamens 4, all fertile, ascending, didynamous: lower ones the longest; anthers cohering by pairs, linear, with divaricate cells. Style shortly bifid at apex: lobes subulate; stigmas minute. Achenia smoothish.—A tufted perennial herb, with numerous radical leaves, simple, almost naked stems, and purplish blue flowers.

FIG. 78.



1 H. Pyrena'icum (Lin. spec. p. 831.) ♃. H. Native of the temperate parts of Europe, on the mountains; as of the Pyrenees, Alps of Vallais and Salisburgh, &c. Sweet, fl. gard. 3. t. 252. Melíssa Pyrenàica, Jacq. hort. vind. 2. t. 183. Lam. ill. t. 515. Leaves almost all radical, petiolate, ovate, obtuse, deeply crenated, truncate at the base, or subcordate, veiny, green on both surfaces, glabrous, or rather hispid on the nerves. Floriferous stems erect, simple, furnished with 1 or 2 pairs of small, sessile, crenated leaves. Whorls distant, 6-flowered, secund. Floral leaves bractea-formed, shorter than the calyxes. Flowers on short pedicels, nutant. Calyx 13-nerved, often coloured at top, glabrous or hispid on the nerves; lips spreading: teeth acute. Corolla bluish purple, 9-10 lines long (fig. 78.)

Pyrenean Horminum. Fl. June, July. Clt. 1820. Pl. ½ to 1 foot.

Cult. This is a very elegant plant when in blossom. It will grow in the open border, and is readily increased by dividing at the root, or by seed. In severe winters it is sometimes liable to be killed by damp; therefore a reserve plant or two should be grown in pots, so that they may be protected by placing them under a frame in winter.

Tribe IV.

SATUREI'NEÆ (so called from containing genera agreeing with *Saturèia* in the characters given below.) Benth. lab. p. 324. Calyx 5-toothed, equal or bilabiate, with the upper lip tridentate, and the lower one bifid. Tube of corolla exannulate inside, shorter, or scarcely longer than the imbricate calyx and bracteas; limb of corolla sub-bilabiate: upper lip flat, entire, or emarginately bifid: lower lip spreading, trifid, with flat, nearly equal lobes; or the middle lobe is rather the broadest. Stamens distant, straight, diverging, or scarcely ascending, equal, or the upper ones are shorter or abortive. The tetrandrous genera of this tribe are intermediate between tribe *Menthoìdeæ* and *Melissíneæ;* but the corolla is more decidedly bilabiate than in the former tribe; and the stamens are seldom ascending, as in the latter; from most genera of which they are also distinguished by the shortness of the tube of the corolla. The diandrous genus *Cunìla* connects tribe *Monárdeæ* with *Melissíneæ*.

XXXVI. BYSTROPO'GON (from *βυω, byo*, to close; and *πωγων, pogon*, a beard; the throat of the calyx is closed by villi inside.) Benth. lab. p. 324.—Bystropògon species, L'Her. sert. angl. 19.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx 10-13-nerved, campanulate or tubular, equal, 5-toothed; throat villous inside. Corolla with an inclosed tube, and sub-bilabiate limb; upper lip erectish, bifid; lower lip spreading, trifid: lobes all flat and entire. Stamens 4, erect, distant, shorter than the corolla, didynamous: lower ones the longest; filaments glabrous; anthers 2-celled: cells parallel. Disk equal, glandless. Style shortly bifid at apex: lobes nearly equal, linear, a little thickened, obtuse, stigmatiferous at top. Achenia dry, smooth.—Shrubs. Flowers small, cymose in the first section; the cymes dichotomous, subcorymbose, or panicled; in the second section, disposed in dense spicate whorls. Bracteas lanceolate or subulate. This genus is scarcely distinct from *Méntha*.

Sect. I. Bystropògon (see genus for derivation.) Benth. lab. p. 325. Calyx campanulate, 10-nerved. Flowers loosely cymose.

1 B. puncta'tus (L'Her. sert. angl. p. 20. t. 23.) leaves crenated, green on both surfaces, glabrous, or hardly tomentose beneath; cymes axillary, pedunculate, corymbose; calycine teeth ovate. ♄. G. Native of Madeira. Branches glabrous or pubescent. Leaves 1 to 1½ inch long. Corollas downy outside, pale purple. ?

Dotted Bystropogon. Fl. July, Sept. Clt. 1775. Shrub 2 to 3 feet.

2 B. Canarie'nsis (L'Her. sert. angl. p. 20.) branches very villous; leaves crenated, villous or glabrous, green on both surfaces; cymes axillary, pedunculate, corymbose; calycine teeth

subulate, shorter than the tube. ♄. G. Native of the Canary Islands. Méntha Canariénsis, Lin. spec. 807. Heliotròpium Canariénse, &c., Comm. hort. amst. 2. p. 129. t. 65. Floriferous branches very hispid. Corollas white. Very like the preceding, but differs in the hairiness, and the more slender calycine teeth.

Canary-Island Bystropogon. Fl. June, Aug. Clt. 1714. Shrub 3 to 4 feet.

3 B. plumòsus (L'Her. sert. angl. p. 20. t. 22.) leaves serrately crenated, clothed with fine tomentum above, and white tomentum beneath; cymes axillary, dense; calycine teeth subulate. ♄. G. Native of the Canary Islands. Habit of *B. Canariénsis*. Leaves of *B. origanifòlius*. Floral leaves shorter than the cymes. Corollas pale purple. ?

Plumose Bystropogon. Fl. June, July. Clt. 1779. Shrub 2 to 3 feet.

4 B. eria'nthos (Benth. lab. p. 727.) leaves serrated, green above, and glabrous, and hardly tomentose beneath; cymes pedunculate, corymbose; calycine teeth ovate; corolla more than twice as long as the calyx, villous outside. ♄. G. Native of the Island of Juan Fernandez, Graham.—A humble shrub, with the habit of *B. punctàtus;* but the leaves are acute and serrated, and the flowers distinct. Tube of corolla inflated beyond the calyx.

Woolly-flowered Bystropogon. Shrub dwarf.

5 B. origanifòlius (L'Her. sert. angl. p. 20.) leaves almost quite entire, clothed with white tomentum beneath; cymes pedunculate, paniculately racemose; calycine teeth subulate. ♄. G. Native of the Canary Islands. Méntha plumòsa, Lin. mant. p. 273. Floriferous branches rather tomentose. Superior floral leaves much shorter than the flowers. Flowers of *B. Canariénsis*, but the calyxes and pedicels are less hispid.

Marjoram-leaved Bystropogon. Fl. July, Aug. Clt. 1815. Shrub 2 to 3 feet.

Sect. II. Minthóstachys (from *μινθα, mintha,* mint; and *σταχυς, stachys,* a spike; the whorls of flowers are spicate, like those of some species of mint.) Benth. lab. p. 325. Calyx 13-nerved, tubular. Whorls densely spicate. This section is intermediate between *Bystropògon* and *Pychnánthemum*.

6 B. spica'tus (Benth. lab. p. 326.) leaves subserrated, green on both surfaces, glabrous; whorls dense, spicate; calycine teeth ovate. ♄. G. Native of Peru, at Parrochuca, Mathews. Shrub quite glabrous. Leaves 1 to 1½ inch long; floral leaves much smaller, clothed with hoary tomentum on both surfaces. Whorls 6-10-flowered. Calyx very villous. Corolla hardly longer than the calycine teeth. A fifth fertile stamen sometimes occurs in this species.

Spicate-flowered Bystropogon. Shrub.

7 B. tomentòsus (Benth. lab. p. 326.) leaves a little crenated, green above, and rather hispid, at length glabrous, but clothed with tomentose wool beneath; whorls dense, subspicate; calycine teeth subulate. ♄. G. Native of Peru, Ruiz. et Pav. Young branches villous. Cauline leaves 1-2 inches long, rounded at the base, obtuse and acute, white or rufescent beneath; floral leaves gradually smaller: upper ones hardly exceeding the calyxes, and clothed with soft villi on both surfaces. Corollas like those of *B. spicàta*.

Tomentose Bystropogon. Shrub.

8 B. ca'nus (Benth. lab. p. 326.) leaves ovate-lanceolate, a little toothed, canescent beneath; lower whorls distinct: upper ones subspicate; calycine teeth subulate. ♄. G. Native of Peru, Ruiz. et Pav. Branches villous, slender. Leaves an inch long, acute, cuneately rounded at the base. Flowers smaller than in the preceding.

Hoary Bystropogon. Shrub.

† *A doubtful species.*

9 B. denta'tus (Poir. suppl. 1. p. 755.) leaves ovate, hairy, serrated; whorls of flowers hispid. ♄. ? G. Native of Peru. Probably a species of *Hyptis*.

Toothed-leaved Bystropogon. Shrub. ?

Cult. The species of *Bystropògon* are shrubs of no beauty; their culture is that of other common greenhouse plants, and they are readily increased by cuttings.

XXXVII. PYCHNA'NTHEMUM (from *πυχνος, pychnos,* dense; and *ανθεμις, anthemis,* a flower; the flowers are disposed in dense whorls.) Michx. fl. bor. amer. 2. p. 7. Benth. lab. p. 326.—Brachystèmum, Michx. fl. bor. amer. 2. p. 5.—Koéllia, Mœnch. meth. 407. Túllia, Leavenworth, in Sill. journ. sc. vol. 20. p. 343.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate or tubular, somewhat 13-nerved; teeth nearly equal, straight, or the 3 upper ones are joined at the base into an upper lip; throat naked inside. Corolla with the tube equalling the calyx, and the limb sub-bilabiate; the upper lip straight, flat, entire, or shortly emarginate; the lower lip flat, trifid: lobes all ovate, obtuse. Stamens 4, nearly equal, or the lower ones are rather the longest, straight, diverging, exserted, or inclosed; anthers 2-celled: cells parallel. Style almost equally bifid at top: lobes subulate, stigmatiferous at top. Achenia dry, smooth, or minutely dotted.—Perennial, stiff, usually canescent herbs, paniculately corymbose at top. Whorls few, dense, many-flowered, propped by bracteas, usually forming a terminal head, sometimes one or more disposed along the stem beneath. Corollas white or purplish; the lower lip usually dotted with purple.

Sect. I. Tu'llia (meaning unknown to us.) Benth. lab. p. 327. Calyx ovate-tubular, somewhat bilabiate, with usually subulately awned teeth. Whorls few, ample, often loose; cymes much branched, many-flowered. Outer bracteas foliaceous: inner ones subulate. Leaves petiolate.

1 P. inca'num (Michx. fl. bor. amer. 2. p. 7.) leaves on short petioles, ovate-oblong, acute, remotely serrated, rounded at the base, pubescent, clothed with white tomentum beneath; whorls many-flowered, dense, cymose; bracteas linear, or the outer ones are lanceolate; calycine teeth acute, a little awned, nearly equal. ♃. H. Native of North America, in cornfields and among bushes from Canada to Carolina. Oríganum incànum, Walt. fl. car. p. 165. ? Clinopòdium incànum, Lin. spec. p. 822.—Dill. elth. 1. p. 87. t. 74. Plant pubescent. Leaves 1½ inch long. Corollas whitish, tinged with red. Stamens exserted.

Hoary Pychnanthemum. Fl. July, Oct. Clt. 1732. Pl. 1½ to 3 feet.

2 P. Tu'llia (Benth. lab. p. 328.) leaves petiolate, oblong, acute, a little serrated, narrowed at the base, pubescent on both surfaces, pale beneath; whorls many-flowered, cymose; bracteas linear: outer ones oblong, awned; calyx bilabiate: teeth acute, a little awned; corolla glabrous inside. ♃. H. Native of Tenessee. Túllia pychnanthemoìdes, Leavenworth, in Sill. amer. journ. sc. vol. 20. p. 343. t. 5. Plant pubescent. Leaves 2 inches long. Tube of corolla a little longer than the calyx. Stamens exserted.

Tullia Pychnanthemum. Pl. 1½ foot.

3 P. Lomi'sii (Nutt. acad. nat. sc. phil. 7. p. 100.) leaves petiolate, ovate, somewhat serrated, acute, short, glabrous above; flowers cymose, propped by many bracteas; bracteas lanceolate,

acuminated, hoary; calycine teeth short, acuminated, pilose at top; flowers spotted. ♃. H. Native of Georgia. Allied to *P. lanàta;* but readily distinguished from it, in the shorter, more glabrous leaves, more humble stature, and spotted flowers. Cymes large, usually terminal. Bracteas canescent. Corolla white or pale red, spotted with red.—A beautiful species, having the fragrance of *Penny-Royal.*

Lomis's Pychnanthemum. Pl. ½ to 1 foot.

4 P. ARISTA'TUM (Michx. fl. bor. amer. 2. p. 8. t. 33.) leaves on short petioles, oblong, acute, a little serrated, rounded at the base, glabrous on both surfaces, or scarcely tomentose; whorls many-flowered, dense; bracteas very acute: outer ones oblong: inner ones subulate; calycine teeth equal, acute, a little awned; corolla pubescent inside. ♃. H. Native from Maryland to Upper Carolina. P. verticillàtum, Pursh, fl. amer. sept. 2. p. 410. exclusive of the syn. of Michx. Orìganum clinopodioìdes, Walt. fl. car. ex Pursh. l. c. Herb a little branched, quite glabrous, pale green. Leaves 1½ to 2 inches long. Corolla hardly longer than the calyx, whitish. Stamens a little exserted.

Awned-calyxed Pychnanthemum. Fl. Aug. Clt. 1752. Pl. 1 foot.

5 P. TORRE'I (Benth. lab. p. 329.) leaves on short petioles, oblong-lanceolate or linear, acute, scarcely serrated, narrowed a long way at the base, almost glabrous; whorls dense, subcorymbose; bracteas oblong or subulate, awned; calycine teeth nearly equal, subulate; corolla pubescent inside. ♃. H. Native of the State of New York, near Princeton, Torrey; and of South Carolina, Mitchell. Stem a little branched, pubescent. Leaves 1 to 2½ inches long, green, finely downy on the veins. Calyxes and bracteas clothed with soft villi. Stamens exserted.

Torrey's Pychnanthemum. Pl. 1 to 2 feet.

6 P. HYSSOPIFÒLIUM (Benth. lab. p. 329.) leaves almost sessile, oblong-lanceolate or linear, obtuse, nearly quite entire, glabrous, or clothed with fine tomentum; whorls few, many-flowered, rather loose; bracteas subulate, awned: outer ones oblong; teeth of calyx nearly equal, subulate, stiff; corolla almost glabrous inside. ♃. H. Native of Virginia, Carolina, Georgia, and Louisiana. P. setòsum, Nutt. in journ. acad. sc. phil. 7. p. 100.? Herb a little branched, usually canescent from fine tomentum. Leaves an inch long, very rarely subserrated, with often fascicles of smaller ones in the axils. Bracteas exceeding the calyxes. Flowers similar to those of *P. aristàtum.*

Hyssop-leaved Pychnanthemum. Pl. 1 to 1½ foot.

SECT. II. BRACHYSTE'MON (from βραχυς, *brachys*, short; and στημων, *stemon*, a stamen.) Benth. lab. p. 329. Calyx ovate, with short equal teeth. Whorls dense, numerous, head-formed, almost all terminal and panicled. Bracteas oblong, lanceolate, or subulate, adpressed. Leaves usually sessile.

7 P. MU'TICUM (Pers. ench. 2. p. 128.) pubescent; stem panicled at top; leaves sessile, ovate-lanceolate, acute, a little serrated, rounded at the base, stiff: upper ones white on both surfaces; whorls very dense, capitate; bracteas ovate-lanceolate; calyxes bluntly and almost equally toothed; throat of corolla villous inside. ♃. H. Native of Upper Carolina; at St. Louis and West Chester, Drummond; Arkansas, Nuttall. Stems branched, green, villous, pubescent, or almost glabrous, as well as the lower leaves; but the upper leaves and whorls are white from tomentum. Leaves sometimes all entire, but the lower ones are usually serrated. Corolla white; lower lip dotted with purple.

Mutic Pychnanthemum. Pl. 1 to 2 feet.

8 P. PILÒSUM (Nutt. gen. amer. 2. p. 33.) stem pilose, branched a little at top; leaves lanceolate, pilose beneath, with prominent veins, obscurely denticulated; bracteas length of calyxes, clothed with hoary pubescence; heads larger than in *P. lanceolàtum.* ♃. H. Native of Kentucky and Tenessee, in valleys. Beck, in Sill. amer. journ. sc. 14. p. 117. Stems and leaves more or less pilose. Heads terminal, large. Bracteas and calyxes villous, mutic. Stamens exserted. Corolla pubescent, spotless. Said by Bentham to be the same as *P. mùticum.*

Pilose Pychnanthemum. Pl. 1 to 2 feet.

9 P. LANCEOLA'TUM (Pursh, fl. amer. sept. 2. p. 410.) stem panicled at top, with pubescent angles; leaves sessile, ovate-lanceolate or lanceolate, quite entire, rounded at the base, stiff, almost glabrous; whorls dense, numerous, villous; bracteas ovate-lanceolate; calyxes bluntly and unequally toothed; throat of corolla villous inside. ♃. H. Native of Pennsylvania, even to Upper Carolina, among the mountains. Allied to *P. mùticum;* but differs in the stem being more glabrous, and in the leaves being quite entire and all green. Stem often purplish. Leaves sometimes glabrous and sometimes villous. Corolla usually spotted, but sometimes also spotless.

Var. α, latifòlium (Benth. lab. p. 330.) leaves broader. ♃. H. Brachystèmum verticillàtum, Michx. fl. bor. amer. 2. p. 6. t. 31. Thymus verticillàtus, Poir. dict. 7. p. 653. P. verticillàtum, Pers. ench. 2. p. 128.

Var. β, angustifòlium (Benth. lab. p. 330.) leaves narrower. ♃. H. Népeta Virgínica, Willd. spec. 3. p. 56. Brachystèmum Virgínicum, Michx. fl. bor. amer. 2. p. 6. P. Virgínicum, Pers. ench. 2. p. 128. Brachystèmum lanceolàtum, Willd. enum. 2. p. 623. Thymus lanceolàtus, Poir. suppl. 5. p. 305.

Lanceolate-leaved Pychnanthemum. Fl. July, Aug. Clt. 1812. Pl. 1 to 2 feet.

10 P. LINIFÒLIUM (Pursh, fl. amer. sept. 2. p. 409.) glabrous; stem panicled at top; leaves sessile, linear, quite entire, stiff; whorls dense, numerous, terminal, almost glabrous; bracteas linear, acute, stiff; calycine teeth lanceolate-subulate, short, acute, stiff; corolla villous inside at the throat. ♃. H. Native from New England to Carolina; Georgia, and New Orleans. P. tenuifòlium, Schrad. in Steud. nom. 669.? Thymus Virgínicus, Lin. syst. p. 453. Brachystèmum linifòlium, Willd. enum. p. 623. Koéllia capitàta, Mœnch. meth. p. 408. Orìganum flexuòsum, Walt. fl. car. p. 165. ex Pursh.—Herm. par. 218.? Habit of *P. mùticum.* Margins of leaves subrevolute. Stamens a little exserted. Corolla whitish.

Flax-leaved Pychnanthemum. Fl. July, Aug. Clt. 1739. Pl. 1 to 2 feet.

11 P. NU'DUM (Nutt. gen. amer. 2. p. 34.) plant glabrous, pale green; stems nearly simple, strict; leaves sessile, ovate-oblong, obtuse, quite entire, rounded at the base; whorls loose, terminal, corymbosely panicled, glabrous; outer bracteas lanceolate-linear: inner ones very short and subulate; corollas pubescent inside. ♃. H. Native of Carolina and Georgia, on the mountains. Stems more simple and strict than in other species. Leaves erect, with subrevolute edges, scarcely an inch long. Corymbs dense. Corolla pubescent, pale.? Stamens exserted from the tube, shorter than the limb.

Naked Pychnanthemum. Fl. July, Aug. Clt. 1824. Pl. 1 to 2 feet.

Cult. Plants of easy culture, very fragrant, but of little beauty. The species are readily increased by dividing at the root or by seed; and they thrive best in a peat border.

XXXVIII. MONARDE'LLA (a dim. of Monárda.) Benth. lab. p. 331. Pychnánthemum species, Michx. and other authors.

LIN. SYST. *Didynàmia, Gymnospérmia.* Calyx ovate-tubular, often elongated, 10-13-nerved, 5-toothed: teeth short, nearly

equal, erect; throat naked inside. Corolla with the tube equalling the calyx, or a very little exserted; throat glabrous inside; limb sub-bilabiate: upper lip bifid: lower lip trifid: lobes all oblong or linear, flat, nearly equal. Stamens 4, nearly equal, or the lower ones are the longest, straight, diverging, exserted; anthers 2-celled: cells parallel, at length diverging or divaricate. Style shortly bifid at apex; stigmas minute. Achenia dry.—Perennial herbs. Whorls large, almost globose, propped by broad bracteas, solitary, terminal. Habit different from *Pychnánthemum*, although nearly allied in characters.

1 M. monta'na (Benth. lab. p. 331.) stem erect; leaves sessile, ovate-lanceolate, acute, serrated, rounded at the base; whorls densely globose, large; outer bracteas broad-ovate, acute; calyxes tubular, almost equally toothed. ♃. H. Native of North America, on the high mountains of Carolina. Pychnánthemum montànum, Michx. fl. bor. amer. 2. p. 8. Leaves sessile, and whorls large. Corollas purple, spotted.

Mountain Monardella. Pl. 1 to 1½ foot.

2 M. Carolinia'na (Benth. lab. p. 332.) very hairy; leaves abruptly-petiolate, somewhat cordately-oval, serrated; heads involucrated by coloured bracteas; bracteoles ciliated; calyxes bearded at top. ♃. H. Native of Carolina, on the high mountains. Pychnánthemum Monardélla, Michx. fl. bor. amer. 2. p. 8. t. 34. Habit of *Monárda fistulòsa*, ex Michx. Leaves more than an inch long, acuminated. Bracteas twice as long as the calyxes. Corollas small, pale red. Pychnánthemum Monardélla, Pursh, is nothing but *Monárda fistulòsa*.

Carolinian Monardella. Fl. July, Aug. Clt. 1816. Pl. 2 to 3 feet.

3 M. odoratíssima (Benth. lab. p. 332.) stems procumbent; leaves almost sessile, oblong-lanceolate, narrowed at both ends, quite entire, hoary; whorls densely-globose, large, solitary; outer bracteas broad-ovate, very blunt, coloured; calyx tubular, elongated, almost equally toothed. ♃. H. Native of North West America, in rocky places, at the Columbia river, and on rocks among the White Mountains, Douglas. Plant suffruticose, branched, purplish at the base. Leaves hardly half an inch long, clothed with hoary tomentum on both surfaces. Corolla rose-coloured, glabrous: tube a little exserted.

Very sweet-scented Monardella. Pl. procumbent.

4 M. undula'ta (Benth. lab. p. 332.) stem procumbent at the base; branches ascending; leaves oblong-linear, obtuse, with undulately-curled edges, narrowed a short way into the petioles, green on both surfaces, glabrous; whorls densely-globose, large, solitary; outer bracteas broad-ovate, acute, membranous, mutic; calyx tubular, elongated, almost equally toothed, mutic. ♃. H. Native of North California, Douglas. Stems perennial or suffruticose at the base. Branches purplish, glabrous, or downy. Leaves thickish, 1-nerved, usually fascicled in the axles, ½ to 1 inch long. Heads and flowers as in the preceding. Calyxes villous at top.

Undulated-leaved Monardella. Pl. ½ to 1 foot.

5 M. Dougla'sii (Benth. lab. p. 332.) stem procumbent at the base; leaves petiolate, lanceolate, or linear, narrowed at both ends, green, pubescent; whorls densely-globose, large, solitary; outer bracteas ovate-lanceolate, exceeding the calyxes, aristately-subulate; calyx ovate-tubular, inflated, villous, with nearly equal, awned teeth. ♃. H. Native of North California. Herb pubescent, divaricately-branched; branches purplish. Leaves one inch long, flattish. Heads an inch in diameter. Segments of corolla and genitals shorter than in *M. odoratissima* and *M. undulàta*.

Douglas's Monardella. Pl. ½ foot.

Cult. For culture and propagation, see *Pychnánthemum*, p. 763.

XXXIX. AMARA'CUS (Αμαρακος, *amaracos*, the Greek name of Dittany, of Crete.) Mœnch. ex Benth. lab. p. 333. Oríganum, spec. of Lin. and other authors.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx ovate-campanulate, 13-nerved at the base; upper lip elongated, entire, erect; lower lip truncate, almost wanting, or very shortly bidentate; throat naked inside. Tube of corolla exserted from the calyx, equalling the imbricate bracteas; limb bilabiate; the upper lip erect, emarginate, flattish: the lower lip spreading, trifid, with nearly equal, entire lobes. Stamens 4, erect, ascending, scarcely distant, exserted, didynamous: lower ones the longest; filaments glabrous; anthers 2-celled: cells distinct, diverging, or divaricate. Upper lobe of style short; stigmas minute.—Shrubs with quite entire leaves. Flowers aggregate into oblong spikelets. Bracteas orbicular, membranous, coloured, loosely-imbricate, much longer than the calyxes, equalling the tubes of the corollas. This genus differs from *Oríganum*, from which it has been separated, in habit, calyx, corolla, &c.

1 A. dicta'mnus (Benth. lab. p. 333.) leaves almost sessile, clothed with dense wool on both surfaces, as well as the branches. ♄. F. Native of Candia, on rocks, and elsewhere in Greece. A. tomentòsus, Mœnch. Oríganum Dictámnus, Lin. spec. 823. Curt. bot. mag. t. 298.—Blackw. t. 462.—Sabb. hort. rom. 3. t. 76. Dictámnus Créticus, Bauh. pin. p. 222. Branches ascending. Leaves broad-ovate, obtuse, quite entire, rounded at the base, thick; floral leaves small, almost glabrous. Corolla without a spur, purple. Heads of flowers nutant. The fabulous qualities attributed to this plant (Dictámnus) may be seen in Virgil's 12th Æneid, and in Cicero's de Natura Deorum, 2. p. 50.

Dittany of Crete. Fl. June, Aug. Clt. 1551. Shrub 1 foot.

2 A. Tournefórtii (Benth. lab. p. 333.) leaves sessile, orbicular, sub-cordate at the base, and are, as well as the branches, quite glabrous or ciliated. ♄. F. Native of the Grecian Archipelago; as in the island of Amorgos, on rocks; and of the Levant. Oríganum Tournefórtii, Ait. hort. kew. ed. 1st. vol. 2. p. 311. Andr. bot. rep. t. 537. Sibth. et Smith, fl. græc. 6. p. 56. t. 569. Oríganum calcaràtum, Juss. ex Steud. nom. p. 572. Oríganum dictamni Cretici facie, folio crasso, nunc villoso, nunc glabro, Tourn. cor. 13. itin. 1. p. 240. with a figure. This differs from the preceding in being glabrous; in the spikes being more dense; in the bracteas being broader, and the genitals a little shorter. Lower lip of calyx distinctly bidentate. Corollas purple, furnished with a small obtuse spur under the throat. Habit of *Rhodìola ròsea*.

Tournefort's Amaracus, or Dittany of Amorgos. Fl. Aug. Sept. Clt. 1788. Shrub ½ foot.

Cult. The species of this genus are liable to be killed by severe frosts if allowed to remain in the open air; but in common winters, if planted against a south wall in a dry soil, will survive. It is, however, proper to keep a few reserve plants in pots, that they may be protected by placing them in a greenhouse or frame. A rich light soil suits them best; and cuttings are readily rooted under a hand-glass.

XL. ORI'GANUM (said to be derived from *ορος*, *oros*, a mountain; and *γανος*, *ganos*, joy, the delight of the mountain. Oríganum of Pliny, and Οριγανον of Theophrastus and Dioscorides.) Benth. lab. p. 334. Oríganum, species of Lin. and other authors.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx ovate-tubular, 10-13-nerved, striated; teeth 5, equal, or the 3 superior ones are rather the longest; throat villous inside. Corolla having the tube equal in length to the calyx, or hardly longer than it; limb sub-bilabiate; the upper lip erectish, emarginate; the lower lip spreading and trifid, with nearly equal lobes. Stamens 4, exserted, distant, somewhat didynamous, the lower ones

the longest. Style almost equally bifid at top; stigmas minute. Achenia dry, smoothish.—Herbs. Leaves quite entire, or a little toothed. Flowers collected into cylindrical or oblong spikelets. Bracteas imbricate, coloured, covering the calyxes, but more loose than in the genus *Marjoràna*.

1 O. Sipy'leum (Lin. spec. 833.) stems decumbent, paniculately-branched at top; leaves on short petioles, quite entire: lower ones roundish, hispid, or woolly: upper ones ovate, quite glabrous, glaucous; spikelets oblong, solitary, or by threes, nutant; bracteas loose, ovate, coloured; calyx quite glabrous, having the three superior teeth longer. ♄. F. Native of the Levant and Greece; on Mount Sipylos in Phrygia; and between Smyrna and Bursa, Sibthorp. Near Aleppo, Russell. On Mount Delphus, Sibthorp. O. hýbridum, Mill. dict. no. 12. O. Sipỳleum, Sibth. et Smith, fl. græc. 6. p. 57. t. 570. Oríganum, montis sipyli, Herm. lugdb. 462. t. 463. Oríganum Sipỳleus, marjoranæ foliis, Mor. hist. 3. p. 357. sect. 11. t. 4. f. 2. Procumbent at the base. Sterile branches short, very villous. Leaves thick, woolly on both surfaces. Floriferous stems glabrous, with a few remote leaves. Tube of corolla equalling the calyx. Corolla pale purple. ?

Sipylos Marjoram. Fl. June, Sept. Clt. 1699. Shrub 1 to 1½ foot.

2 O. compa'ctum (Benth. lab. p. 334.) humble, almost simple; leaves nearly sessile, ovate, obtuse, scarcely serrated; spikes densely capitate, cylindrical; bracteas elongated, lanceolate, acute, coloured, twice as long as the calyx. ♄. F. Native near Tangiers, Salzmann. O. glandulòsum, Salzm. pl. exsic. but not of Desf. Stems rising from a suffruticose base, simple. Leaves smaller and stiffer than in *O. vulgàre*, but the bracteas are a little larger, and all acute. Teeth of calyx bearded inside: the 3 upper ones rather the longest. Corolla pale purple. ?

Compact Marjoram. Pl. ½ to ¾ foot.

3 O. vulga're (Lin. spec. 824.) erect, villous; leaves petiolate, ovate, obtuse, serrated a little, rounded at the base, green on both surfaces; spikelets oblong or cylindrical, glomerate, corymbosely-panicled; bracteas ovate, obtuse, coloured, from half as long again as the calyx to twice as long. ♃. H. Native of Europe, North of Africa, and Middle Asia, by way-sides, in hedges, and in woods; plentiful in some parts of Britain; Caucasus, Siberia, Cashmere; also from Pennsylvania to Carolina, but probably escaped from gardens. Curt. lond. 3. with a figure, Woodv. med. bot. 451. t. 164. Oed. fl. dan. t. 638. Sab. hort. rom. 3. t. 75. Smith, engl. bot. 1143. O. stoloníferum, Bess. O. orientàle, Mill. dict. no. 5. O. decípiens, Wallr.—Blackw. t. 280.—Riv. mon. 60. f. 1. Habit very variable. Stems numerous, erect, more or less hairy, often reddish. Leaves more or less villous, rarely almost glabrous. Bracteas usually glabrous and reddish. Corolla exserted, usually purple, rarely white, with green bracteas. The wild marjoram is an aromatic and ornamental plant. The dried leaves, used instead of tea, are extremely grateful; they are also used in fomentations; the essential oil is so acrid that it may be considered as a caustic, and was formerly used with that intention by farriers. A little cotton moistened with it and put into the hollow of an aching tooth, frequently relieves the pain. The tops will dye linen of a reddish brown. This species is only used in cookery in default of one of the other marjorams.

Var. β, prismáticum (Gaud. ex Benth. lab. p. 335.) fructiferous spikes elongated, prismatic. ♃. H. Native of the region of the Mediterranean. O. heracleóticum, Rchb. fl. germ. exc. 313, but not of Lin. O. Créticum, Lin. spec. 823. O. macrostàchyum, Link, handb. 468. O. megastàchyum, Link, enum. 2. p. 114. ? O. latifòlium, Mill. dict. no. 3. This hardly differs from the species, except in the spikelets being elongated, and the flowers generally white; but they are also purple.

Var. γ. hùmile (Mart. Mill. dict. no. 8. Benth. lab. p. 335.) hardly half a foot high, nearly glabrous; leaves narrower, spikelets small, numerous, corymbose. ♄. H. Native of Asia, in shady places. O. hùmile, Mill. dict. no. 4. Poir. suppl. 4. p. 186. Corollas purple.

Var. δ, vìrens (Benth. lab. p. 335.) bracteas hardly coloured, usually pubescent. ♃. H. Native of Portugal and Cashmere. O. vìrens, Hoffm. et Link, fl. port. 1. p. 119. t. 9. O. oblongàtum, Link, enum. 2. p. 114. O. thymiflòrum, Rchb. fl. germ. exc. p. 313.

Common or Wild Marjoram. Fl. June, Oct. Britain. Pl. 1 to 2 feet.

4 O. norma'le (D. Don. prod. fl. nep. p. 113.) ascending, villous; leaves petiolate, ovate, bluntish, cuneately-rounded at the base, green on both surfaces; spikelets small, oblong, glomerate, corymbosely-panicled; bracteas lanceolate, acute, exceeding the calyxes a little. ♃. H. Native of the Himalaya, Cashmere, Nipaul, Kamaon, and Sirmore, Wall; and Siberia, at Lake Baical. Stems paniculately branched at top. Bracteas spreading, a little green, pubescent. Calyx of *O. vulgàre*, but the corolla is smaller, and probably purple. Stamens probably always inclosed.

Normal Marjoram. Fl. June, Aug. Clt. 1819. Pl. 1 to 2 feet.

5 O. heracleóticum (Lin. spec. p. 823.) plant erectish, glabrous or villous, glandular; leaves on short petioles, ovate, obtuse, quite entire, rounded at the base; panicle elongated; spikelets oblong or elongated, glomerate; bracteas ovate, acute, green, pubescent, equalling the calyxes. ♃. H. Native of the region of the Mediterranean; as on Mount Atlas, near Mascar; Calabria; some of the Grecian Islands; and about Smyrna and Constantinople; also about Odessa. O. glandulòsum, Desf. fl. atl. 2. p. 27. O. Smyrnæ'um, Sibth. et Smith, fl. græc. 6. p. 57. t. 571, but not of Lin. O. Créticum, Sieb. pl. exsic. and of other authors, but not of Lin.—Lob. icon. 492. A very variable species, dissimilar in habit to the others, but readily recognized by the bracteas being longer than the calyxes; by the loose spikes and small flowers. Stamens more or less villous. Leaves pale green, glabrous or pubescent. Flowers one half smaller than those of *O. vulgàre*, white. Bracteas often deciduous, usually pubescent. This, the winter sweet marjoram, requires a sheltered, dry soil, and seldom ripens seed in this country, and is usually propagated by slips or cuttings. Like other marjorams it is an aromatic, of sweet flavour, much used as relishing herbs in soups and broths, stuffings, &c. The young, tender tops and leaves together are used in summer in a green state, and they are dried for winter.

Var. β, hùmile (Benth. lab. p. 336.) ♃. H. O. parviflòrum, D'Urv. enum. pl. arch. in mem. soc. Lin. par. p. 327.

Heraclean, or Winter Sweet Marjoram, or Bastard Marjoram. Fl. June, Nov. Clt. 1640. Pl. 1 foot.

6 O. laxiflòrum (Royle, in Hook. bot. misc. 3. p. 376.) stem procumbent, villous; leaves on short petioles, broad-ovate, obtuse, almost entire, rounded at the base, green on both surfaces, pubescent; bracteas acute, rather longer than the calyxes, green, and are, as well as the flowers, disposed in very loose spikes. ♃. H. Native of the Himalaya at Nagkanda, Royle. Leaves like those of *O. vulgàre*, but differs otherwise from it in the stems being procumbent; and especially in the spikes being loose, not imbricated.

Loose-flowered Marjoram. Pl. procumbent.

7 O. Majóricum (Cambess. enum. pl. balear. p. 124.) stem loosely tomentose; leaves elliptic, pubescent; flowers fasciculate; calyx and corolla bilabiate. ♃. H. Native of the Balearic Islands, in arid places. Spikes very short, globose. Calyx glandular: upper lip deeply tridentate: lower lip shorter,

bipartite. Corolla rose-coloured, deciduous. Perhaps Thymus Richárdi, Pers. ?

Majorca Marjoram. Pl. 2 to 3 feet.

† *Doubtful species.*

8 O. puncta'tum (Poir. dict. suppl. 4. p. 186.) leaves ovate-lanceolate, dotted, glabrous; heads spherical, rather downy; bracteas acute, longer than the calyxes. ♃. H. Native country unknown. Stems glabrous. Leaves almost sessile, quite entire. Spikelets globose, size of peas. Bracteas rather pubescent. Corollas whitish. Perhaps a young specimen of *O. Heracleóticum*.

Var. β: leaves narrower, lanceolate. ♃. H.

Dotted-leaved Marjoram. Pl. 1 foot.

9 O. vestìtum (Clarke, trav. 2. p. 451.) leaves subcordate, ovate, petiolate, quite entire, tomentose on both surfaces, and very soft; spikes roundish-ovate, compact, tomentose, usually by threes. ♄. F. Native of Palestine, near Cana. Plant branched, suffruticose, hoary from tomentum. Calyx bilabiate, with a woolly throat. Corollas slender, glandularly dotted. Perhaps the same as *Marjoràna crassifòlia*.

Clothed Marjoram. Shrub branched.

10 O. salvifòlium (Roth, ex Steud. nom. p. 572.) Nothing is known of this plant but the name.

Sage-leaved Marjoram. Pl. ?

Cult. All the species are of easy culture and propagation. A sandy soil and dry situation suit them best. The herbaceous species are readily propagated by dividing at the root, and the shrubby kinds, by cuttings or slips, or by separating the rooted shoots.

XLI. MARJORA'NA (altered from the Arabic name *Maryamych*, but the marjoram of the Arabs is *Sálvia ceratophýlla*.) Mœnch. meth. 406. Benth. lab. p. 338. Oríganum species of Lin. and other authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx shortly campanulate at the base; limb cleft, complanately dilated above, quite entire, orbicular, with the margin implicate beneath at the base; throat naked inside. Corolla having the tube equalling the calyx, and the limb somewhat bilabiate; upper lip erectish, emarginate: lower lip spreading, trifid, with nearly equal lobes. Stamens 4, exserted, distant, somewhat didynamous: lower ones the longest; anthers 2-celled: cells parallel, diverging, or at length divaricate. Style almost equally bifid at apex; stigmas minute.—Perennial or suffruticose herbs, usually clothed with tomentose villi. Leaves quite entire or toothed. Flowers collected into short tetragonal spikelets. Bracteas orbicular, villous, not coloured, flat, equal in height to the calyxes, lying upon them, and closely imbricate.

1. M. microphy'lla (Benth. lab. p. 338.) suffruticose, procumbent; branches slender, almost glabrous, panicled; leaves small, remote, petiolate, broad-ovate, obtuse, rounded at the base, clothed with white tomentum; spikelets nearly globose, few, and sub-corymbose at the tops of the branches. ♄. F. Native of Candia, on the Sphaciotic Mountains. Oríganum Màru, Sibth. et Smith, fl. græc. 6. p. 59. t. 573. Sims, bot. mag. t. 2602. Oríganum microphýllum, Sieb. pl. exsic. crete. Branches purplish, smooth, filiform. Leaves not above a third the size of those of *M. horténsis*. Branches and calyxes clothed with tomentose villi, densely ciliated at apex. Corollas of *M. horténsis*.

Small-leaved Pot Marjoram. Shrub procumbent.

2 M. horte'nsis (Mœnch. meth. 406.) branches nearly glabrous, racemosely panicled; leaves petiolate, oblong-ovate, obtuse, quite entire, clothed with hoary tomentum on both surfaces; spikelets oblong, sessile, glomerate on the branchlets; ♄. in its native country, ⊙. in our gardens. H. Native of the North of Africa, near Mascar, on hills; and of Asia, on the Alps of Kamaon, Wall. Oríganum Marjoràna, Lin. spec. p. 824. Woodv. med. bot. 453. t. 165. Oríganum Marjoranoìdes, Willd. spec. 3. p. 137. Oríganum Wallichiànum, Benth. in Wall. pl. rar. asiat. 1. p. 31. Marjoràna crássa, Mœnch. meth. 406.? Oríganum Onìtes, Lam. dict. 4. p. 608. ex Dc. fl. fr. 3. p. 558. but not of Lin. Marjoràna vulgàris, Bauh. pin. 224. Amáracus vulgàtior, Lob. icon. 498. Oríganum acinacifòlium, Wallr. —Blackw. t 319.—Mor. hist. sect. 11. t. 3. f. 2. Branches tetragonal, pubescent, a little branched. Leaves half an inch long. Spikelets 3-5 together, nearly sessile. Bracteas and calyxes complanate, closely imbricate. Corollas small, purplish, or white. A variety of this species occurs in Miller's herbarium, under the name of O. Heracleóticum. This, the sweet or knotted marjoram, is a hardy annual in our gardens, although suffruticose in the places of its natural growth. As the seed seldom ripens in this country, it is generally procured from France. When in blossom the herb is cut over and dried for winter use; so that a sowing requires to be made every year. Like the other culinary kinds of marjoram, it is much used as a relishing herb in soups, broths, stuffings, &c. The young, tender tops and leaves are used together in summer in a green state, and they are dried for winter. For a seed-bed, 3 feet by 3 feet, a quarter of an ounce of seed will be sufficient. Sow in April on a compartment of light earth, either in small drills or broad cast; or sow a portion in a hot-bed, if requisite to have a small crop forwarded. When the plants are 1-2 or 3 inches high, thin the seed-bed, and plant those thinned out in a final bed, six inches apart, giving water; or where large supplies are required, some may remain thick, where sown, to be drawn off by the root as wanted. Sweet marjoram is a moderately-warm aromatic, yielding its virtues both to aqueous and spirituous liquors by infusion, and to water in distillation.

Garden Marjoram, or Sweet or Knotted Marjoram. Fl. June, July. Clt. 1573. Pl. 1 to 2 feet.

3 M. crassifòlia (Benth. lab. p. 339.) branches rather tomentose, racemosely-panicled; leaves sessile, ovate-elliptic, thick, clothed with soft tomentum; spikelets oblong, sessile, glomerate on the branches. ♄ F. Native of the Levant, Palestine, and Candia. Oríganum Màru, Lin. spec. p. 825, but not of other authors. Oríganum Ægyptìacum, of authors, but not of Lin. Habit of *M. horténsis*, from which it differs in the sessile, larger, thick leaves, which are densely clothed with tomentose wool on both surfaces, as well as the calyxes and bracteas. Corollas purplish.

Thick-leaved Marjoram. Fl. June, July. Clt.? Shrub 1 foot.

4 M. nervòsa (Benth. lab. p. 339.) erect, branches panicled, beset with spreading villi; leaves sessile, broad-ovate, almost quite entire, roundly-truncate at the base, or the lower ones are somewhat cordate, villous on both surfaces; spikelets oblong, small, sessile, glomerate on the branches. ♄. F., or ⊙. H. Native of Arabia and Egypt. Oríganum Syrìacum, Lin. spec. p. 824.? Oríganum Indicum Zatarhéndi, Alp. et Vesl. pl. ægypt. 31. t. 33. Màrum Syrìacum, Lob. icon. t. 499. Habit of *M. horténsis*, but the panicles are more divaricate and more branched. Leaves form of those of *M. onìtes*. Spikelets numerous, smaller, and more distinct than in *M. horténsis*. Calyxes and bracteas of *M. onìtes*. Corollas a little larger.

Nerved-leaved Marjoram. Fl. June, July. Clt. 1823. Pl. 1 foot.

5 M. Onìtes (Benth. lab. p. 339.) stems erect, nearly simple, hairy; leaves sessile, ovate, serrated a little, rather villous or

tomentose; spikelets small, ovoid, numerous, densely corymbose. ♄. F. Native of the eastern region of the Mediterranean; as of Dalmatia, Greece, and the neighbouring islands, &c. Oríganum Onìtes, Lin. spec. p. 824. Sibth. et Smith, fl. græc. 6. p. 58. t. 572. Oríganum Smyrnæ'um, Lin. spec. p. 843. Oríganum pállidum, Desf. hort. par. ed. 2d. p. 395. Pers. ench. 2. p. 129.—Bocc. mus. 2. p. 45. t. 38. Leaves half an inch long, usually cordate at the base. Corolla of *M. horténsis*, but a little smaller, whitish. This, the *pot-marjoram*, though hardy enough to stand our winters, seldom ripens its seeds in this country. It is in flower from July to November, and is propagated by seed, but chiefly from slips. It is used and cultivated for the same purposes as *sweet marjoram*.

Ass's or Pot Marjoram. Fl. July, Nov. Clt. 1759. Shrub 1 foot.

Cult. All the species of marjoram are shrubby if protected in winter; and they are readily increased by slips or cuttings. When any of them are sown to be reaped the same year treat them as recommended for *M. horténsis*, p. 766.

XLII. THY'MUS (from *θυμος*, *thymos*, of Theophrastus and Dioscorides; from *θυμος*, *thymos*, courage, strength, the smell of thyme being reviving; or from *θυω*, *thyo*, to perfume, because it was used for incense in the temples.) Benth. lab. p. 340. Thymus species, Lin. and other authors. Serpýllum, Pers. ench. 2. p. 130.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, 13-nerved, bilabiate; upper lip tridentate, spreading; lower lip bifid, with ciliated subulate segments; throat villous inside. Corolla having the tube inclosed in the calyx and imbricating bracteas, naked inside; limb sub-bilabiate; upper lip straight, emarginate, flattish; lower lip spreading, trifid, with equal lobes, or the middle lobe is longest. Stamens exserted, rarely inclosed, straight, distant, nearly equal or didynamous, lower two the longest; anthers 2-celled: cells parallel, or at length diverging. Style about equally bifid at apex; lobes subulate, stigmatiferous at apex.—Small, usually canescent under shrubs. Leaves small, quite entire, veiny, with usually revolute margins. Whorls few-flowered sometimes, all remote, and sometimes disposed in loose, dense, or imbricate spikelets. Bracteas minute. Flowers usually purplish, rarely white.

Sect. I. Mastichìna (so called from exhaling a scent like that of Mastich.) Benth. lab. p. 341. Calycine teeth, all subulate. Very nearly allied to the genus *Bystropògon*.

1 T. mastichìna (Lin. spec. 827.) plant diffuse, branched, pale green, or canescent; leaves petiolate, ovate or oblong, obtuse, narrowed at the base, naked, flat: upper and floral leaves broader; calyx villous, with plumose subulate teeth, which are longer than the tube. ♄. F. Native of Spain, Portugal, and Barbary, in sandy, uncultivated places. T. ciliàtus, Mœnch. ex Steud. nom. p. 836. Sampsùcus seu Màrum Mastichen redolens, Bauh. pin. p. 224. Màrum, Blackw. icon. t. 134. Riv. mon. t. 40. Leaves almost entire, canescent while young. Superior whorls approximating into a round head. Corolla whitish, usually shorter than the calycine teeth.

Mastich Thyme. Fl. July, Sept. Clt. 1596. Shrub 1 foot.

2 T. tomentòsus (Willd. enum. 2. p. 626.? Benth. lab. p. 341.) plant diffuse, branched, canescent; leaves scarcely petiolate, ovate or oblong, obtuse, narrowed at the base, naked, flat, clothed with hoary tomentum when young: floral leaves broad-ovate, a little imbricated; calyx very villous, having the teeth all subulate, plumose, and shorter than the tube. ♄. H. Native of Spain and the Algarves, Masson. T. marifòlius, Pourr. ex Willd. l. c. T. elongàtus, Link, enum. 2. p. 118.? This species differs from the preceding in the calyxes, and inflorescence. Heads small, numerous, almost globose.

Tomentose Mastich Thyme. Fl. June. Aug. Clt. 1816. Pl. 1 foot.

Sect. II. Serpy'llum (*ἑρπυλλον*, the Greek name of the wild thyme; from *ἑρπω*, *herpo*, to creep; in reference to the creeping stems.) Benth. lab. p. 342. Superior teeth of calyx lanceolate. Floral leaves almost of the same colour as the cauline leaves.

3 T. vulga'ris (Lin. spec. p. 825.) plant erect or procumbent at the base, clothed with hoary pubescence; leaves sessile, linear, or ovate-lanceolate, acute, with revolute edges, fascicled in the axils: floral leaves lanceolate, obtuse; whorls loose, rather distant; teeth of upper lip of calyx lanceolate, but the segments of the lower lip are subulate and ciliated. ♄. H. Native of the South West of Europe, in dry, arid, uncultivated places; as of Portugal, Spain, South of France, South of Germany, Italy, Piedmont, and Greece. Woodv. med. bot. 299. t. 109.—Blackw. icon. t. 211. Shrub much branched. Flowers purplish, smaller than those of *T. Serpýllum*. Upper whorls, or all, loosely approximate into a terminal head, or the 2 or 4 lower ones are remote.

There are two kinds of thyme cultivated for culinary purposes. The common and the lemon thyme. Of the garden or common thyme there are two varieties, the broad and narrow-leaved, besides the variegated, grown for ornament. The lemon thyme, *Thymus serpýllum*, var. *γ*, *citràtus*, is a low, trailing shrub, of a yellowish colour, having a strong scent of lemons. The young leaves and tops of both kinds are used in soups, stuffings, and sauces. For these purposes the broad-leaved common is generally preferred; but the flavour of the lemon thyme is much liked in peculiar dishes.

To raise thyme from seed is the general and most eligible method. It is occasionally multiplied by parting the roots of stocky close plants, and by slips of the young shoots. By seed, sow in March or April in a bed or border of light fine earth, either broad-cast, scattered thin and raked in lightly, which is the general course, or in small shallow drills, six inches asunder: the young plants may either remain, or be transplanted in the summer when 2 or 3 inches high. A portion may be drilled for an edging to a border. As soon as the plants are 3 or 5 inches in growth, in June or July, taking the opportunity of rain, thin them out, and plant 6 inches asunder, and water at planting. Others may be planted in a single row to form an edging to a border, either set close to form at once a full edging, or as far as 3 inches apart. Seedlings thus treated will come in for use the same year.

Those who raise considerable supplies of thyme for the markets usually sow large portions thickly in beds, to remain till of useful growth, then to be drawn off, root and top together, at different seasons as wanted; it is then tied in small bunches for market. Some persons also transplant considerable portions in spring and summer to 6-10 or 12 inches distance, to form a stocky full growth, to be drawn off in large bushy plants. Thyme is also propagated by slips of the branching shoots in the spring or early in autumn, but more especially by sections of the bush, or by removing rooted branches. Plant all these in light rich earth, and shade and water till rooted. In autumn, to provide against the effect of frosts on exotic evergreens, dry and house a store for winter; either cutting the tops or drawing the entire plants. Seed is produced abundantly in this country, and ripens in summer and autumn. Gather the seed spikes and spread them upon a cloth to dry; rub out clean, and put the seed up for sowing the following year.

Common or Garden Thyme. Fl. June, Aug. Clt. 1548. Shrub ½ to 1 foot.

4 T. tenuifòlius (Mill. dict. no. 2. Benth. lab. p. 728.) erect or procumbent at the base; branches pubescent; leaves

sessile, linear-subulate, acute, with revolute edges, fascicled in the axils, green, nearly glabrous; floral leaves lanceolate, obtuse; whorls distant; teeth of the upper lip of the calyx ovate, and the segments of the lower lip subulate. ♄. H. Native of the South of Spain, Pavon; near Cadiz, Picard. This differs from *T. vulgàris*, in the more slender, green, glabrous leaves, which are scarcely white from pubescence beneath.

Fine-leaved Thyme. Fl. June, Aug. Clt. 1548. Shrub ½ to 1 foot.

5 T. DIFFU'SUS (Salzm. pl. exsic. ex Benth. lab. p. 342.) procumbent; floriferous branches ascending, clothed with hoary pubescence; leaves sessile, linear or lanceolate-linear, fascicled in the axils, with revolute, naked margins, clothed with hoary tomentum on both surfaces; floral leaves similar to the others; whorls approximate into an oblong head; teeth of the upper lip of calyx lanceolate, acute: segments of the lower lip subulate, ciliated. ♄. F. Native of Gibraltar. T. ascéndens, Bernh. ex Rchb. fl. germ. exc. p. 313. Habit of *T. angustifòlius*. Leaves of *T. vulgàris*, of which it is probably a variety.

Diffuse Thyme. Shrub procumbent.

6 T. DECUSSA'TUS (Benth. lab. p. 342.) erect; stems much branched, pubescent; leaves sessile, ovate, obtuse, with revolute edges, clothed with fine tomentum: those of the sterile branches decussate; floral leaves similar to the rest; whorls few-flowered, capitellate; teeth of upper lip of calyx short, ovate, obtuse: segments of the lower lip subulate, ciliated. ♄. F. Native of Arabia, in the desert of Sinai, Bove. Old branches rather spiny. Whorls few, 2-4-flowered at the tops of the branches. Corollas small.

Decussate-leaved Thyme. Shrub erect.

7 T. BOVE'I (Benth. lab. p. 342.) erect; branches stiff, strict, villous; leaves on short petioles, ovate, obtuse, flattish, having the petioles and margins ciliated a little; floral leaves similar to the rest, adpressed; whorls few-flowered, spicate; upper lip of calyx large, shortly tridentate, and the segments of the lower lip subulate, ciliated. ♄. F. Native of the desert of Sinai, between Suez and Gaza, Bové; and between Aleppo and Bagdad, Olivier. Leaves almost like those of *T. piperélla*. Whorls about 6-flowered: lower one rather distant: upper whorls approximate, spicate. Calyx rather villous. Corolla of *T. Serpýllum*.

Bové's Thyme. Shrub ½ to 1 foot.

8 T. PIPERE'LLA (Lin. syst. p. 452. but not of Ait.) suffruticose, procumbent; branches ascending, stiff, pubescent; leaves petiolate, broad-ovate, obtuse, truncately subcordate at the base, not ciliated, thick, stiff, veiny, glandular: floral ones conforming to the others; calyx almost glabrous: teeth of upper lip short, ovate, and the segments of the lower lip subulate, ciliated. ♄. F. Native in the region of the Mediterranean; as of Barbary, Spain, Mount Parnassus, &c. T. gravèolens, Sibth. et Smith, fl. græc. 6. p. 61. t. 576. but not of Bieb.—Barr. icon. 694. ?—Bocc. mus. 2. p. 166. t. 117. ? Allied to *T. Serpýllum*. Corolla exceeding the calyx a little, purple. ?

Small-Peppermint Thyme. Fl. July, Aug. Clt. 1810. Shrub procumbent.

9 T. HERBABARÒNA (Lois. fl. gall. p. 360. t. 9.) procumbent, glabrous; floriferous branches shortly ascending; leaves on short petioles, ovate-lanceolate, acute, rounded at the base, ciliated a little; floral leaves conforming to the others; teeth of upper lip of calyx short, lanceolate, and the segments of the lower lip subulate, ciliated. ♄. H. Native of Corsica, Requien. T. affìnis, Sieb. pl. exsic. T. lùcidus, Guss. prod. fl. sic. suppl. 193. ? A'cynos hérba baròni, G. Don, in Loud. hort. brit. 239. Hardly distinct from *T. Serpýllum*, unless in the shape of the leaves, and more loose habit.

Herb-Baron Thyme. Fl. July, Aug. Clt. 1820. Shrub procumbent.

10 T. SERPY'LLUM (Lin. spec. 825.) suffruticose, procumbent; floriferous branches shortly ascending; leaves on short petioles, ovate, narrowed at the base, cuneated or rounded, veiny, having the petioles and margins more or less ciliated; floral leaves almost similar to the rest; teeth of upper lip of calyx lanceolate, ovate: segments of the lower lip subulate, ciliated. ♄. H. Native throughout Europe and the North of Asia, in dry exposed places; as of Britain, Sweden, Lapland, Denmark, Germany, France, Spain, Italy, Greece, European Russia, even to St. Petersburgh, Caucasus, Siberia; and the Himalaya, at Simla and Choor. T. exsérens and T. inclùdens, Ehrh. arb. p. 158. This is a very variable plant. Corollas purple. Whorls 6-12-flowered, usually approximating into a terminal head. This, the Wild Thyme, has the same sensible qualities as Garden Thyme, but the flavour is milder, and rather more grateful. It is a common notion, that the flesh of sheep that feed upon aromatic plants, particularly Wild Thyme, is superior in flavour to other mutton. The truth is, that sheep do not crop these aromatic plants, unless now and then by accident, or when they are first turned on hungry to downs, heaths, or commons; but the soil and situations favourable to aromatic plants, produce a short sweet pasturage, best adapted to feeding sheep, whom nature designed for mountains, and not for turnip grounds and rich meadows. The attachment of bees to this and other aromatic plants is well known. Few plants are subject to more varieties than Wild Thyme.

Var. α, vulgàris (Benth. lab. p. 343.) leaves smaller, with very prominent veins. ♄. H. T. Serpýllum, Lin. spec. 825. Fries. nov. fl. suec. Hook. fl. lond. vol. 3. with a figure. Smith, engl. bot. t. 1514. Woodv. med. bot. p. 301. t. 110. Curt. lond. 2. t. 47. T. sylvéstris, Schreb. and Rchb. fl. germ. exc. p. 313. T. rígidus, Rchb. T. humifùsus, Bernh. ex Rchb. fl. germ. l. c. T. collìnus, Bieb. fl. cauc. 3. p. 401. with narrower leaves. T. effùsus, Host, fl. austr. 2. p. 137. T. procèrus, Opiz. T. Kollmunzeriànus, Opiz. T. Sudéticus, Opiz. ex Rchb. fl. germ. exc. p. 312. T. serràtus, Opiz. l. c. T. lævigàtus, Vahl, symb. 2. p. 65. with cuneate-oblong, not linear leaves. T. arenàrius, Bernh. ex Rchb. fl. germ. l. c. T. melissoìdes, Fisch. T. decúmbens, Bernh. ex Rchb. fl. germ. l. c. T. glabràtus, Schultes, ex Rchb. l. c. and probably of Link. T. defléxus, Lej. ex Rchb. l. c. T. glàber, Mill. dict. no. 6. Corollas usually purple, rarely white.

Var. β, lanuginòsus; the whole plant white from wool; stems trailing. ♄. S. Native of France, at Fontainbleau; and of England, on the Gogmagog hills. T. lanuginòsus, Willd. spec. 3. p. 138. Schkuhr. handb. 2. p. 164. with a figure. Mill. dict. no. 8. T. serpýllum, var. δ, Lin. spec. p. 825.

Var. γ, citràtum; plant almost glabrous, yellowish, trailing. ♄. H. Native of Kent, and at Downton Castle, Shropshire. O. citriodòrus, Pers. ench. 2. p. 130. Schreb. ex Link, enum. 2. p. 115. T. subcitràtus, Schreb. ex Rchb. fl. germ. exc. p. 313. T. citràtus, Dumort, floril. belg. p. 47. Lemon Thyme is frequently kept in gardens for the agreeable odour of the leaves. Plants raised from seeds of this kind have not the same scent, it is therefore an accidental variety, which is preserved by means of slips or cuttings.

Var. δ, montànus (Benth. lab. p. 344.) leaves larger and less rigid. ♄. H. Native of the more southern parts of Europe. T. montànus, Waldst. et Kit. hung. 1. p. 72. t. 71. T. chamædrys, Fries. nov. fl. suec. ed. 1st. p. 35. ed. 2d. p. 197. T. pulegioìdes, Rchb. fl. germ. exc. p. 313. Cunìla thymoìdes, Lin. spec. p. 31. Hedeòma thymoìdes, Pers. ench. 2. p. 131. Zizíphora thymoìdes, Rœm. et Schultes, syst. 1. p. 209. T. nummulàrius, Bieb. fl. cauc. 2. p. 58. Sims, bot. mag. vol. 53. t. 2666. with larger broader leaves. T. pseudoserpýllum,

Rchb. T. marjoranoìdes, Desf. cat. hort. par. p. 74. Poir. suppl. 5. p. 306. T. ovàtus, Mill. dict. no. 7.

N.B. Besides the above varieties, there are numerous others which run so gradually into each other as scarcely to be distinguished.

Wild Thyme, or Mother of Thyme. Fl. June, Aug. Britain. Shrub trailing.

11 T. ANGUSTIFÒLIUS (Pers. ench. 2. p. 130.) suffruticose, procumbent; floriferous branches shortly ascending, glabrous or pubescent; leaves on short petioles, oblong-linear, narrowed at the base, veiny, having the petioles and margins ciliated; floral leaves almost similar to the others; calyxes usually glabrous: teeth of upper lip short, lanceolate-ovate, and the segments of the lower lip ciliated. ♄. H. Native of the South of Europe and Middle Asia, on dry arid hills, and by way sides; as of Portugal, Spain, South of France, South of Germany, Italy, Greece, Caucasus, and Siberia; also of Madeira and the Azores. T. aciculàris, Waldst. et Kit. hung. 2. p. 157. t. 147. T. cæspitítius, Link et Hoffm. fl. port. 1. t. 18.? Brot. phyt. p. 26. t. 11. T. rèpens, Link et Hoffm. fl. port. T. odoratíssimus, Bieb. fl. cauc. 3. p. 405. more erect plant. T. spinulòsus, Tenore, fl. nap. prod. p. 35. T. nervòsus, Gay, pl. exs. ind. itin. T. Zỳgis, Lin. spec. p. 826. and of many other authors. T. variábilis, Link et Hoffm. fl. port. 1. t. 17. T. ciliàtus, Lam. fl. fr. 2. p. 392. T. álbidus, Opiz, in bot. zeit. 1824. 2. p. 526. T. inodòrus, Lej. ex Dumort, fl. belg. p. 47. T. mìcans, Lowe, prim. fl. mader. p. 19. Thýmbra ciliàta, Tenore, fl. nap. prod. suppl. 2. p. 69. syll. fl. neap. p. 269. but not of Lin.—Barr. icon. 777. Hardly differing from some varieties of *T. Serpýllum*, unless in the narrower leaves. Corollas purple. There are varieties of this with glabrous, pubescent, or villous leaves, but usually quite glabrous. The *T. Zýgis* of the gardens is an erect, narrow-leaved, canescent plant, with white flowers.

Narrow-leaved Thyme. Fl. Aug. Clt. 1771. Shrub procumbent.

12 T. PANNÓNICUS (All. fl. ped. 1. p. 20.) suffruticose, procumbent; floriferous branches ascending, villous; leaves on short petioles, linear, or the lower ones are oblong, narrowed at the base, veiny, having the petioles and margins ciliated; floral leaves almost similar to the others; calyx villous: teeth of upper lip short, lanceolate-ovate, and the segments of the lower lip subulate, ciliated. ♄. H. Native of the South of Europe, and Middle Asia; as on the alps of Pannonia, South of Germany, Hungary, Podolia, Caucasus, Altaia, &c. T. Marschalliànus, Willd. spec. 3. p. 141. T. glabréscens, Hoffm. et Link, fl. port. 1. p. 130. t. 15.? T. Zỳgis, Pall. nov. act. petrop. 10. p. 313. but not of Lin. T. adscéndens, Bernh. ? ex Link, enum. 2. p. 115.? T. odoratíssimus, Mill. dict. no. 9. T. lanuginòsus, Mill. dict. no. 8. and other authors. T. Austrìacus, Bernh. ex Rchb. fl. germ. exc. p. 312. T. pilígerus, Opiz, ex Rchb. l. c. p. 313. Corollas purple. Hardly differing from *T. angustifòlius*, unless in the floriferous branches being longer and more erect, villous, and in the leaves being twice as long.

Pannonian Thyme. Fl. June, Aug. Clt. 1817. Shrub procumbent.

13 T. SIBTHÓRPII (Benth. lab. p. 345.) stem procumbent at the base, branched; branches erect, nearly glabrous; leaves nearly sessile, oblong-lanceolate, glabrous, nerved; floral leaves conform to the others; flowers numerous, small, somewhat spicate; calyx villous, the lips divaricate: teeth of upper lip lanceolate, very acute, and the segments of the lower lip subulate. ♄. F. Native of Greece, on the mountains. T. lanceolàtus, Sibth. et Smith, prod. fl. græc. 1. p. 419. but not of Desf. Leaves 6-9 lines long, broader than in *T. Pannónicus*. Whorls 2-6-flowered, approximating into loose spikes. Corollas hardly exceeding the calyx. Stamens exserted.

Sibthorp's Thyme. Shrub ½ foot.

14 T. LANCEOLA'TUS (Desf. fl. atl. 2. p. 30. t. 128. but not of Smith.) suffruticose, erect, clothed with soft villi; leaves nearly sessile, ovate-lanceolate, obtuse, roundly cuneated at the base, veiny, clothed with soft pubescence beneath; floral leaves similar to the others; racemes dense, secund; calyxes villous, nutant: the teeth of the upper lip ovate, acute, and the segments of the lower lip subulate. ♄. F. Native of the North of Africa, on Mount Atlas, near Tlemsen, Desf. Erect, much branched at the base. Leaves nearly an inch long. Spikes 2-3 inches long. Corollas purple. Bentham has seen specimens of this species, in which the spikes are scarcely secund.

Lanceolate-leaved Thyme. Fl. July, Aug. Clt. 1823. Shrub ½ to ¾ foot.

15 T. LINEA'TUS (Benth. in Wall. pl. rar. asiat. 1. p. 31. lab. p. 346.) procumbent; floriferous branches shortly ascending; leaves on short petioles, oblong-linear, narrowed at the base, veiny, having the petioles and margins ciliated; floral leaves ovate, rounded at the base, rather imbricate; calyx almost glabrous: teeth of upper lip short, lanceolate-ovate, and the segments of the lower lip subulate, ciliated. ♄.? F. Native of the Himalaya, among the mountains of Kamaon. This species differs from the more glabrous variety of *T. Pannónicus*, in the more loose habit and floral leaves.

Lined Thyme. Shrub procumbent.

16 T. BRACTEÒSUS (Visiani, mss. ex Benth. lab. p. 346.) procumbent; floriferous branches ascending; leaves petiolate, oblong, narrowed at the base, flat, veiny, having the margins and petioles of the upper leaves ciliated; floral leaves sessile, broadly roundish-cordate, imbricate, ciliated; calyx villous: teeth of upper lip short, ovate-lanceolate, and the segments of the lower lip short, subulate, ciliated. ♄. H. Native of Dalmatia. Corollas purple.? Habit of *T. lineàris*, but differs in the floral leaves; it differs also from *T. striàtus*, in the more loose habit, but is probably only a variety of it.

Bracted Thyme. Shrub procumbent.

17 T. STRIA'TUS (Vahl, symb. 78.?) procumbent; floriferous branches ascending, pubescent; leaves nearly sessile, linear, stiff, narrowed at the base, glabrous, ciliated; floral leaves broadly cordate-ovate, striated, and are, as well as the calyxes, pubescent, rather imbricate, approximating into an oblong head. ♄. F. Native of the South of Europe, Gibraltar, Naples; on the banks of the Bosphorus, Olivier. T. Zỳgis, Sibth. et Smith, fl. græc. 6. p. 60. t. 574. but not of Lin. T. hírtus, Willd. enum. p. 623.? T. aciculàris, Guss. prod. fl. sic. 2. p. 127. Corollas purple. Habit of *T. angustifòlius*; but the leaves are longer and stiffer, and the inflorescence is very distinct. The floral leaves are veiny, stiff, with ciliated edges.

Striated-leaved Thyme. Shrub procumbent.

18 T. HIRSU'TUS (Bieb. fl. cauc. 2. p. 59. 3. p. 408.? Benth. lab. p. 346.) procumbent; floriferous branches ascending, clothed with hoary pubescence; leaves sessile, linear, somewhat fascicled in the axils, with flat ciliated margins, clothed with hoary tomentum on both surfaces; floral leaves broader, closely approximate, as well as the flowers, into an oblong head. ♄. H. Native of Greece and Tauria. T. vulgàris, Sibth. et Smith, fl. græc. prod. 1. p. 419. but not of Lin. This species differs from *T. villòsus* in the quite entire floral leaves; and from *T. diffùsus* and *T. angustifòlius*, in the broader floral leaves; and from *T. striàtus* in the hairiness.

Hairy Thyme. Fl. July, Aug. Clt. 1821. Shrub procumbent.

19 T. VILLÒSUS (Lin. spec. 827.) suffruticose, procumbent;

branches short, rather hairy; leaves oblong-linear, flattish, with ciliated margins; floral leaves oblong-lanceolate, serrated at top, and are, as well as the calyxes, coloured; whorls few-flowered, approximate. ♄. F. Native of the Grecian Archipelago. Sibth. et Smith, fl. græc. 6. p. 62. t. 578. Hoffm. et Link, fl. port. 1. t. 14. Corollas purple. Habit of *T. angustifòlius;* from which it differs in the leaves being more ciliated, and especially in the calyxes being twice the size, and in the floral leaves, which are coloured as in *Thýmbra spicàta.* Whorls loose, not imbricate. Corolla scarcely exceeding the calyx.

Villous Thyme. Fl. June, July. Clt. 1759. Shrub procumbent.

20 T. CAPITELLA'TUS (Hoffm. et Link, fl. port. 1. t. 12.) shrubby, canescent; leaves lanceolate, obtuse, with revolute edges, clothed with hoary tomentum beneath; floral leaves subimbricate, broad-ovate, exceeding the calyxes; whorls few-flowered, collected into globose terminal heads. ♄. F. Native of Portugal, beyond the Tagus, near Lisbon, Link; and in the Algarves, Masson. Habit and cauline leaves of *T. vulgàris.* Heads of flowers very numerous, size of peas. Calyx small, with short spreading teeth. Corolla purplish? scarcely longer than the calyx.

Small-headed Thyme. Shrub.

21 T. NUMI'DICUS (Desf. fl. atl. 2. p. 29.? Benth. lab. p. 347.) erect or prostrate at the base; branches clothed with hoary pubescence; leaves sessile, oblong-linear or spatulate, small, fascicled, flat, glabrous, ciliated a little; floral leaves imbricating, very broad at the base; whorls closely approximate into small globose heads; calyx villous: teeth of upper lip lanceolate, acute, and the segments of the lower lip subulate. ♄. F. Native of Spain, Pavon; and of Barbary, near La Calle, Desf. Habit of *T. vulgàris;* but differs from it in the shorter glabrous leaves, and especially in the inflorescence. Heads hardly larger than peas, hairy. Floral leaves clasping the flowers, ciliated, ex Desf. Corollas small, rose-coloured.

Numidian Thyme. Fl. July, Aug. Clt. 1816. Shrub ½ foot.

22 T. HISPA'NICUS (Poir. dict. 7. p. 646.) shrubby, erect; leaves linear, ciliated; flowers capitate, rather villous. ♄. F. Native of Spain, and of North Africa, on the sea-shore. Branches numerous, slender. Leaves sessile. Teeth of calyx sub-setaceous, ciliated. Corolla purplish, longer than the calyx. Stamens rather longer than the corolla. Very nearly allied to *T. Numídicus,* and probably only a variety of it.

Spanish Thyme. Shrub ½ foot.

23 T. CAPITA'TUS (Hoffm. et Link, fl. port. 1. p. 123.) procumbent at the base, much branched; branches erect, canescent; sterile branches sub-spinescent; leaves sessile, linear or oblong, flat; floral leaves imbricate, ovate, ciliated, green, covering the calyxes. ♄. H. Native of the region of the Mediterranean, in dry, arid, stony places; as of Barbary, near Tangiers; Portugal, Spain, Sicily, Naples, Greece, Syria, Palestine, &c. T. Créticus, Brot. phyt. p. 27. t. 12. T. Marinósci, Tenore, fl. nap. prod. p. 35. syll. p. 296. Saturèia capitàta, Lin. spec. 795. Sibth. et Smith, fl. græc. 6. p. 36. t. 544.—An elegant, densely branched shrub. Heads of flowers globose or oblong, composed of 6-flowered whorls. Corollas exserted, purple. Stamens exserted.

Capitate-flowered Thyme. Fl. June, Oct. Clt. 1596. Shrub ½ to 1 foot.

SECT. III. PSEUDOTHY'MBRA (from ψευδος, *pseudos,* falsehood; and θυμβρα, *thymbra,* a sweet-scented herb allied to Thyme.) Benth. lab. p. 348. Floral leaves large, membranous, coloured.

24 T. CEPHALÒTUS (Lin. spec. 826.) erect, branched, clothed with hoary pubescence; leaves sessile, linear, with revolute edges, small, fascicled: floral leaves large, ovate, acute, rather membranous, coloured, covering the calyxes. ♄. H. Native of Spain and Portugal. Habit of *T. vulgàris,* but the inflorescence is very distinct. Floral leaves sessile, with ciliated edges, purplish. Heads of flowers size of cherries. Corolla downy outside, purplish or white: tube exserted from the calyx. Stamens diverging, about equal in length to the corolla.

Headed Thyme. Fl. June, Sept. Clt. 1759. Shrub ½ to 1 foot.

25 T. CILIA'TUS (Benth. lab. p. 348.) shrubby, erect; branches pubescent or villous; leaves oblong-lanceolate or linear, obtuse, flat, green, veiny, having the margins a little ciliated; floral leaves large, broad-ovate, acute, rather membranous, nerved, coloured, ciliated, imbricate, covering the calyxes. ♄. F. Native of the North of Africa, on arid hills near Mascar, Desf.; and near Galla, Masson; and the Canary Islands. Thýmbra ciliàta, Desf. fl. atl. 2. p. 10. t. 122. An elegant much branched shrub. Heads of flowers ovate, cylindrical. Bracteas purplish. Teeth of calyx ciliated: lower teeth the longest. Corollas violaceous. Stamens scarcely longer than the corolla.

Ciliated Thyme. Fl. June, Aug. Clt. 1824. Shrub ½ to 1 foot.

† *Species not sufficiently known, or doubtful.*

26 T. PULCHE'LLUS (Meyer, verz. pflanz. p. 87.) stems shrubby at the base, erect, pubescent on the angles; leaves quite glabrous, flat, oblong or linear, obtuse: lower ones elliptic; whorls spicately approximate; teeth of the upper lip of the calyx nearly equal, subulate; stamens exserted. ♄. H. Native of Caucasus, on gypsaceous hills at the river Anticeta.

Neat Thyme. Shrub erect.

27 T. SERPYLLOI'DES (Bory, ann. gen. 3. p. 18.) stems fruticose, procumbent; leaves linear or lanceolate, obtuse, a little ciliated at the base; flowers capitate. ♄. H. Native of Spain, on Sierra Nevada, among rocks. Allied to *T. angustifòlius.* There are varieties of this with white and purple flowers.

Serpyllum-like Thyme. Shrub procumbent.

28 T. RICHA'RDI (Pers. ench. 2. p. 130.) flowers capitate; bracteas ovate, and are, as well as the calyxes, stiff; leaves broad-ovate, nerved beneath. ♄. H. Native of the Balearic Islands, Ant. Richard. Perhaps the same as *Oríganum Majóricum,* Cambess.

Richard's Thyme. Shrub.

29 T. MULTIFLÒRUS (Pers. ench. 2. p. 131.) flowers axillary, pedunculate; peduncles many-flowered; calyxes oblong, with acute teeth; leaves ovate, glabrous, having the veins prominent beneath. ♄.?H. Formerly cultivated in the garden of Trianon, Persoon. Allied to *Calamíntha.* Leaves dotted beneath.

Many-flowered Thyme. Pl.?

30 T. HIRSUTI'SSIMUS (Poir. dict. 7. p. 650.) leaves ovate-lanceolate, nearly sessile, hairy; spikes capitately verticillate; bracteas ciliately hairy. ♄. T. Native of the Levant. Erect, humble, much branched. Leaves small. Flowers disposed in short spicate heads at the tops of the branches, dense, very villous. Bracteas lanceolate, equalling the flowers, ciliated. Corolla purplish, rather longer than the calyx. Teeth of calyx subulate, acuminated, rather spiny, nearly equal, ciliated. Perhaps the same as *Micromèria nervòsa.*

Very-hairy Thyme. Shrub ½ foot.

31 T. A'LBICANS (Hoffm. et Link, fl. port. t. 11.) flowers

verticillately capitate, terminal and axillary; leaves lanceolate, white beneath; calycine teeth nearly equal, subulate, ex Poir. dict. suppl. 5. p. 305. ♄. H. Native of Portugal. Perhaps the same as *Micromèria Græ'ca.*

Whitish-leaved Thyme. Shrub.

32 T. MEGAPOTA'MICUS (Spreng. cur. post. p. 224.) stem erect, herbaceous; leaves linear, convolute, rough from dots; peduncles crowded, exceeding the leaves. Native of the South of Brazil, at Rio Grande. Perhaps the same as *Hedeòma multiflòra.*

Rio Grande Thyme. Pl. ?

33 T. LONGICAU'LIS (Presl, fl. sic. 37.) stems very long, creeping, puberulous; leaves cuneiform-oblong, obtuse, length of calyxes, which are pubescent; calycine teeth ciliated, subulate; anthers exserted. ♃. ? H. Native of Sicily.

Long-stemmed Thyme. Pl. creeping.

34 T. *Æ*GYPTI'ACUS (Bernh. ex Steud, nom. p. 835.) Nothing is known of this plant but the name.

Egyptian Thyme. Shrub.

35 T. CAMPHORA'TUS (Hoffm. et Link, fl. port.) ♄. H. Native of Portugal.

Camphorated Thyme. Shrub.

Cult. All the species of *Thymus* prefer a dry, light, sandy soil, and an exposed situation. They are of easy culture and propagation; and are readily increased either by divisions slips, cuttings, or seeds, as recommended for *Thymus vulgàris*, p. 767. Some of the more tender and rarer species should be grown in pots, and placed among other Alpine plants, that they may be sheltered from the frosts of winter.

XLIII. SATURE'IA (Ssatter is the Arabic name for all labiate plants.) Lin. gen. no. 707. Schreb. gen. 961. Juss. gen. p. 112. Benth. lab. p. 351.

LIN. SYST. *Didynàmia, Gymnospérmia.* Calyx campanulate, 10-nerved, equal, 5-toothed or obscurely-bilabiate; throat naked inside, or furnished with a few hairs. Corolla having the tube equalling the calyx and imbricating bracteas; limb bilabiate; upper lip erect, flat, entire, or emarginate: lower one spreading, trifid, with flat nearly equal lobes. Stamens 4, erectish, diverging: lower ones longer, exserted; anthers 2-celled: cells parallel or diverging. Style about equally bifid at top; lobes subulate, stigmatiferous at apex.—Aromatic herbs or under shrubs. Leaves small, quite entire, often fasciculate in the axils. Whorls sometimes few-flowered, with short bracteas or without bracteas; sometimes many-flowered, or collected into heads, propped by bracteas.

SECT. I. SATURE'IA (see genus for derivation.) Benth. lab. p. 352. Whorls few-flowered; bracteas small or wanting.

1 S. HORTE'NSIS (Lin. spec. 795.) annual, erect, pubescent; whorls sub-secund, remote, or the upper ones are somewhat spicate. ⊙. H. Native of the South of Europe; as of Spain, South of France, Italy: it is also to be found in North America, Cape of Good Hope, and in the Indian Peninsula; but has probably been introduced from Europe. Lam. ill. t. 504. f. 1. S. viminea, Burm. fl. ind. p. 126. but not of Lin.—Sabb, hort. rom. 3. t. 70.—Blackw. icon. t. 419.—Mor. hist. sect. 11. t. 17. f. 1. Herb much branched, usually purplish. Leaves oblong-linear, acute, entire. Whorls usually 6-flowered. Bracteas linear, or altogether abortive. Corolla pale red, scarcely exceeding the calycine teeth. Stamens shorter than the lobes of the corolla. Summer savory is raised from seed, being an annual. In March or April sow either in small drills, 9 by 6 inches apart, or on smoothed surfaces, and raked in lightly. The plants may either remain to be thinned, or some may be transplanted in June, 9 by 6 inches asunder. The herb comes in for gathering from June to October. When a store is to be dried, draw it by the roots. Abercrombie.

Garden or Summer Savory. Fl. June, Aug. Clt. 1652. Pl. ½ to 1 foot.

2 S. RUPE'STRIS (Wulf. in Jacq. misc. 2. p. 130. icon. rar. 3. t. 494.) suffruticose; branches ascending; leaves petiolate, ovate, obtuse, glabrous, or rather canescent; racemes dense, many-flowered, sub-secund; teeth of calyx short, acutish. ♄. H. Native of Carniola, Hungary, Croatia, Carinthia, Dalmatia, &c., in dry rugged mountainous places. S. thymifòlia, Scop. fl. carn. ed. 2d. t. 29.? Calamíntha rupéstris, Host, fl. austr. 2. p. 131. Melíssa álba, Waldst. et Kit. pl. rar. hung. 3. p. 227. t. 205. Népeta Croática, Spreng. syst. 2. p. 727. Népeta pùmila, Spreng. cent. spec. min. cogn. p. 29. Habit between *Saturèia* and *Melíssa*. Leaves almost quite entire. Whorls many-flowered, disposed in dense spikes or racemes. Bracteas minute. Throat of calyx glabrous. Corolla white, 2-3 times longer than the calyx, tinged with blue.

Rock Savory. Fl. June, July. Clt. 1798. Shrub 1 to 1½ foot.

3 S. MONTA'NA (Lin. spec. 794.) suffruticose, erect, glabrous, or scabrously-pubescent; leaves oblong-linear, acute, or the lower ones are spatulate or cuneated; whorls many-flowered, loose, secund, approximating into spikes or racemes. ♄. H. Native in the region of the Mediterranean, in arid, exposed places, and on mountains; in the Pyrenees, near Bagneres de Luchon; Spain, Portugal, North of Africa, South of France and Germany, Greece, Italy, Naples, &c. Sibth. et Smith. fl. græc. 6. p. 35. t. 543. S. trífida, Mœnch. meth. p. 386. S. subspicàta, Vis. spec. pl. dalm. 11. t. 4. S. Illyrica, Host, fl. austr. 2. p. 133. S. variegàta, Host, fl. austr. 2. p. 134. S. hyssopifòlia, Bert. ann. di stor. nat. 1829. fasc. 3. p. 406. Micromèria montàna, Rchb. fl. germ. exc. p. 311. Micromèria pygmæ'a, Rchb. l. c. S. pygmæ'a, Sieb. pl. exs. ex. Rchb. l. c. Micromèria variegàta, Rchb. fl. germ. exc. p. 859.—Sab. hort. rom. 3. t. 64.—Mor. hist. sect. 11. t. 17. f. 3. Shrub erect or ascending, much branched. Branches beset with very short reflexed hairs. Lower whorls rather remote. Corolla white or purplish, more than twice as long as the calyx. Winter Savory, Suriette, French, Saturei, Germ. Satureggia, Italian, was cultivated in England in 1562; that is as far back as we have any printed registers; for there can be no doubt that this and summer savory, with other pot-herbs, were much cultivated in far earlier times, before the spices of the East Indies were known and in common use. This kind of savory is generally propagated by slips or cuttings of the young side shoots in April, May, and June, or July, planted in a shady border and watered; also by dividing at the root. When the plants are a little advanced in branchy growth, they may be transplanted. Set some in single plants a foot apart; others to form a close edging. In spring and autumn loosen the earth a little about the plants, and trim off decayed and irregular parts. It continues useful for summer and winter; and some may be gathered, when of full growth, in autumn, to dry for winter use.

Mountain or Winter Savory. Fl. June, July. Clt. 1562. Shrub ½ to 1 foot.

4 S. MU'TICA (Fisch et Meyer, ind. sem. hort. petesb. 1836. p. 49.) plant clothed with hoary pubescence; stems erect, much branched; branches twiggy: leaves oblong or almost linear; cymes axillary, few-flowered; bracteoles linear, much shorter than the calyxes; calyx bilabiate, with sub-linear mutic lobes, the lower 2 the longest. ♄. H. Native of Caucasus, on the Talusch Mountains, in arid, stony places. Allied to *S. montàna*, but differs in the segments of the calyx being mutic, and from *S. intermèdia*, in the stem being tall and erect, in the leaves being narrower and distant, in the bracteoles being minute, &c.

Mutic-calyxed Savory. Fl. June, July. Clt. 1836. Shrub erect.

5 S. virga'ta (Vis. ex. pl. exs. un. itin. wurtemb. ex Benth. lab. p. 353.) suffruticose, hispidly-scabrous; leaves oblong-linear, acute; whorls many-flowered, nearly equal, rather remote, disposed in long twiggy racemes. ♄. H. Native of Dalmatia, Naples, &c. Micromèria spicàta, Rchb. fl. germ. exc. p. 311. S. fasciculàta, Tausch, in syll. pl. soc. ratisb. 2. p. 248.? but not of Biv. S. cuneifòlia, Tenore, fl. nap. t. 151. f. 2. syll. p. 277. S. obovàta, Lag. ex Spreng. syst. 2. p. 720. This does not differ in any respect from *S. montàna*, unless in the inflorescence and hairiness; the teeth of the calyx is also a little shorter, and the flowers smaller. Racemes never beyond a foot in length.

Twiggy Savory. Shrub 1 to 2 feet.?

6 S. spinòsa (Lin. spec. 795.) suffruticose, erect, tortuosely-branched; branches tomentose, spinescent; leaves oblong, acute, glabrous; whorls few, few-flowered. ♄. F. Native of the Grecian Islands. Sibth. et Smith, fl. græc. 6. p. 36. t. 545. Much branched. Branches short, all ending in spines. Leaves shorter and broader than those of *S. montàna*, and the flowers smaller. Corollas purplish.?

Spiny-branched Savory. Shrub ½ foot.

7 S. inodòra (Salzm. pl. tang. exs. ex Benth. lab. p. 354.) suffruticose, diffuse, nearly glabrous, branches ascending; leaves linear-spatulate, obtuse, with ciliated edges: superior leaves exceeding the flowers; flowers few, nearly sessile; calycine teeth bluntish. ♄. F. Native near Tangiers, Salzmann. A very distinct species, with the habit of *Thymus angustifòlius*. Branches scabrously-pubescent: branchlets short, densely clothed with leaves at top. Throat of calyx naked inside.

Scentless Savory. Shrub diffuse.

Sect. II. Tragorìganum (from τραγος, *tragos*, a goat, and οριγανον, *origanon*, marjoram, goat's marjoram.) Benth. lab. p. 354. Whorls densely-globose, many-flowered, remote, propped by bracteas. Calyx about equal in height to the tube of the corolla.

8 S. Thy'mbra (Lin. spec. 794.) suffruticose, diffuse, scabrously hispid; leaves oblong-linear, or the lower ones are obovate-cuneated, acute; whorls many-flowered, dense, nearly globose, all remote. ♄. H. Native of the Grecian islands, and the mountains of Syria and Palestine. Sibth. et Smith, fl. græc. 6. p. 33. t. 541. Thymus tragorìganum, Lin. mant. p. 84. Saturèia tragorìganum, Tausch. in syll. pl. soc. ratisb. 2. p. 248.—Sab. hort. rom. 2. t. 71.—Mor. hist. sect. 11. t. 17. f. 6.—Park. theatr. 5. f. 4.—Barr. icon. rar. t. 898. Leaves more acute, shorter and a little broader than those of *S. montàna*. Whorls 20-40-flowered. Bracteas ovate, lanceolate, acute, adpressed, equalling the calyxes, hispid from spreading pili, as well as the calyxes. Teeth of calyx nearly equal, lanceolate-subulate. Corollas smaller than those of *S. montàna*.

Thymbra Savory. Fl. May, July. Clt. 1739. Shrub 1 to 2 feet.

Sect. III. Pychnothy'mus (from πυχνος, *pychnos*, dense; and θυμος, *thymos*, thyme; in reference to the dense heads of flowers.) Benth. lab. p. 354. Whorls collected into an oblong head, propped by bracteas. Calyx minute.

9 S. rìgida (Bartr. in herb. Banks ex Benth. lab. p. 354.) suffruticose, procumbent; branches ascending, rather pilose at top; leaves lanceolate, obtuse, with revolute margins; whorls collected into an oblong head; bracteas imbricate, very villous; calyx very short, membranous. ♄. F. Native of Eastern Florida. Branches almost simple, numerous. Leaves sometimes glabrous, and sometimes hispid. Bracteas a little coloured, lanceolate, obtuse. Tube of corolla equalling the bracteas; limb like that of *Pychnánthemum*.

Stiff Savory. Shrub ½ foot.

† *Doubtful species.*

10 S. interme'dia (Meyer, verz. pflanz. p. 91.) plant clothed with canescent pubescence; stems diffuse, much branched, shrubby at the base; leaves obovate-oblong, bluntish, a little crenated; cymes axillary, few-flowered; bracteas nearly linear, rather shorter than the calyxes; calyx bilabiate, with linear-lanceolate mutic lobes. ♄. H. Native of Caucasus, in stony places, near Swant. Leaves of *S. Thýmbra*, and the calyxes almost of *S. montàna*.

Intermediate Savory. Shrub.

11 S. sessiliflòra (Presl, fl. sic. p. 36.) stem shrubby at the base; branches diffuse, clothed with velvety pubescence; leaves linear-lanceolate, acute, ciliated, dotted, scabrous above; fascicles of flowers sessile, disposed into an oblong, leafy spike; mouth of calyx ciliated, and the teeth ovate, erectly spreading; tube of corolla twice as long as the calyx. ♄. H. Native of Sicily.

Sessile-flowered Savory. Shrub diffuse.

12 S. hirsu'ta (Presl, del. prag. 79.) stems simple, hairy; hairs erectly spreading; leaves ovate-lanceolate, hispid; peduncles axillary, short, 1-3-flowered; bracteas about equal in length to the calyxes. ♄.? H. Native of Sicily. Perhaps referrible to *Micromèria microphýlla* or *M. Juliàna*.

Hairy Savory. Shrub.?

13 S. parviflòra (Presl, fl. sic. p. 36.) stems suffruticose at the base, villous; leaves villous, ovate-lanceolate, twice the length of the internodes; fascicles of flowers sessile, 3-flowered, disposed into a leafy spike; bracteas numerous, setaceous; teeth of the calyx erect; tube of corolla exceeding the length of calyx. ♄. H. Native of Sicily.

Small-flowered Savory. Shrub.

14 S. angustifòlia (Presl, fl. sic. 36.) stem suffruticose, spreading, scabrously-pubescent, as well as the leaves; leaves oblong-lanceolate; fascicles of flowers shorter than the leaves; teeth of calyx erectly-spreading; tube of corolla exceeding the calyx a little. ♄. H. Native of Sicily.

Narrow-leaved Savory. Shrub diffuse.

15 S. longiflòra (Presl, fl. sic. p. 36.) stem suffruticose, diffuse; leaves ovate-lanceolate, canescent beneath; fascicles of flowers equal in length to the leaves; teeth of calyx spreading; tube of corolla twice as long as the calyx. ♄. H. Native of Sicily.

Long-flowered Savory. Shrub diffuse.

16 S. campane'lla (Ehrenb. naturg. reize, p. 13.) suffruticose; branches pubescent; leaves ovate-lanceolate, acute, quite entire, rather hispid, nearly sessile; cymes of flowers a little longer than the leaves, bracteate; calyx shortly campanulate, deeply 5-toothed. ♄. F. Native of the North of Africa, near Castelnuovo, Ehrenberg.

Small-bell calyxed Savory. Shrub.

17 S. O'lla (Ehrenb. l. c.) suffruticose; branches rather bristly; leaves narrow-linear and lanceolate-linear, acute, setosely hispid; cymes of flowers hardly longer than the leaves, bracteate; calyx shortly campanulate, deeply 5-cleft. ♄. F. Native along with the preceding. Habit almost of *S. Thýmbra*, but the leaves and flowers are larger.

Olla Savory. Shrub.

18 S. sca'bra (Presl, fl. sic. p. 36.) ♄.? H. Native of Sicily. Thymus scaber. Presl, del. prag.

Scabrous Savory. Shrub.

19 S. globífera (Desf. ex Steud. nom.) Nothing is known of this plant but the name.

Globe-bearing Savory. Shrub.
Cult. For culture and propagation, see *Thýmus*, p. 771.

XLIV. HYSSO'PUS (Hyssopus, of Pliny; ὕσσωπος, of Dioscorides; derived from the Hebrew name of Hyssop, *ezob*, or the Arabic name *azzof*.) Benth. in bot. reg. vol. 15. lab. p. 356. Hyssòpus species, Lin. and other authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 15-nerved, equal, or with a somewhat oblique mouth; teeth 5, equal; throat naked inside. Corolla having the tube equalling the calyx, bilabiate; upper lip erect, flat, emarginate: lower lip spreading trifid, middle lobe the largest. Stamens 4, exserted, diverging, didynamous: lower ones the longest; anthers 2-celled: cells linear, divaricate. Style somewhat equally bifid at top; lobes subulate, stigmatiferous at apex. This genus differs from all others belonging to the tribe *Saturèia* in the calyx, which is more allied to tribe *Nepèteæ*.

1 H. officina'lis (Lin. spec. 767.) ♄. H. Native of the South of Europe and Middle Asia; South of France, Italy, South of Germany, South of Russia; Caucasus and the Altaian Mountains. Woodv. med. bot. 181. t. 65. Jacq. austr. 3. t. 254.—Riv. mon. irr. t. 68.—Sabb. hort. rom. 3. t. 79. Shrub usually glabrous, diffuse, much branched. Corollas blueish purple, rarely white. Whorls 6-15-flowered, approximate into terminal secund spikes, or the lower whorls are remote. Outer bracteas lanceolate-linear, acute, scarcely shorter than the calyxes; inner bracteas minute.

Var. α, latifòlius (Benth. lab. p. 357.) leaves elliptic, glabrous, quaternately decussate, green. ♄. H. H. Fischèri, Hortul. H. alopecuroìdes, Fisch. ex Hortul. H. officinàlis, β, decussàtus, Pers. ench. 2. p. 114. H. myrtifòlius, Desf. hort. par.

Var. β, vulgàris (Benth. lab. p. 357.) leaves linear, lanceolate, usually glabrous, green on both surfaces. ♄. H. H. officinàlis, Lin. spec. 767. Jacq. fl. austr. 2. t. 254. Lam. ill. t. 502. and other authors. H. rùber. Bernh.

Var. γ, angustifòlius (Benth. lab. p. 357.) leaves narrow, obtuse, quite entire, with sub-revolute edges, narrowed more to the base, green on both surfaces. ♄. H. Native of Caucasus and other places in Asia. H. angustifòlius, Bieb. fl. cauc. 2. p. 38. and 3. p. 389. H. Orientàlis, Adam. ex Willd. enum. 2. p. 600. H. Caucásicus, Spreng. ex Steud. nom. ?

Var. δ, canéscens (Dl. fl. fr. suppl. 396. Benth. lab. p. 357.) The whole plant is canescent from villi of pubescence. ♄. H. Native of Switzerland and France, among the mountains. H. Schleichèri, G. Don. in Loud. hort. brit. p. 233. H. officinàlis, Schleich. Corollas blue. This is an elegant plant when in blossom.

The common hyssop, *hysope*, French, *isop*, Germ. and *isopo*, Ital., has a strong aromatic flavour, and warm pungent taste. The leaves and young shoots are occasionally used as a pot-herb, and the leafy tops and flower-spikes are cut, dried, and preserved for medicinal purposes. Its virtues depend entirely on an essential oil, which rises in distillation both with water and with alcohol. Besides the general virtues of an aromatic, its preparations were formerly recommended in humoral asthmas, coughs, and other disorders of the breast and lungs, and were said to promote expectoration. There are several varieties of *hyssop* cultivated, as the white and red-flowered; but the blue-flowered is the original colour, and most commonly cultivated.

Common or *Officinal* Hyssop. Fl. June, Sept. Clt. 1548. Shrub 1 to 2 feet.

Cult. Hyssop is raised from seed, by slips and cuttings of the branches, and by dividing the plant at the root. It likes a dry, sandy soil. When it is propagated by seed, sow in March or April a small portion either broad-cast and raked in, or in small drills 6 inches apart. The plants may mostly be transplanted into final beds in June or July, 9 inches apart, or some may be planted as an edging, or you may also sow some seed for an edging, to remain where sown. Give the edgings occasional trimmings in their established growth, cutting away also any decayed flower-spikes in autumn. You may take rooted offsets from established plants in March, April, August, or September; cuttings from the stalks in April and May; also cuttings of the young shoots in June and July. After May shade for a time, or plant in a shady border. If for culinary purposes the distance from plant to plant may be nine inches; in the physic garden 18 inches or 2 feet. Water at planting, and twice or thrice a week in dry weather till rooted.

XLV. COLLINSO'NIA (named by Linnæus in honour of Peter Collinson, F. R. S., a most distinguished promoter of botanical studies, and the first who introduced this plant, among many others, to the English gardens, Miller.) Lin. gen. no. 40. Schreb. gen. no. 51. Gærtn. fruct. p. 317. t. 66. Juss. gen. p. 112. ed. Usteri, p. 125. Benth. lab. p. 357.

Lin. syst. *Diándria, Monogýnia.* Fructiferous calyx declinate, ovate, 10-nerved; throat almost naked inside; limb bilabiate; upper lip truncate, flattish, tridentate: lower lip bifid. Corolla exserted, sub-campanulate; tube a little exserted; throat widened; limb sub-bilabiate, the 4 superior lobes nearly equal: the lower lobe usually the longest, declinate, flattish, toothed or lacerately fringed. Stamens 2 or 4, divaricate, much exserted: upper ones the shortest, or altogether abortive; anthers 2-celled: cells divaricate, often confluent. Style about equally bifid at top; stigmas minute, terminal. Achenia dry and smooth.—Strong-scented herbs, with the habit almost of *Plectránthus*, Section *Germànea*. Cauline leaves large, but the floral leaves are small and bractea-formed. Flowers pedicellate, solitary; pedicels opposite, disposed in simple but usually paniculately-branched racemes. Calyx small, in the floriferous state, but increasing much to the fructiferous state. Corollas yellow, or yellowish purple.

1 C. Canade'nsis (Lin. spec. p. 30. hort. cliff. 14. t. 5.) stems almost glabrous; leaves broad-ovate, acuminated, rounded at the base, sub-cordate, or rarely cuneated, glabrous; panicles elongated, loose, many-flowered; flowers diandrous. ♃. H. Native from Canada to Carolina, among rocks and stones, in woods. C. decussàta, Mœnch, meth. p. 379. C. ovàlis, Pursh, fl. amer. sept. 1. p. 21. C. cuneàta, Wender. schrift. nat. ges. marb. ? Stem branched, glabrous or a little downy. Leaves ample, glabrous, or minutely-glandular, serrately-crenated. Corolla yellow, 4 times longer than the floriferous calyx.

Mr. Bartram was the first who discovered this plant, and sent it to Europe. It has a peculiar scent, which is agreeable but very strong. It is reputed to be an excellent remedy against pains in the limbs and a cold, if the parts affected be rubbed with it: a decoction of it is also said to have cured the bite of the rattle-snake. In the States they call the plant horse-weed, because the horses eat it in the spring before any other plant comes up.

Canadian Collinsonia. Fl. Aug. Oct. Clt. 1734. Shrub 1 to 2 feet.

2 C. tuberòsa (Michx. fl. bor. amer. 1. p. 17.) leaves somewhat rhomboid-oval, acute, cuneated at the base; panicles elongated, loose, much branched, many-flowered; flowers diandrous. ♃. F. Native of Carolina, in shady, humid parts of woods. C. serótina, Walt. fl. car. 65. ex Pursh. Stem almost terete at bottom, branched. Leaves 1½ inch long; cauline ones opposite, cordate. Calycine teeth setaceous, much longer than the tube. Flowers much smaller than those of *C. Canadénsis*.

Tuberous-rooted Collinsònia. Fl. Aug. Clt. 1806. Pl. 1 to 1½ foot.

3 C. scabriu'scula (Ait. hort. kew. ed. 2d. vol. 1. p. 20.) stems procumbent, almost glabrous; leaves petiolate, ovate, acute, toothed, rounded at the base, glabrous or rather pilose above, glabrous beneath; racemes simple, axillary, and terminal; flowers diandrous. ♃. H. Native of Carolina and Florida, and at Jacksonville in Louisiana. C. scàbra, Pers. ench. 1. p. 29. Pursh. fl. amer. sept. 1. p. 20. C. præ'cox, Walt. fl. car. p. 65. Leaves hardly 2 inches long, smaller than the rest. Racemes pubescent. Flowers one half smaller than those of *C. Canadénsis*. Corollas reddish yellow, Pursh. Stems sometimes erectish, and the racemes a little branched.

Roughish Collinsònia. Fl. July, Sept. Clt. 1776. Pl. proc.

4 C. puncta'ta (Elliott, bot. car. 1. p. 36.) leaves ovate-lanceolate, acuminated, acute at the base, pubescent, and dotted beneath; panicles compound; stamens 4, the 2 upper ones sterile, capitate, the 2 lower ones filiform, much exserted. ♃. F. Native of Carolina in boggy places, common. Root tuberous. Stems scabrous, pubescent, branched at top. Leaves pubescent above, and rather tomentose beneath. Corolla yellowish, downy outside, and pilose inside.

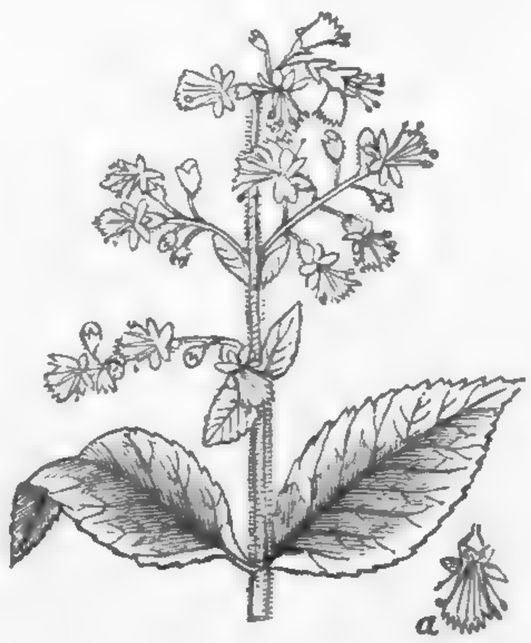
Dotted Collinsònia. Pl. 2 to 6 feet.

5 C. verticilla'ta (Baldw. in Elliott, bot. car. 1. p. 36.) stem glabrous and naked at the base, clothed with clammy pubescence above; leaves broad-ovate, acuminated, roundly-cuneated at the base, approximating by twin pairs, and therefore falsely verticillate; raceme loose, almost simple; flowers tetrandrous. ♃. F. Native of Georgia. Herb almost simple. Leaves large, more narrowed at the base than in *C. Canadénsis*. Lower whorls 6-flowered; upper ones 2-flowered. Corolla 3 times longer than the calyx, downy outside. Stamens nearly equal, 2 ascending and 2 declinate.

Whorled-leaved Collinsònia. Pl. 1 foot.

6 C. anisat'a (Pursh. fl. amer. sept. 1. p. 21.) leaves broad-ovate, a little toothed, roundly-truncate at the base, wrinkled, pubescent on the nerves beneath, and on the stems; panicle dense; flowers tetrandrous. ♃. F. Native of Georgia, on the mountains, Lyon. Sims. bot. mag. 1213. Stem a little branched, rufescent, clothed with clammy pubescence. Leaves shorter than in *C. Canadénsis*. Corollas size of those of *C. Canadénsis*, pale yellow, glabrous outside.

FIG. 79.



Anise-scented Collinsonia. Fl. Sept. Oct. Clt. 1806. Pl. 2 to 3 feet.

Cult. The species are generally strong coarse plants, of no beauty. They grow well in common garden soil, but prefer peat, and a moist situation; and they are readily increased by dividing at the root in spring. All of them, except *C. Canadénsis*, require protection in severe frosts, by covering them over with haulm of other herbs, or by mulching them with horse litter.

XLVI. CUNI'LA (The name of a plant in Pliny, κονιλη of Nicander; supposed to be derived from κωνος, *konos*, a cone, because the flowers grow in heads resembling a cone.) Benth. lab. p. 360. Cunìla, species of Lin. and other authors. Zizíphora species, Rœm. et Schultes.

Lin. syst. *Diándria, Monogýnia.* Calyx about 13-nerved, ovate-tubular, equal, 5-toothed; throat villous inside. Corolla having the tube equalling the calyx, naked inside, and the limb bilabiate; upper lip erect, flattish, usually emarginate; lower lip spreading trifid, with nearly equal entire lobes, the middle lobe rather the largest and emarginate. Stamens 2, erect, exserted, without any rudiments of the upper 2; filaments glabrous, toothless; anthers 2-celled: cells parallel, or at length divaricate. Style shortly bifid at apex; lobes nearly equal, subulate, minutely stigmatiferous at top. Achenia dry, smooth.—Herbs, shrubs, and under shrubs. Whorls sometimes loosely corymbose; sometimes axillary and few-flowered, much shorter than the leaves; sometimes densely many-flowered, approximating into terminal spikes or heads. Flowers small, white, or purplish. Corolla usually villous inside; lower lip dotted.

1 C. maria'na (Lin. spec. 30.) herbaceous; leaves nearly sessile, ovate, serrated, cordate at the base: floral ones almost similar: lower ones exceeding the flowers; cymes pedunculate, loosely corymbose. ♃. F. Native from Canada to Carolina, on dry mountains. Sweet fl. gard. 3. t. 243. Zizíphora Mariàna, Rœm. et Schultes, syst. 1. p. 208. Saturèia origanoìdes, Lin. spec. ed. 1st, p. 568.—Mor. hist. 413. sect. 11. t. 19. f. 7. —Pluck. mant. t. 344. f. 1. Herb branched; branches short, glabrous, but pubescent at the nodi. Whorls few. Cymes forked on both sides. Corolla about twice as long as the calyx, pubescent inside, red.

Mariane Cunila. Fl. July, Sept. Clt. 1759. Pl. 1 foot.?

2 C. incìsa (Benth. lab. p. 361.) shrubby; leaves petiolate, ovate-rhomboid, coarsely and deeply serrated, quite entire at the base, cuneated: floral leaves conform to the others, exceeding the flowers; cymes small, pedunculate, sessile, sub-capitate. ♄. F. Native of the South of Brazil, Sello. Shrub, much branched, densely leafy; branches pubescent. Leaves glabrous, glandular, Corolla pubescent inside.

Cut-leaved Cunila. Shrub.

3 C. angustifòlia (Benth. lab. p. 361.) shrubby, glabrous; leaves on short petioles, elliptic-linear, quite entire or serrated: floral leaves conform, exceeding the flowers; whorls loose, few-flowered; flowers minute. ♄. F. Native of the South of Brazil, Sello. Shrub densely leafy, with glabrous branches. Leaves glabrous, minutely glandular. Corolla pubescent inside.

Narrow-leaved Cunila. Shrub.

4 C. inca'na (Benth. lab. p. 361.) shrubby; leaves on short petioles, ovate-oblong or obovate, obtuse, quite entire, clothed with hoary tomentum on both surfaces; floral leaves similar to the others, exceeding the flowers; whorls 2-6-flowered. ♄. F. Native of the South of Brazil, Sello. Habit of *Micromèria obovàta*. Corolla downy outside.

Hoary Cunila. Shrub.

5 C. leuca'ntha (Benth. lab. p. 361.) herbaceous, glabrous; leaves on short petioles, ovate-oblong, quite entire, rounded at the base; cymes scarcely pedunculate, rather loose, many-flowered. ♃. F. Native of Mexico. Stems erect, many from the same root. Leaves furnished with minute yellow resinous dots. Whorls loose: lower ones remote, 16-20-flowered. Pedicels and calyxes pubescent. Corollas white, pilose outside.

White-flowered Cunila. Pl.

6 C. polya'ntha (Benth. lab. p, 362.) herbaceous; stem erect, pubescent; leaves on short petioles, ovate, sub-serrated, rounded at the base; whorls loose, many-flowered, disposed in long racemes. ♃. F. Native of Mexico, Berlandier. Leaves downy. Whorls 40-50-flowered. Branches of cymes divaricately dichotomous. Corolla white, size of those of *C. Mariàna*.

Many-flowered Cunila. Pl. 1 to 1½ foot.

7 C. lythrifòlia (Benth. bot. reg. vol. 15. lab. p. 362.) herbaceous; stem erect, pubescent; leaves oblong-lanceolate, serrated; whorls dense, many-flowered, spicate: lower ones distinct; calyxes very villous. ♃. F. Native of Mexico, near Real del Monte. Leaves 1½ to 2 inches long, pubescent from

short tomentum, as well as the branches. Corollas similar to *C. Mariàna.*

Loosestrife-leaved Cunila. Pl. 1 to 1½ foot.

8 C. stri'cta (Benth. lab. p. 362.) herbaceous; stem erect, strict; leaves linear, obtuse, quite entire, stiff; whorls dense, many-flowered, approximate into a terminal spike, which is interrupted at the base. ♃. F. Native of Brazil, in marshes near Ricaô de Senelon; also in the Missions of the Uruguay, St. Hil. Habit of *Keìthia.* Plant quite glabrous. Leaves 1 to 1½ inch long, glandular. Floral leaves bractea-formed, ciliated. Corolla white, having the lower lip dotted with purple.

Strict Cunila. Pl. 1 to 2 feet.

9 C. spica'ta (Benth. lab. p. 362.) herbaceous, procumbent; branches villous; leaves on short petioles, obovate-oblong, obtuse, remotely serrated, narrowed at the base; whorls densely many-flowered, approximating into terminal spikes. ♃. F. Native of the South of Brazil, Sello. Stem beset with simple subfasciculate villi. Leaves scarcely ½ an inch long, subfasciculate in the axils while young, clothed with adpressed pili above, and glandular beneath, and ciliated on the nerves with long hairs. Lower whorls remote. Calyxes ciliated. Tube of corolla villous inside.

Spiked-flowered Cunila. Pl. procumbent.

10 C. menthoi'des (Benth. lab. p. 363.) herbaceous, procumbent; branches villous; leaves petiolate, broad-ovate, obtuse, scarcely crenated, rounded at the base; whorls densely many-flowered, distinct, or the upper ones are approximate. ♃. F. Native of the South of Brazil, Sello. Leaves ½ an inch, downy above, glandular on both surfaces, ciliated on the nerves beneath. Corolla villous inside.

Mint-like Cunila. Pl. procumbent.

11 C. galioi'des (Benth. lab. p. 363.) suffruticose, procumbent; leaves small, fascicled, lanceolate, bluntish, quite entire, whorls many-flowered, dense, approximate into an elongated spike, which is a little interrupted at the base. ♄. F. Native of Brazil, in fields and marshes in the province of St. Paul, from Castro to Curitiba, St. Hil.; South of Brazil, Sello. Branches pubescent, and upper surfaces of leaves. Leaves 2-3 lines long, glabrous and glandular beneath. Corolla pale blue, pubescent outside, twice as long as the calyx; throat villous inside.

Galium-like Cunila. Shrub procumbent.

12 C. fasciula'ta (Benth. lab. p. 363.) suffruticose, procumbent; branches pilosely hispid; leaves nearly sessile, fascicled, oblong, obtuse, quite entire, with revolute edges, hispid on both surfaces; whorls dense, many-flowered, collected into ovoid terminal heads. ♄. F. Native of the South of Brazil, Sello. Inner bracteas linear, striated, ciliated. Corolla downy outside, and villous inside.

Fascicled-leaved Cunila. Shrub procumbent.

13 C. microce'phala (Benth. lab. p. 364.) procumbent; branches scarcely pubescent; leaves petiolate, oblong or obovate, obtuse, quite entire, or subsinuately serrated, narrowed at the base, glabrous, flat; whorls dense, many-flowered, forming small, globose, nearly terminal heads. ♃. G. Native of the South of Brazil and Peru. Stems much branched. Leaves distant, subfasciculate in the axils, glandular beneath. Corolla white: throat villous inside.

Small-headed Cunila. Pl. procumbent.

14 C. verticilla'ta (Mœnch, ex Steud. nom. p. 899.) this plant is entirely unknown at the present day. Zizíphora verticillàta, Steud. nom.

Whorled Cunila. Pl. ?

Cult. A light rich soil is the best for these plants; and the species may either be increased by cuttings, seeds, or by dividing at the root. All of them require protection in winter.

Tribe V.

MELISSI'NEÆ (the genera contained in this tribe agree with *Melissa* in the characters given below.) Benth. lab. p. 365. Calyx 13, rarely 10-nerved, 5-toothed, bilabiate, rarely equal; upper lip tridentate; lower lip bifid. Tube of corolla exserted, rarely inclosed, exannulate inside; limb bilabiate: upper lip straight, entire, or emarginately-bifid, flattish, rarely galeate: lower lip spreading, with flat, nearly equal lobes, or the middle lobe is generally the broadest, entire or emarginate. Stamens ascending, didynamous; superior ones the shortest, and sometimes abortive.

XLVII. HEDEO'MA (a Greek name for Mint.) Pers. ench. 2. p. 134. Benth. lab. p. 365. Cunìla species of Lin. Zizíphora species of Rœm. et Schultes.

Lin. syst. *Diándria, Monogýnia.* Calyx ovate-tubular, somewhat gibbous below at the base, 13-striped, bilabiate; upper lip tridentate, or rather trifid: lower lip bifid; throat villous inside. Tube of corolla equalling the calyx, or a little exserted; limb bilabiate: upper lip erect, entire, emarginate or almost bifid, flat: lower lip spreading, trifid, with nearly equal lobes, or the middle lobe is rather the broadest, entire, or emarginate. Stamens 2, fertile, ascending; anthers 2-celled: cells diverging or divaricate; rudiments of the two upper stamens wanting or sterile, short, subulate, and capitate. Lobes of style nearly equal, or the lower one is elongated, or a little flattened, stigmatiferous at top and margin, involving the upper one at the base, which is very short. Achenia dry, smooth.—Herbs or subshrubs. Leaves small, quite entire, or a little toothed. Whorls loose, few-flowered, axillary, approximating into terminal racemes.

Sect. I. Mósla (the Nipalese name of *H. Nepalénsis.*) Benth. lab. p. 366. Calyx ovate; upper lip spreading, flattish, shortly tridentate.—Herbs, with toothed leaves.

1 H. Nepale'nsis (Benth. lab. p. 366.) stem herbaceous, erect, branched, almost glabrous; leaves petiolate, ovate, narrowed at both ends, serrated, flat, nearly glabrous; floral leaves small; whorls 2-flowered, secund, loosely racemose. ⊙. ? H. Native of the Himalaya, Deyra Dhoon, and Cashmere. Cunìla Nepalénsis, D. Don, prod. fl. nep. p. 107. Lycòpus dianthèra, Roxb. fl. ind. 1. p. 145. Melíssa Nepalénsis, Benth. in Wall. pl rar. asiat. 1. p. 66. Mósla ocymoìdes, Hamilt. mss. Cunìla Buchanàni, Spreng. syst. 1. p. 54. Stem roughish on the angles. Leaves ½ to 1 foot, green above, and paler beneath. Corolla hardly equalling the calyx.

Nipaul Hedeoma. Pl. 1 to 3 feet.

2 H. pulegioi'des (Pers. ench. 2. p. 131.) stem herbaceous, erect, branched, pubescent; leaves petiolate, ovate, narrowed at the base, subserrated, flat, pubescent; floral leaves similar to the others; whorls axillary, 6-flowered; corolla equalling the calyx. ⊙. H. Native from Canada to Carolina, in dry fields, and on the mountains. Melíssa pulegioìdes, Lin. spec. ed. 1st. p. 593. Cunìla pulegioìdes, Lin. spec. p. 30. Zizíphora pulegioìdes, Rœm. et Schultes, syst. 1. p. 209. Habit of *Melíssa A'cinos.* Leaves ½ an inch long. Corolla downy outside, bluish: upper lip subemarginate. Rudiments of upper filaments short, subulate, capitate. Lower lobe of style elongated.

Pennyroyal-like Hedeoma. Pl. ½ foot.

3 H. piperi'ta (Benth. lab. p. 730.) stem herbaceous, pubes-

cent; leaves nearly sessile, ovate, obtuse, a little crenated, rounded at the base, almost glabrous; floral leaves almost similar to the others; whorls axillary, about 6-flowered; corolla exceeding the calyx. ♃. G. Native of New Spain, Moçino et Sessé. Cunìla piperìta, Moc. et Sessé, mss. Stem with a perennial base, branched. Corollas purplish. Upper lobe of style very short. Habit of *Melissa*, sect. *Acinos*.

Pepper Hedeoma. Pl.?

Sect. II. Hedeòma (see genus for derivation.) Benth. lab. p. 367. Calyx tubular, terete: teeth all subulate.—Suffruticose plants, with quite entire leaves.

4 H. Gillie'sii (Benth. lab. p. 367.) stem suffruticose, glabrous; leaves nearly sessile, linear, obtuse, quite entire, narrowed at the base, glabrous; whorls 2-flowered; corolla hardly exceeding the calyx, which is glabrous. ♄. G. Native of Chili, near Mendoza, at Cerro de Achiras. Leaves like those of *Thymus vulgàris*, dotted, glandular, subfasciculate. Corolla violaceous; upper lip shortly emarginate: middle lobe of lower lip entire. Lower lobe of style flattened, recurved: upper lobe very short. Rudiments of sterile stamens short.

Gillies's Hedeoma. Shrub $\frac{1}{4}$ to $\frac{1}{2}$ foot.

5 H. polygalæfòlia (Benth. lab. p. 367.) stem suffruticose at the base, much branched; leaves numerous, sessile, ovate, obtuse, quite entire, narrowed at the base, coriaceous, glabrous; flowers approximate at the tops of the branches; corolla half as long again as the calyx, which is glabrous. ♄. G. Native of the South of Brazil, Sello. Stems procumbent at the base, densely tufted. Leaves dotted. Corolla downy outside; upper lip emarginately bifid: lobes of lower lip entire. Lower lobe of style subulate, involving the upper one at the base. Rudiments of sterile stamens none.

Milkwort-leaved Hedeoma. Shrub $\frac{1}{4}$ to $\frac{1}{2}$ foot, tufted.

6 H. multiflòra (Benth. lab. p. 367.) stem suffruticose, much branched at the base; branches pubescent; leaves nearly sessile, linear, quite entire, with revolute margins, scabrous from dots, shortly hispid; whorls axillary, 2-6-flowered; corolla about twice as long as the calyx, which is hispid. ♄. G. Native of the South of Brazil, Sello. Habit of *Micromèria Græca*. Stems floriferous almost their whole length. Corolla pubescent outside; upper lip emarginate: middle lobe of lower lip entire. Lower lobe of style subulate, involving the upper one. Rudiments of sterile stamens wanting.

Many-flowered Hedeoma. Shrub $\frac{1}{2}$ foot.

7 H. Drummóndi (Benth. lab. p. 368.) stem suffruticose, much branched; branches pubescent; leaves petiolate, oblong-linear, quite entire; whorls 6-10-flowered; corolla hardly exceeding the calyx, which is hispid. ♄. F. Native of Mexico, at Monterey, in the province of Texas. Leaves $\frac{1}{2}$ an inch long, obtuse, pubescent. Corollas minute.

Drummond's Hedeoma. Shrub $\frac{1}{4}$ to $\frac{1}{2}$ foot.

8 H. hí'spida (Pursh, fl. amer. sept. 2. p. 414.) annual, erect; branches rather villous; leaves sessile, linear, obtuse, quite entire; floral leaves conforming to the others, exceeding the flowers; whorls about 6-flowered; bracteas lanceolate-subulate, equalling the calyxes; calyx ciliately hispid, deeply bilabiate; corolla scarcely exceeding the calyx. ⊙. H. Native of North America, at the Missouri, Mississippi, and among the Rocky Mountains. Cunìla híspida, Spreng. syst. 1. p. 54. Zizíphora híspida, Rœm. et Schultes, syst. mant. 1. p. 179. Hedeòma hírta, Nutt. gen. amer. 1. p. 16. Plant much branched, densely leafy. Leaves $\frac{1}{2}$ an inch long, green. Whorls numerous: upper ones approximate. Calyx gibbous at the base: teeth awned.

Hispid Hedeoma. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

Cult. The annual species, like other half hardy annuals, are reared on a hot-bed, and afterwards planted out into the open ground about the end of May. The shrubs should be grown in pots in light rich earth; and they will be readily increased by cuttings and seeds.

XLVIII. MICROME'RIA (from μικρος, *mikros*, small; and μερις, *meris*, a part; probably from the small parts of the plants.) Benth. in bot. reg. vol. 15. lab. p. 368.—Saturèia and Thymus species of Lin. and other authors.—Sabbàtia, Mœnch. meth. p. 386. but not of Pursh.—Piperélla, Presl, fl. sic.? without character.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx tubular, 13, rarely somewhat 15-nerved, 5-toothed; teeth nearly equal, straight, or scarcely disposed into 2 lips; throat usually villous inside. Tube of corolla equal, straight, naked inside, usually shorter than the calyx; limb bilabiate: upper lip erect, flattish, entire or emarginate; lower lip spreading, with flat, nearly equal lobes, or the middle lobe is broadest, entire or emarginate. Stamens 4, didynamous: lower ones the longest, ascending, approximating by pairs at the apex, rarely a little divergent; filaments toothless; anthers free, 2-celled: connective usually thickened; cells distinct, parallel, diverging, or a little divaricate. Lobes of style sometimes equal, subulate, with minute, terminal stigmas: sometimes the superior lobe is very short, and the lower one elongated, recurved, and flattened, with a stigmatiferous margin. Achenia dry, smooth.—Undershrubs or herbs. Whorls axillary or spicate, rarely cyme-formed, subpanicled. Flowers generally small, purplish or white. This genus is nearly allied to *Saturèia* and *Melissa*; and differs from the first by the nervation of the calyx and stamens; and from the last chiefly in the calyx, which is less bilabiate.

Sect. I. Hesperothy'mus (from ἑσπερος *hesperos*, the evening; and θυμος, *thymos*, thyme; probably from their exhaling a stronger scent in the evening.) Benth. lab. p. 371. Flowers solitary, on axillary pedicels, 1-3 on both sides; pedicels longer than the calyxes. Common peduncle wanting, rarely elongated.—American herbs, having the leaves usually crenated.

1 M. glabe'lla (Benth. lab. p. 371.) glabrous; stem herbaceous, erect, small; leaves sessile, oblong-linear, obtuse, quite entire; whorls about 6-flowered; pedicels elongated, naked; calyx sub-bilabiate: teeth all subulate: throat villous inside. ♃. H. Native of North America; in Canada; near New York; and on rocks along the rivers St. Lawrence, Ohio, Tenessee, and Mississippi. Cunìla glabélla, Michx. fl. bor. amer. 1. p. 13.? Hedeòma glàbra, Nutt. gen. amer. 1. p. 16. Zizíphora glabélla, Rœm. et Schultes, syst. 1. p. 209. Stem stoloniferous at the base. Upper lip of corolla, and middle segment of the lower lip entire. Style about equally bifid.?

Glabrous Micromeria. Pl. small.

2 M. Arkansa'na (Benth. lab. p. 730.) stem branched; leaves linear-lanceolate, serrated in front: upper ones quite entire; whorls about 4-flowered; pedicels bibracteate at the base. ♃. H. Native of the Arkansas, Nuttal. Hedeòma Arkansàna, Nutt. in trans. amer. phil. soc. n. s. 5. p. 186. Habit of *M. glabélla*, with the scent of Pennyroyal. The whole plant is glabrous and glandular. Pedicels equalling the cylindrical calyxes; teeth of calyx setaceous. Corolla sub-campanulate, blue, with a white palate.

Arkansas Micromeria. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

3 M. bracteola'ta (Benth. lab. p. 371.) pubescent; stems simple, slender; leaves linear-lanceolate, acute at both ends,

quite entire; pedicels with setaceous bracteoles, 3-5-flowered; calyx oblong, equal; corolla minute. ♃. H. Native of Carolina, Nuttall. Hedeòma bracteolàta, Nutt. gen. amer. addenda. Zizíphora bracteolàta, Rœm. et Schultes, syst. mant. 1. p. 179.

Bracteolate Micromeria. Pl. ¼ to ½ foot.?

4 M. stoloní'fera (Benth. lab. p. 371.) stems herbaceous, prostrate, radicant, glabrous; leaves sessile, ovate-roundish, obtuse, subcrenated, and somewhat cordate at the base, glabrous; pedicels elongated, naked; teeth of calyx ovate-lanceolate: throat villous inside. ♃. F. Native of New Spain, Moçino et Sessé. Nearly allied to *M. Brównei;* but differs in the more firm, acutely tetragonal stems, and broader sessile leaves.

Stoloniferous Micromeria. Pl. prostrate.

5 M. brównei (Benth. lab. p. 372.) stems herbaceous, prostrate, glabrous; leaves petiolate, ovate-rounded, obtuse, a little crenated, glabrous; pedicels elongated, naked; teeth of calyx ovate-lanceolate: throat villous inside. ♃. F. Native of Florida, Jamaica, Santa Fe de Bogota, and Brazil. Thymus Brównei, Swartz, fl. ind. occ. 2. p. 1011. prod. p. 89. Stems usually creeping, and rooting at the base. Leaves truncate or subcordate at the base. Whorls 2-flowered. Corollas pale purple, small. Tube a little exserted.

Browne's Micromeria. Pl. prostrate.

6 M. Xalape'nsis (Benth. lab. p. 372.) stems herbaceous, prostrate, pilose; leaves nearly sessile, ovate, a little crenated, ciliated; pedicels elongated, naked; teeth of calyx ovate-lanceolate: throat villous inside. ♃. F. Native of Mexico, between Pilela and Xalapa, in humid places. Thymus Xalapénsis, H. B. et Kunth, nov. gen. 2. p. 316. Allied to *M. Brównei;* but differs in the nearly sessile leaves, which are ovate, not rounded, and in the hairs of the stem being long and white; and from *M. stolonífera*, in the narrower pilose leaves.

Xalapa Micromeria. Pl. prostrate.

7 M. Cunningha'mii (Benth. lab. p. 730.) stems herbaceous, prostrate, finely pubescent; leaves petiolate, rounded, almost quite entire; pedicels elongated, naked; calyx hairy, with ovate-lanceolate teeth, and a naked throat. ♃. F. Native of New Zealand, on the west coast, at the river Mangamaka Hokianga, Cunningham. Habit of *M. Brównei.* Teeth of calyx villous inside, but the throat is naked. Tube of corolla inclosed.

Cunningham's Micromeria. Pl. prostrate.

8 M. Dougla'sii (Benth. lab. p. 372.) stems herbaceous, prostrate; leaves petiolate, ovate-rounded, obtuse, crenated, roundedly truncate at the base, glabrous on both surfaces; peduncles elongated, bracteate at the base or middle; teeth of calyx subulate: throat naked inside. ♃. F. Native of North West America, at the river Columbia. Thymus Douglàsii, Benth. in Linnæa, 6. p. 80. Thymus Chamissònis, Benth. in Linnæa, 6. p. 80. Branches very long, prostrate, creeping, pubescent. Corolla purple, downy outside: upper lip emarginate; and the middle lobe of lower lip entire. Lobes of style unequal.

Douglas's Micromeria. Pl. prostrate.

Sect. II. Pipere'lla (a dim. of *Piper*, pepper.) Benth. lab. p. 373. Flowers almost sessile, or collected into sessile or pedunculate heads. Pedicels almost wanting, or shorter than the calyxes. Whorls axillary or subspicate.—Undershrubs, rarely herbs. Leaves quite entire, veiny, often hard; floral leaves almost similar to the cauline ones.

* *Species natives of Europe and Africa.*

9 M. Julia'na (Benth. lab. p. 373.) pubescent, suffruticose; branches erect, strict; leaves sessile: lower ones ovate: upper ones lanceolate-linear, all obtuse, and quite entire, with revolute edges; fascicles of flowers dense, on short peduncles; bracteas about equal in length to the sessile calyxes; calycine teeth subulate, stiff, hardly so long as the breadth of the tube: throat naked inside. ♄. F. Native of the region of the Mediterranean, on dry and stony hills; as in Sicily, Naples, Dalmatia, and several of the Grecian islands. Saturèia Juliàna, Lin. spec. 793. Sibth. et Smith, fl. græc. 6. p. 32. t. 540. Tenore, fl. nap. t. 151. f. 3. Sabbàtia corymbòsa, Mœnch. meth. p. 386.—Ger. emac. 576. f. 3.—Park. theatr. 5. f. 3.—Mor. hist. 3. p. 412. sect. 11. t. 17. f. 4.—Lob. icon. 245. Stems procumbent, much branched. Corollas very minute, pale red. Upper lobe of style the shortest. Plant with a fragrant smell.

Var. β, hirsùta (Benth. lab. p. 373.) hairy, hard, a foot high, or more, a little branched. ♄. F. Native of Sicily. Saturèia Juliàna, var. canéscens, Guss. prod. fl. sic. 2. p. 114. Saturèia hirsùta, Presl, del. prag. p. 79.

St. Julian's Micromeria. Fl. May, Sept. Clt. 1596. Shrub ½ to 1 foot.

10 M. Græ'ca (Benth. lab. p. 373.) pubescent; branches erect or ascending; leaves sessile: lower ones ovate, obtuse: superior ones lanceolate-linear, all quite entire, with revolute margins; fascicles of flowers loose, almost secund, pedunculate; bracteas, for the most part, one half shorter than the calyxes; calycine teeth subulate, longer than the breadth of the tube: throat villous inside. ♄. F. Native of the region of the Mediterranean, on dry stony hills; as of Portugal, Spain, Corsica, Italy, Naples, Sicily, Syria, and many of the Grecian islands, &c. Saturèia Græ'ca, Lin. spec. 794. Sibth. et Smith, fl. græc. 6. p. 34. t. 542. Tenore, fl. nap. t. 151. f. 2. Saturèia micrántha, Hoffm. et Link, fl. port. 1. p. 142. Thymus hírtus, Russ. nat. hist. alep. 2. p. 256. Thymus micránthus, Brot. phyt. p. 30. t. 13.—Alp. exot. 265. t. 264.—Mor. hist. 3. p. 411. sect. 11. t. 17. f. 2. This is a very variable plant. Stem woody at the base, procumbent. Corolla exceeding the calyxes a little, pale purple: upper lip shortly emarginate. Lobes of style equal.

Var. β, longiflòra (Guss. prod. fl. sic. 2. p. 117.) corolla twice as long as the calyx. ♄. F. Native of Sicily and Naples. Saturèia Consentìna, Tenor. fl. nap. 3. p. 151. f. 9. syll. p. 279. This is distinguished from the species by the greater stature and larger flowers.

Var. γ, densiflòra (Benth. lab. p. 373.) fascicles of flowers more dense, and on shorter peduncles; throat of calyx less villous inside. ♄. F. Saturèia tenuifòlia, Tenore, fl. nap. t. 151. f. 4. prod. p. 33. Guss. prod. fl. sic. 115. Micromèria tenuifòlia, Rchb. fl. germ. exc. p. 310. Saturèia hírta, Host, fl. austr. 2. p. 134.? Thymus virgàtus, Tenor. fl. nap. t. 155. f. 3. syll. 296. Saturèia congésta, Horn. hort. hafn. Spreng. syst. 2. p. 720.

Grecian Micromeria. Fl. June, July. Clt. 1759. Shrub ¾ foot.

11 M. parviflòra (Rchb. fl. germ. exc. p. 859.) almost glabrous; branches erectish; leaves sessile, all linear, quite entire, with revolute margins; peduncles equalling the leaves, loosely 3-flowered; bracteas minute; calycine teeth subulate: the upper ones the broadest: throat villous inside. ♄. F. Native of Dalmatia, on the confines near Albania, among the mountains of Patrovitch. Saturèia parviflòra, Vis. pl. rar. dalm. in bot. zeit. 1829. Saturèia inodòra, Host, fl. austr. 2. p. 135. but not of Salzm. This is a very distinct species from *M. Græ'ca;* the leaves are much narrower and glabrous; the flowers are on long pedicels, and fewer; the form and length of the calycine teeth are unequal.

Small-flowered Micromeria. Shrub.

12 M. te'nuis (Benth. lab. p. 374. and 731.) suffruticose, procumbent; branches ascending, clothed with floccose wool; leaves sessile, linear, acute, quite entire, with revolute margins, woolly; whorls 2-6-flowered; calyxes sessile: teeth subulate, stiff, longer than the breadth of the tube. ♄. F. Native of the Canary Islands, on the mountains. Saturèia tènuis, Link, in L. de Buch, beschr. can. ins. p. 143. M. lanàta, Benth. lab. p. 374. Floriferous branches densely leafy. Flowers usually solitary, axillary, rather shorter than the floral leaves. Corolla hardly exceeding the calycine teeth.

Slender Micromeria. Shrub procumbent.

13 M. lana'ta (Benth. lab. p. 731.) suffruticose, procumbent; branches ascending, clothed with floccose wool; leaves sessile, linear, obtuse, quite entire, with revolute margins, woolly; whorls 6-10-flowered; cymes pedunculate; calyxes sessile: teeth short, soft, tomentose. ♄. F. Native of the Canary Islands, on the mountains. Saturèia lanàta, Link, in L. de Buch. beschr. can. ins. p. 143. M. tènuis, Benth. lab. p. 374. Very nearly allied to *M. tènuis*.

Woolly Micromeria. Shrub procumbent.

14 M. va'ria (Benth. lab. p. 374.) suffruticose, procumbent, pubescent, or villous; leaves sessile: lower ones ovate: upper ones lanceolate, subfasciculate in the axils, all obtuse, with revolute edges, rather canescent beneath; flowers minute, sessile, disposed in pedunculate or sessile fascicles; bracteas minute; calyx tubular, pubescent, shorter than the floral leaves: throat villous inside. ♄. F. Native of the Canary Islands, very common. Saturèia vària, Berth. et Webb, mss. Thymus ericæfòlius, Roth. cat. 2. p. 50. ex Willd. enum. 624. Thymus inodòrus, Benth. in Linnæa, 6. p. 77. but not of Desf. Saturèia thymoìdes, Lowe, prim. fl. mader. p. 19. Stems much branched. Calyx often purplish. Corolla purplish, hardly exceeding the calyx.

Various Micromeria. Fl. June, Aug. Clt. 1806. Pl. procumbent.

15 M. approxima'ta (Rchb. fl. germ. exc. p. 859.) suffruticose, procumbent, pubescent, or villous; leaves sessile, lanceolate; superior leaves linear, somewhat fascicled, all bluntish, with subrevolute edges; flowers on short pedicels; bracteas equalling the pedicels; calyx tubular, pubescent: throat villous inside. ♄. F. Native of the region of the Mediterranean, on dry hills; as of Sicily, Naples, Albania. Saturèia fasciculàta, Rafin. prec. p. 39. Saturèia approximàta, Biv. manip. 5. p. 13. Thymus fruticulòsus, Bert. amœn. ital. p. 101. Very nearly allied to *M. vària;* but differs in the flowers being almost twice the size; and in the leaves being longer. Corolla purple, twice as long as the calyx.

Approximate-leaved Micromeria. Fl. June, Aug. Clt. 1822. Shrub procumbent.

16 M. inodòra (Benth. lab. p. 375.) suffruticose; branches pubescent; leaves sessile, very numerous, fascicled, small, lanceolate, obtuse, with revolute edges, canescent, ciliated; whorls few-flowered; flowers almost sessile, among the fascicles of the leaves; bracteas minute; calyx tubular, almost glabrous: throat villous inside. ♄. F. Native of Algiers, on arid hills, and the Balearic Islands. Thymus inodòrus, Desf. fl. atl. 2. p. 30. t. 129. Shrub much branched, erect. Corolla purple, longer than the calyx: lobes all obtuse, entire. This differs from *M. vària*, in the stem being more erect; in the leaves being smaller, more numerous, and narrower. This is probably the same as the preceding.

Scentless Micromeria. Shrub 1 foot.

17 M. densiflòra (Benth. lab. p. 375.) suffruticose, diffuse, glabrous; branches short; leaves approximate, sessile, lanceolate-linear, acute, with revolute margins; floral leaves equalling the calyxes; whorls about 10-flowered, densely approximate into ovate spikes; calyxes sessile, tubular, almost glabrous, having the throat villous inside, and the teeth lanceolate-subulate, erect, scarcely so long as the breadth of the tube. ♄. F. Native of the Canary Islands, Broussonet. Habit of *Thymus Serpyllum*, var. *angustifòlia*. Leaves green above, and canescent beneath. Calyx purplish. Corolla purple, a little longer than the calyx, glabrous. Style almost equally bifid.

Dense-flowered Micromeria. Shrub diffuse.

18 M. Forbe'sii (Benth. lab. p. 376.) pubescent, suffruticose, procumbent; branches ascending; leaves almost sessile, ovate, obtuse, rounded at the base, flat, or with subrevolute edges, pubescent on both surfaces; floral leaves exceeding the flowers a little; whorls dense, few-flowered; calyxes almost sessile, ovate-cylindrical: teeth short, setaceous, shorter than the corolla: throat villous inside. ♄. F. Native of the Island of St. Nicholas, one of the Cape Verds. This differs from *M. Teneriffæ*, in the pubescence, stronger branches, larger, more numerous leaves, and shorter, almost sessile calyxes.

Forbes's Micromeria. Shrub.

19 M. cane'scens (Guss. pl. rar. p. 228. t. 42. prod. fl. sic. 2. p. 120.) canescent from villi; stem slender; lower leaves ovate: upper ones lanceolate-linear, acute; peduncles axillary, 2-7-flowered, solitary or twin, rather secund; bracteas short, about equal in length to the pedicels; calyx very villous. ♄. F. Native of Sicily, on arid calcareous hills. Corolla purple. Allied to *M. Græ'ca*.

Canescent Micromeria. Shrub ½ to 1 foot.

20 M. nervòsa (Benth. lab. p. 376.) pubescent, suffruticose; branches ascending; leaves sessile, all ovate, acute, quite entire, flat, or with rather revolute margins; whorls many-flowered: superior ones approximate; fascicles of flowers loose, scarcely pedunculate; bracteas very short; calyx pilose, with spreading setaceous teeth: throat rather villous inside. ♄. F. Native of the region of the Mediterranean, on dry arid hills, and in the fissures of rocks; as of Mount Atlas, South of Sicily; Naples, by the sea side; Grecian Islands, and Lybia. Saturèia nervòsa, Desf. fl. atl. 2. p. 9. t. 121. f. 2. Saturèia filifòrmis, Tenor. prod. and marin. viag. bot. 1. p. 299. ex Tenore, syll. p. 279. Thymus filifòrmis, Sieb. pl. cret. exs. but not of Lin. Thymus Mastichìna, Smith, prod. fl. græc. but not of Lin. Branches simple. Corollas hardly longer than the calyx, red: upper lip shortly emarginate.

Nerved Micromeria. Shrub ½ to 1 foot.

21 M. microphy'lla (Benth. lab. p. 377.) suffruticose, nearly glabrous, pubescent, or villously canescent; branches filiform; leaves small, ovate or oblong, obtuse, flat, or with subrevolute margins; fascicles of flowers pedunculate, loose, many-flowered; bracteas about equal in length to the pedicels; calyxes ovate, almost glabrous, or covered with short villi: throat rather villous inside. ♄. F. Native of the region of the Mediterranean; as in the fissures of rocks on Mount Atlas; Sicily, on arid hills; Naples, and Island of Melita. Stems decumbent. Corollas purple.

Var. α, glabriúscula (Benth. lab. p. 377.) small, pale green, nearly all glabrous. ♄. F. Saturèia microphýlla, var. α, Guss. prod. fl. sic. 2. p. 120. Thymus Teneríffæ, Hortul. but not of Pers. Saturèia Teneríffæ, Link, enum. 2. p. 101.

Var. β, villòsa (Benth. lab. p. 377.) plant firmer, often purplish or canescent; stems and calyxes villous. ♄. F. Saturèia microphýlla, b. c. d. Guss. prod. fl. sic. 2. p. 120, 121. Thymus microphýllus, D'Urv. enum. in mem. soc. Lin. par. 327. Saturèia filifòrmis, Desf. fl. atl. 2. p. 8. t. 121. f. 1.?

Small-leaved Micromeria. Fl. June, July. Clt.? Shrub ½ to 1 foot.

22 M. ova'ta (Benth. lab. p. 377.) suffruticose, procumbent; branches ascending, villous; leaves sessile, ovate, bluntish, subcordate at the base, with revolute edges, pubescent on both surfaces; floral leaves shorter than the peduncles, or the upper ones are longer; fascicles of flowers pedunculate, loose; teeth of calyx setaceous; throat of calyx villous inside. ♄. F. Native of Abyssinia, Salt. Saturèia ovàta, R. Br. in append. to Salt, abyss. Allied to *M. Forbèsii* and *M. microphýlla;* it differs from the first in the branches being more slender; in the flowers being smaller; and in the fascicles being pedunculate; and from the latter, in the leaves being broader at the base; in the margins being very revolute, and in the floral leaves being narrower.

Ovate-leaved Micromeria. Shrub procumbent.

23 M. filifórmis (Benth. lab. 378.) suffruticose, diffuse, glabrous; branches filiform; leaves nearly sessile, ovate: lower ones cordate: superior ones rounded at the base, all bluntish, and quite entire, flat; whorls about 2-flowered; pedicels minutely bracteate at the base, about equal in length to the calyxes; calyx tubular, declinate, or nutant: teeth subulate, rather shorter than the corolla: throat rather villous inside. ♄. F. Native of the region of the Mediterranean; as of Spain and the Balearic Islands. Thỳmus filifórmis, Ait. hort. kew. 2. p. 313. Piperélla filifórmis, Presl, fl. sic. p. 36. Cunìla thymoìdes, Gowan, herb. ex Benth. Habit of *M. microphýlla*, but the branches are more slender and the leaves more remote. Leaves generally purplish. Corollas purplish. Style about equally bifid.

Filiform Micromeria. Fl. June, July. Clt. 1770. Shrub diffuse.

24 M. puncta'ta (Benth. lab. p. 378.) suffruticose, branches elongated, slender, finely pubescent; leaves nearly sessile: lower ones ovate, acute: superior ones oblong, obtuse, narrowed at the base, with scarcely revolute edges: uppermost leaves about equalling the flowers; fascicles of flowers on short peduncles; bracteas minute; calyxes sessile, nearly glabrous, small, ovate, cylindrical, with short setaceous teeth: throat villous inside. ♄. F. Native of Abyssinia, Salt. Saturèia punctàta, R. Br. in append. to Salt, abyss. Habit of *M. Græ'ca*, with the flowers of *M. Teneríffæ*. Leaves distant. Peduncles 3-6-flowered.

Dotted Micromeria. Shrub.

25 M. Teneríffæ (Benth. lab. p. 378.) suffruticose, diffuse, almost glabrous; branches stiff, slender, pubescent above; leaves sessile, ovate, acute, rigid, glabrous, flat: lower ones broader and somewhat plicate: superior ones almost lanceolate, about equal in length to the flowers; fascicles of flowers dense, on short peduncles; bracteas very short; calyxes sessile, pubescent, cylindrical: teeth setaceous, about equal in length to the corolla: throat villous inside. ♄. F. Native of Teneriffe, plentiful. Thỳmus Teneríffæ, Poir. dict. 7. p. 650. Thỳmus terebinthinàceus, Willd. enum. p. 624. Allied to *M. microphýlla*, but differs in the branches being elongated and woody, and in the leaves being more acute, stiffer, and longer; in the flowers being sessile, and in the calyx being elongated and more slender. Corollas small, purple.

Teneriffe Micromeria. Shrub ½ to 1 foot.

26 M. biflòra (Benth. lab. p. 378.) suffruticose, much branched, tufted; branches ascending, pubescent or pilose; leaves sessile, ovate, acute, flat, with sub-revolute edges, stiff, glabrous, rather cordate at the base: superior ones shorter than the flowers; whorls loosely few-flowered; bracteas about equal in length to the pedicels; calyxes pedicellate, sub-secund, finely pubescent, or rather pilose: throat villous inside. ♄. F. Native of Nipaul and Kamaon, Wall; Mussooree, Royle; Nielgherri, Wight. Thỳmus biflòrus, Hamilt. in D. Don. prod. fl. nep. p. 112. Stems densely branched at the base; branches densely leafy. Corolla half as long again as the calyx: upper lip emarginate. Lobes of style nearly equal. Hardly differing from *M. Teneríffæ*, unless in habit, and in the larger, stiffer leaves.

Two-flowered Micromeria. Shrub ½ foot.

27 M. subcorda'ta (Vis. mss. ex Benth. lab. p. 379.) suffruticose; branches short, erectish, nearly simple, pubescent; leaves sessile, flat, broad-ovate, obtuse, broadly and truncately cordate at the base: floral leaves narrower; fascicles of flowers secund; peduncles few-flowered; calyx cylindrical, pubescent, with subulate teeth and a naked throat; corollas exserted. ♄. F. Native of Dalmatia. Stems many, woody at the base; erect or procumbent at the base. Bracteas short, lanceolate. Corolla equal in length to the calycine teeth.

Subcordate-leaved Micromeria. Pl. ¼ to ½ foot.

28 M. pipere'lla (Benth. lab. p. 379.) suffruticose, branches ascending, pubescent; leaves sessile, broad-ovate, obtuse, rounded or sub-cordate at the base, glabrous on both surfaces: upper leaves oblong, small; fascicles of flowers loose, pedunculate, secund, few-flowered; bracteas small, oblong; calyxes nearly sessile, tubular, pubescent, with subulate teeth, the 3 superior teeth spreading; throat naked inside. ♄. F. Native of the South of Europe; as of Piedmont, and Croatia. Thỳmus piperélla, All. ped. 1. p. 21. t. 37. f. 3. bad. Waldst. et Kit. pl. rar. hung. 2. p. 169. t. 156. but not of Lin. Thỳmus marginàtus, Smith, in Dicks. pl. sic. no. 71. Thỳmus Croáticus, Pers. ench. 2. p. 130. Calamíntha Croática, Host, fl. austr. 2. p. 132. Branches herbaceous. Whorls remote. Peduncles 3-5-flowered. Calyx and Corolla purplish and pubescent.

Small Peppermint Micromeria. Shrub ½ foot.

29 M. Forskœ'lii (Benth. lab. p. 379.) stems decumbent, imbricate; leaves ovate, acute; flowers axillary, solitary, sessile. ♄. F. Native of Kurma, Forsk. Thỳmus imbricàtus, Forsk. fl. ægypt. p. 108. Calyx striated, having the throat closed with villi, 5-toothed. Flowers red. Leaves ciliated on the keels, ex Benth.

Forskœl's Micromeria. Shrub procumbent.

30 M. Sina'ica (Benth. lab. p. 380.) suffruticose; branches elongated, almost simple; leaves almost sessile, ovate, flat, or with revolute edges: superior ones exceeding the flowers; fascicles of flowers dense, scarcely pedunculate; calyxes almost sessile, ovate, with short setaceous teeth; corollas minute. ♄. F. Native of Arabia, among rocks, in the desert of Sinai, Bové. Habit of *M. Græ'ca*, but is distinguished from it by the leaves, dense whorls, and small ovate calyxes. Leaves remote. Whorls 12-30-flowered, all remote. Flowers smaller than in any other species.

Sinai Micromeria. Shrub ½ to 1 foot.?

* * *Species natives of Australia.*

31 M. satureioìdes (Benth. lab. p. 380.) glabrous; stems erect, branched; leaves nearly sessile, rather elliptic or lanceolate, obtuse, flat; whorls loose, 3-10-flowered; calyxes finely pubescent, cylindrical, with short lanceolate teeth, and with the throat villous inside; corollas scarcely exceeding the calyxes. ♄.? F. Native of New Holland, at Lake George, Cunningh.; about Port Jackson, R. Br. Méntha satureioìdes, R. Br. prod. p. 505.? Stems slender, rooting at the base. Flowers on short pedicels, 3-5 in each fascicle. Bracteas scarcely equalling the pedicels.

Savory-like Micromeria. Shrub ¼ to ½ foot.

32 M. Austra'lis (Benth. lab. p. 380.) stems ascending, with marginate scabrous angles; leaves lanceolate; calyxes tomentose: teeth obsoletely bearded inside at the base; flowers verticillate; stamens exserted; superior lip of corolla 2-lobed. ♄.? F. Native of New South Wales, about Port Jackson; and of Van Diemen's Land. Méntha austràlis, R. Br. prod. p. 505.

Southern Micromeria. Shrub.?

33 M.? gra'cilis (Benth. lab. p. 830.) glabrous, or clothed with fine down, pale green; stems erect; leaves on short petioles, ovate, or the superior ones are ovate-lanceolate, obtuse, flat; whorls about 6-flowered; calyxes pubescent, cylindrically campanulate, with lanceolate, acute teeth, which are shorter than the breadth of the tube, and the throat is naked inside; corollas scarcely exceeding the calyxes. ♄.? F. Native of Van Diemen's Land. Méntha grácilis, R. Br. prod. p. 505.? but not of Smith. Méntha Dieménica, Spreng. syst. 2. p. 724. This differs principally from *M. satureioìdes* in the broader bases of the leaves, pubescence, and in the calyxes being larger and sessile, and in the throat being naked inside. This species differs from the characters of the genus in the stamens being distant and straight, not ascending.

Slender Micromeria. Shrub.?

* * * *Species natives of America.*

34 M. obova'ta (Benth. lab. p. 381.) stem shrubby, divaricate, much branched; leaves obovate, obtuse, quite entire, narrowed at the base, with revolute margins, wrinkled, canescent on both surfaces; flowers almost sessile. ♄. S. Native of Jamaica. Saturèia vimínea, Lin. amœn. 5. p. 399. Swartz. obs. p. 220. Saturèia incàna, Spreng. syst. 2. p. 719. Zygis aromática, Desv. in Hamilt. prod. fl. ind. occ. p. 46. Xenópoma obovàtum, Willd. ex Colla. hort. rip. p. 147. t. 25. Mentha vimínea, &c. Browne, jam. 258. Leaves half an inch long. Corolla about twice as long as the calyx, whitish. Lower lobe of style long and flattened.

Obovate-leaved Micromeria. Fl. June, July. Clt. 1783. Shrub 2 to 12 feet.

35 M. nubígena (Benth. lab. p. 381.) procumbent, much branched, hispid; leaves small, petiolate, broad-ovate, obtuse, quite entire; whorls 2-flowered; flowers nearly sessile; calycine teeth nearly equal, acute, and the throat villous inside. ♄.? G. Native of Peru, in rugged places, on the burning mounts Paracé and Rucu-Pichincha, and at Surucucha. Thymus nubígenus, H. B. et Kunth, nov. gen. 2. p. 316. Habit of *Thymus Serpyllum*. Stems rather woody at the base. Branches pubescent at the base. Corolla about twice as long as the calyx, pubescent outside.

Cloud-growing Micromeria. Shrub procumbent.

36 M. Gillie'sii (Benth. lab. p. 381.) procumbent, finely clothed with pubescence; leaves sessile, oblong, obtuse, quite entire; whorls generally 2-flowered; flowers nearly sessile; calycine teeth stiff, sub-revolute, and the throat rather villous inside. ♄. F. Native of Chili, near Mendoza, Gillies. Whorls rarely so much as 6-flowered. Bracteas small, setaceous. Corolla quite glabrous, scarcely longer than the calyx; upper lip emarginate. Lobes of style flattened, at length revolute.

Gillies's Micromeria. Shrub procumbent.

37 M. Bolivia'na (Benth. lab. p. 731.) glabrous or clothed with fine down; leaves nearly sessile, oblong, obtuse or obovate, quite entire, flat; whorls few-flowered; flowers nearly sessile; calycine teeth short, obtuse, erect, and the throat naked inside. ♄. F. Native of Bolivia. Nearly allied to *M. obovàta*, but differs in the leaves being much smaller, flat, and in the calyxes being shorter. Leaves greenish on both surfaces. Corolla smaller than in *M. obovàta*, scarcely half as long again as the calyx.

Bolivia Micromeria. Shrub.

Sect. III. Pseudomeli'ssa (ψευδος, *pseudos*, *falsehood*, and μελισσα, *melissa*, a bee, also the name of balm.) Benth. lab. p. 383. Cymes of whorls elongated, pedunculate, sub-dichotomous. Leaves often toothed.—European herbs. The species are probably referrible to the genus *Melissa* ex Benth.

38 M. pule'gium (Benth. lab. p. 382.) herbaceous, ascending, pubescent: leaves petiolate, ovate, toothed, green on both surfaces; racemes coarctate, secund; cymes sub-dichotomous, few-flowered; teeth of calyx setaceous, nearly equal, and the throat villous inside. ♃.? H. Native of Austria and Hungary. Melissa Pulègium, Rochel, del. pl. rar. bannat. p. 62. t. 22. f. 8. Calamíntha origanifòlia, Host, fl. austr. 2. p. 120. Melíssa subnùda, Waldst. et Kit. pl. rar. hung. 3. p. 296. t. 262.? Calamíntha subnùda, Host, fl. austr. 2. p. 130. Thymus subnùdus, Spreng. syst. 2. p. 698. Stems erect, almost simple, hoary from short reflexed pili. Calyx cylindrical. Corolla about twice as long as the calyx, form of *Saturèia*, purple.?

Pennyroyal Micromeria. Pl. ascending.

39 M. marifo'lia (Benth. lab. p. 382.) plant hoary, ascending; leaves ovate or oblong, obtuse, almost quite entire, canescent above, and white beneath; racemes loose, many-flowered; teeth of calyx obtuse, nearly equal: throat villous inside; corolla about twice as long as the calyx. ♄. F. Native of Portugal, Spain, Syria, Tauria, Piedmont, &c., in dry rocky places. Melíssa fruticòsa, Lin. spec. 828. Melissa Crética, Lam. dict. 4. p. 79. and of many authors, but not of Lin. Calamíntha Crética, Lam. fl. fr. 2. p. 395. Népeta Crética, Dietr. ex Steud. nom. p. 521. Thymus Créticus, D. C. fl. fr. 3. p. 564, but not of Brot. Thymus Barrelièri, Spreng. syst. 2. p. 698. Melíssa marifòlia, Pers. ench. 2. p. 132. Népeta marifòlia, Cav. icon. 6. p. 55. t. 576. Bystropògon marifòlius, Juss. ex Steud. nom. p. 521. Thymus marifòlius, Willd. enum. 2. p. 624. Népeta serpyllifòlia, Bieb. fl. cauc. 2. p. 40. cent. pl. ross. 1. t. 28. Népeta parvifòlia, Hortul.—Barr. icon. 1166. Corolla milk-coloured, spotted with purple, more than twice as long as the calyx. Habit of *Melíssa*, sect. *Calamíntha*, but the calyx is altogether that of *Micromèria*.

Cat-thyme-leaved Micromeria. Fl. June, Sept. Cult. 1800. Shrub 1 to 2 feet.

Cult. The greater number of the species of *Micromèria* are under-shrubs, very few herbaceous annuals. They are too tender to stand the open air in this country; they should therefore be grown in pots, and placed among other Alpine plants, so that they may be sheltered under glass in winter; but they will grow very well in summer on rockwork, and probably might survive our milder winters in such a situation. A light, rich earth is the best soil for them, and the pots should be well drained with sherds. The seeds of annual kinds may be sown in the open ground in April, in a warm, sheltered situation.

XLIX. MELI'SSA (from μελισσα, *melissa*, a bee; from μελι, honey: bees are said to gather abundance of honey from this plant.) Benth. lab. p. 383. Melissa Clinopòdium and Thymus, species of Lin. and other authors. Calamíntha and A'cinos, Mœnch. and other authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 13-nerved, usually striated, bilabiate; upper lip generally spreading, tridentate: lower lip bifid; throat naked or villous inside. Tube of corolla straight or incurvedly ascending, naked inside, usually exserted; throat generally inflated; limb bilabiate; upper lip erect, flattish, entire, or emarginate: lower one spreading, with flat lobes, the middle lobe usually the broadest, entire, or emarginate. Stamens 4, didynamous, ascending, approximate by pairs at apex, or rarely a little distant, lower two the longest: the superior 2 sometimes sterile; filaments toothless; anthers free, 2-celled: connective often thickened: cells distinct, parallel, diverging. Lobes of style sometimes equal, subulate, with minute terminal stigmas; sometimes the lower lobe is elongated, recurved, flattened, with stigmatiferous margins. Achenia dry,

smooth.—Under shrubs, but usually herbs, with variable inflorescence. Flowers purplish, white or yellow.

Sect. I. Calamíntha (from καλος, *kalos*, beautiful; and μινθα, *mintha*, mint; in reference to the beauty of the plants and their affinity to *Méntha*.) Benth. lab. p. 386. Calamíntha, Mœnch. meth. 408. Racemes loose, rather secund. Cymes of whorls, pedunculate, dichotomous. Bracteas minute. Calyx almost terete, striated, hardly gibbous at the base: throat villous inside.

1 M. incàna (Benth. lab. p. 386.) herbaceous or suffruticose at the base, procumbent; branches ascending, clothed with hoary tomentum; leaves petiolate, small, orbicular, almost entire, clothed with hoary tomentum on both surfaces; racemes rather secund; whorls few-flowered; cymes hardly dichotomous; calyxes shortly bilabiate, and the throat naked inside; corolla hardly twice as long as the calyx. ♃. H. Native of the Grecian Archipelago, frequent, and about Athens; also of Syria, near Aleppo. Melíssa, Crética, Russel, nat. hist. alep. but not of Lin. Thymus incànus, Sibth. et Smith, fl. græc. 6. p. 62. t. 577. This species is intermediate between *Melíssa* and *Micromèria*. Upper whorls dense; lower ones more loose.

Hoary Balm. Pl. ½ to 1 foot.?

2 M.? Cre'tica (Lin. spec. p. 828.) herbaceous, humble, procumbent at the base; branches ascending, pilosely hispid; leaves petiolate, small, roundish, obtuse, almost quite entire, clothed with soft villi on both surfaces; racemes sub-secund; cymes scarcely dichotomous, few-flowered; calyx shortly bilabiate, the throat villous inside; corolla scarcely twice as long as the calyx. ♃. H. Native of Candia. Thymus hírtus, Sieb. pl. exs. but not of others.—Barr. icon. t. 1166.—Bauh. hist. 3. p. 230. f. 2.—Park. theatr. p. 36. t. 37. f. 4. Allied to *M. incàna*, but differs in the stem and leaves being villous, not tomentose. Corolla white, purplish.?

Cretan Balm. Fl. June, July. Clt. 1596. Shrub ½ to 1 foot.

3 M. thymifo'lia (Benth. lab. p. 386.) stems herbaceous, ascending, clothed with hoary pubescence; leaves petiolate, ovate, obtuse, hardly crenated, cuneated at the base or rounded, rather canescent; racemes loose, secund; cymes dichotomous; flowers small; calyx shortly bilabiate, with acute teeth; corolla about twice as long as the calyx. ♃. H. Native of Carniola, on rocks and old walls. Saturèia thymifòlia, Scop. fl. carn. 1. p. 428. ex. Host. Calamíntha thymifòlia, Host, fl. austr. 2. p. 132. Thymus origanifòlius, Vis. in bot. zeit. 1830. 1. p. 15. It appears intermediate between *Micromèria marifòlia* and *Melissa Népeta*. Leaves hardly ½ an inch long, sometimes quite entire, full of glandular dots, canescent beneath from tomentum. Corolla pale purplish: upper lip emarginate.

Thyme-leaved Balm. Pl. 1 foot.

4 M. glandulòsa (Benth. lab. p. 387.) stems herbaceous; branches almost glabrous; leaves petiolate, broad-ovate, acutish, coarsely serrated, rounded at the base, nearly glabrous; racemes very loose, few-flowered, secund; cymes dichotomous: calyx bilabiate, with acute teeth; corolla hardly larger than the small calyx. ♃. H. Native of Corsica, Requien; of Sardinia, Moris. Thymus glandulòsus, Req. in ann. sc. nat. par. 5. p. 386. Branches slender, slightly downy. Throat of calyx closed by villi. Corolla white or pale purple.

Glandular Balm. Shrub ½ to 1 foot.

5 M. ne'peta (Lin. spec. 828.) stems herbaceous; branches procumbent, ascending, or erectish, villous; leaves petiolate, broad-ovate, obtuse, crenated, rounded at the base, villous on both surfaces, pale beneath; raceme elongated, loose, many-flowered, secund; cymes dichotomous; calyx shortly bilabiate, with subulate teeth; corolla half as long again as the calyx, hardly twice as long. ♃. H. Native of the Southern parts of Europe, in dry situations, among rubbish, and by way-sides; as in the South of France, Portugal, Piedmont, Naples, Grecian Islands, South of Tauria, &c. Thymus Népeta, Smith, fl. brit. 2. p. 642. engl. bot. t. 1414. Hook, fl. lond. vol. 1. with a figure. Calamíntha parviflòra, Lam. fl. fr. 2. p. 396. Calamíntha trichótoma, Mœnch. meth. p. 409. Thymus diffùsus, Hortul. Thymus Brauneànus, Hoppe. Calamíntha rotundifòlia, Host, fl. austr. 2. p. 131. Calamíntha oblìqua, Host, fl. austr. 2. p. 131. Calamíntha Népeta, Hoffm. et Link, fl. port. Calamíntha canéscens, Presl, fl. sic. p. 37. Melíssa obtusifòlia, Pers. ench. 2. p. 122.—Black, herb. t. 167.—Riv. mon. t. 47.—Lob. icon. t. 513. Leaves ½ to 1 inch long, deep green above, and hoary beneath. Throat of calyx bearded. Corolla white and pale purple. The plant has a strong aromatic smell, approaching to that of pennyroyal, and a moderately pungent taste, somewhat like spearmint, but warmer. Infusions of the leaves were given as tea in weaknesses of the stomach, flatulent cholics, &c.

Var. β, *Athónica* (Benth. lab. p. 387.) more humble and more glabrous; leaves greener. ♃. H. Native of Mount Athos. Thymus Athónicus, Bernh. ex Rchb. pl. germ. exc. p. 329. under no. 2242. Calamíntha Athónica, Rchb. l. c. Melíssa Athèos, Hortul.

Cat-mint Balm or Field Balm. Fl. July, Oct. England. Pl. 1 to 1½ foot.

6 M. calami'ntha (Lin. spec. p. 827.) stems herbaceous; branches ascending, villous; leaves petiolate, broad-ovate, bluntish, serrately crenated, rounded or truncated at the base, green on both surfaces, villous; raceme loose, secund; cymes very loose, subdichotomous, few-flowered; calyx distinctly bilabiate, with subulate teeth: lower teeth elongated; corolla more than twice as long as the calyx. ♃. H. Native of Middle and South Europe, and Middle Asia; as of England, France, Germany, Portugal, Spain, Italy, Greece, Armenia, and Siberia, &c., on hills and in open woods. Thymus Calamíntha, Scop. fl. carn. ed. 2d. no. 733. Smith, engl. bot. t. 1676. Calamíntha montàna, Lam. fl. fr. 2. p. 396. Cal. officinàlis, Mœnch. meth. 409. Cal. menthæfòlia, Host, fl. austr. 2. p. 129. Thymus umbròsus, Spreng. cent. pl. min. cogn. p. 41. T. moschatéllus, Poll. fl. veron. p. 15. ex Poir, supp. 5. p. 304. Cal. umbròsa, Rchb. fl. germ. exc. p. 329.? exclusive of numerous synonymes. Melíssa intermèdia, Baumg.? ex Rchb. Melíssa umbròsa, of German authors. Cal. vulgàris, Sweet. Melíssa foliòsa, Opiz. ex unio. itin. Stems more erect and firm than in *M. Népeta*. Leaves larger, usually an inch and a half long. Flowers fewer. Calyx twice the size, and more deeply bilabiate. Corolla red, marked with deeper spots.

Var. β, *villosíssima* (Benth. lab. p. 388.) plant more villous; leaves smaller, but the calyx and corolla are about the same size. ♃. H. Native of Spain and the Canary Islands. Thymus calaminthoìdes, Rchb. fl. lus. mad. exsic.

Calamint or Mountain Balm. Fl. July, Aug. Clt. England. Pl. ½ to 1½ foot.

Sect. II. Calomeli'ssa (from καλος, *kalos*, beautiful, and μελισσα, *melissa*, a bee, also the name given to balm; so called on account of the beauty of the plants.) Benth. lab. p. 388. Whorls many-flowered, nearly equal, condensed. Bracteas ovate or oblong. Throat of calyx villous inside.

7 M. Carolinia'na (Benth. lab. p. 388.) herbaceous, glabrous; leaves petiolate, ovate, obtuse, a little crenated, narrowed at the base; whorls nearly equal, many-flowered, condensed; corolla twice as long as the calyx. ♃. H. Native of Carolina, Georgia; and Louisiana, at Covington. Thymus Caroliniànus, Michx. fl. bor. amer. 2. p. 9. Calamíntha Caroliniàna, Sweet, hort. brit. p. 409. Cal. grandiflòra, Pursh, fl. amer. sept. 2. p.

414. Thymus grandiflòrus, Sims, bot. mag. t. 997. Floriferous branches elongated, twiggy, glabrous, or pubescent. Leaves half an inch long. Corolla an inch long, glabrous, pale red.

Carolina Balm. Fl. June, July. Clt. 1804. Pl. 1 foot.

Sect. III. A'cinos (from *ακινος, akinos*, the Greek name of a balsamic plant now unknown.) Benth. lab. p. 389. A'cinos, Mœnch. meth. 407. Whorls about 6-flowered; pedicels erect, short, stiff. Bracteas minute or wanting. Calyx gibbous beneath at the base, nearly terete, deeply striated, and the throat villous inside.

8 M. A'cinos (Benth. lab. p. 889.) herbaceous, annual, erectish, pubescent or villous; leaves ovate, sub-serrated: floral leaves similar to the others, exceeding the flowers, which are almost sessile; whorls 6-flowered; lips of calyx short; corolla hardly exceeding the calyx. ⊙. H. Native of Europe, in corn fields; as of Britain, Sweden, Portugal, Naples, Greece, about Petersburgh, and of the Caucasus. Thymus A'cinos, Lin. spec. 826. Hook. fl. lond. vol. 1. with a figure, Smith, engl. bot. t. 411. A'cinos thymoìdes, Mœnch. meth. 407. A'cinos vulgàris, Pers. ench. 2. p. 131. Thymus heterophýllus, Poir. dict. 7. p. 648. Thymus canéscens, Dumort, florul. belg. 47. Calamíntha arvénsis, Lam. fl. fr. 2. p. 394.—Lob. icon. 1. t. 506. f. 1. —Riv. mon. t. 43. f. 2.—Mor. hist. 3. p. 404. sect. 11. t. 18. f. 1. Stems branched, usually procumbent at the base; branches usually purplish, more or less villous. Whorls distant. Corollas purplish blue: upper lip entire. Lower lobe of style flattened. This plant has a pleasant aromatic smell.

Basil Balm, or Basil Thyme. Fl. June, Aug. Britain. Pl. ½ foot.

9 M. Pataviˋna (Benth. lab. p. 389.) herbaceous, ascending, pubescent; leaves petiolate, ovate, acute, scarcely serrated, veiny, almost glabrous: floral ones similar to the rest, longer than the calyxes; lips of calyx shorter than the tube; corollas scarcely twice as long as the calyxes. ♃. H. Native of the South of Europe; as of Spain, South of France, Italy, Piedmont, Naples; and on Mount Parnassus. Thymus Patavìnus, Jacq. obs. bot. 4. p. 7. t. 87. A'cinos Patavìnus, Pers. ench. 2. p. 131. Calamíntha Patavìna, Host, fl. austr. 2. p. 133. Melíssa marjoranæfòlia, Mill. dict. no. 7. Thymus suavèolens, Smith, prod. fl. græc. 1. p. 420. Thymus acinoìdes, Tenore, prod. fl. nap. p. 35. syll. 296.—Bocc. mus. t. 45. f. 3. Larger and firmer plant than *M. A'cinos*, with the flowers twice the size; and smoother and more erect than *M. alpìna*, to which it is more nearly allied. Corollas pale red, or purplish red.

Paduan Balm. Fl. June, Aug. Clt. 1776. Pl. ½ to ¾ foot.

10 M. microphyˊlla (Benth. lab. p. 390.) suffruticose, small, diffuse, nearly glabrous; leaves petiolate, roundish, quite entire: floral ones similar to the others; whorls 4-6-flowered; flowers almost sessile; lips of calyx much shorter than the tube; corolla almost twice as long as the calyx. ♄. F. Native of Corsica, on the mountains. Thymus Córsicus, Pers. ench. 2. p. 131. Plant small, much branched; branches short, pilose while young. Leaves small, glabrous, or a little pilose. Flowers similar to those of *M. Patavìna*, but the calyxes are longer and slenderer.

Small-leaved Balm. Shrub small.

11 M. alpiˋna (Benth. lab. p. 390.) perennial, diffuse, pubescent, or villous; leaves petiolate, roundish, or ovate, hardly serrated; floral leaves about equal in length to the calyxes; whorls 4-6-flowered; flowers almost sessile; lips of calyx shorter than the tube; corolla more than twice as long as the calyx. ♃. H. Native of the South of Europe, in mountainous and shady places; as of the South of France, Germany, Italy, &c. Thymus alpìnus, Lin. spec. 826. Sims. bot. mag. 2152. Jacq. austr. 1. p. 60. t. 97. A'cinos alpìnus, Mœnch. meth. p. 407. A'cinos diffùsus, Bonningh. fl. monast. ex Bot. zeit. 1825. 1. p. 333.? Thymus nummulariæfòlius, Lois. ex herb. D. C. Thymus montànus, Crantz, stirp. austr. p. 278. Thymus villosíssimus, Tausch, in syll. pl. ratisb. 2. p. 248. ?—Bocc. mus. 2. p. 50. t. 45. Stem much branched at the base, rather woody; floriferous branches ascending, usually villous. Leaves smaller, but generally broader than those of *M. A'cinos*, and *M. Patavìna*. Calyx purplish. Corollas larger than those of *M. Patavìna*, purplish-blue; upper lip and middle lobe of lower lip shortly emarginate. Lower lobe of style flattened.

Alpine Balm. Fl. June, Sept. Clt. 1731. Pl. ½ foot.

12 M. graveˋolens (Benth. lab. p. 390.) herbaceous, annual, erect, villous; leaves petiolate, ovate, a little serrated: floral leaves similar to the rest, exceeding the flowers; whorls 6-flowered; flowers almost sessile; lips of calyx incurved, equalling the tube; corolla scarcely half as long again as the calyx. ⊙. H. Native of Caucasus, Naples, Island of Cyprus, Transylvania, Tauria, and Iberia; frequent about Madrid, and between Bagdad and Kermancha, &c. Thymus gravèolens, Bieb. fl. cauc. 2. p. 60. pl. rar. ross. 1. t. 38. A'cinos gravèolens, Link, enum. host. berol. 2. p. 117. Thymus cànus, Stev. ex. Hoffm. in comm. soc. phys. med. mosq. 1. p. 46. ex Bieb. Thymus exíguus, Sibth. et Smith, fl. græc. 6. p. 61. t. 575. A'cinos cànus, Rchb. fl. germ. exc. p. 327. Herb simple or branched. Leaves like those of *M. Patavìna*, but more villous. Flowers larger than in *M. A'cinos*, but smaller than in *M. Patavìna*, purplish blue.

Strong-scented Balm. Fl. June, Aug. Clt. 1820. Pl. ¼ foot.

† *Species evidently belonging to sect.* III., *but are not sufficiently known.*

13 M. purpuraˊscens (Benth. lab. p. 391.) stem branched, divaricate, tomentose; leaves ovate, a little serrated: upper ones crowded, coloured; whorls 1-2-flowered, rather approximate. ⊙. H. Native of Spain, Clemente. A'cinos purpuráscens, Pers. ench. 2. p. 13. Thymus purpuráscens, Poir. dict. 7. p. 654. Leaves reddish violet, especially the veins. Corollas rather large, red. Apparently an intermediate plant between *M. vulgàris* and *M. alpìnus*, and probably only a variety of the latter.

Purplish Balm. Fl. June, July. Clt. 1820. Pl. ½ foot.

14 M. rotundifòlia (Benth. lab. p. 391.) leaves orbicular, mucronate, having the veins prominent beneath; stems procumbent, villous at top as well as the calyxes. ♃. ? H. Native of Hungary. A'cinos rotundifòlius, Pers. ench. 2. p. 131. Thymus rotundifòlius, Poir. dict. 7. p. 654. Thymus melissoìdes, Bernh. ex Rchb. fl. germ. exc. p. 327.

Round-leaved Balm. Pl. procumbent.

Sect. IV. Clinopòdium (from *κλινη, kline*, a bed; and *πους ποδος, pous podos*, a foot; heads of flowers like turned bed-feet.) Benth. lab. p. 391. Clinopòdium, Lin. and other authors. Whorls many-flowered or loosely few-flowered, equal; common peduncles almost wanting; pedicels filiform, not flattened. Bracteas subulate, sometimes minute, sometimes equalling the calyxes. Calyx gibbous on the under side at the base or almost equal: throat naked, or a little villous inside.

15 M. deˋbilis (Benth. lab. p. 391.) plant herbaceous, small, weak, glabrous; leaves petiolate, ovate, serrated: floral leaves smaller; whorls few-flowered; pedicels elongated, filiform; bracteas minute; throat of calyx naked inside. ♃. H. Native of Altaia, in shady places, near Alexandrowsk; and in the Soongarian desert, about Mount Kent. Thymus dèbilis, Ledeb. fl. alt. 2. p. 391. fl. ross. alt. ill. t. 438. Herb hardly 3-4 inches high, quite glabrous. Leaves ½ inch long, narrowed a long way into the petioles at the base. Corolla shorter than the calyx.

Weak Wild Basil. Pl. ¼ to ½ foot.

16 M. umbròsa (Bieb. fl. cauc. 2. p. 63. but not of German authors) plant herbaceous, diffuse, pubescent or villous; leaves petiolate, ovate, serrately crenated, rounded at the base; whorls equal, globose, many-flowered; bracteas minute, or the outer ones are subulate, one half shorter than the calyxes. ♃. H. Native of Iberia, in woods; Caucasus, on the Talusch mountains; Himalaya, Wall. Royle; mountains in the Peninsula of India, Wight; Ceylon, Walker; Cashmere, Jacquemont. Clinopòdium rèpens, β, Benth. in Wall. pl. rar. asiat. 1. p. 66. Stems procumbent, creeping at the base. Leaves scarcely an inch long. Whorls 20-40-flowered. Corolla purplish, scarcely half as long again as the calyx.

Shaded Wild Basil. Pl. procumbent.

17 M. rè'pens (Benth. lab. p. 392.) herbaceous, diffuse, rooting at the base, pubescent or villous; leaves petiolate, ovate, obtuse, serrately crenated, rounded at the base; whorls equal, globose, many-flowered; bracteas subulate, numerous, equalling the calyxes. ♃. H. Native of Nipaul. Clinopòdium rèpens, α, Wall. pl. rar. asiat. 1. p. 66. Thy'mus rèpens, D. Don, prod. fl. nep. p. 113. Habit of *M. umbròsa*. Bracteas more dense, and more hairy, ciliated. Corolla purplish.

Creeping Balm. Pl. procumbent.

18 M. origanifòlia (Benth. lab. p. 392.) suffruticose; stems ascending, branched, hispid; leaves ovate, quite entire, hispid; whorls nearly sessile: lower ones on long peduncles, emulating branches; bracteas linear-lanceolate, hispid, scarcely longer than the calyxes. ♄. H. Native of Mount Lebanon. Clinopòdium origanifòlium, Labill. pl. syr. dec. 4. p. 14. t. 9. Corolla rather hairy, purplish.?

Marjoram-leaved Balm. Fl. June, Aug. Clt. 1825. Shrub 1½ foot.

19 M. Clinopòdium (Benth. lab. p. 392.) herbaceous, erect, villous; leaves petiolate, ovate, obtuse, crenated a little, rounded at the base; whorls equal, globose, many-flowered; bracteas subulate, numerous, equalling the calyxes. ♃. H. Native throughout Europe and Middle Asia, in woods, hedges, and by waysides; from Scotland and Sweden to Spain, Sicily, Greece, and Caucasus; and North America; but probably introduced from Europe to the latter country. Clinopòdium vulgàre, Lin. spec. p. 821. Smith, engl. bot. t. 1401. Clinopòdium Ægyptìacum, Lam. dict. 2. p. 50. Mill. dict. no. 6. fig. t. 95. Clinopòdium atropurpùreum, and C. variegàtum, Hortul. Clinopòdium plumòsum, Sieb. in bot. zeit. 1822. t. 242.? Thymus sylvàticus, Bernh. ex Steud. nom. p. 208.—Riv. mon. irr. t. 43. —Sabb. hort. rom. 3. t. 65, 66.—Mor. hist. sect. II. t. 8. f. 1. Stems simple, or a little branched. Leaves petiolate, 1-2 inches long, pale or canescent beneath, with entire or obscurely crenulated margins: floral ones smaller, sessile. Calyxes and bracteas very pilose. Corolla twice as long as the calyx, bright red.

Bed-foot or Common Wild Basil. Fl. June, Aug. Britain. Pl. 1 to 2 feet.

Sect. V. Meliphy'llum (from μελι, *meli*, honey; and φυλλον, *phyllon*, a leaf; so called from the sweet-scented leaves.) Benth. lab. p. 393. Melíssa, Lin. and other authors. Whorls few-flowered, rather loose, secund. Bracteas few, usually ovate. Calyx scarcely gibbous at the base, spreading; upper lip almost glabrous; throat naked inside, or villous. Corolla white or yellowish: tube recurvedly ascending.

20 M. officina'lis (Lin. spec. 827.) herbaceous, erect, branched; leaves broad-ovate, crenated, truncate at the base, or cordate; floral leaves almost similar to the cauline leaves; whorls axillary, loose, secund; bracteas few, ovate; corolla a half again as long as the calyx. ♃. H. Native of the South of Europe and Middle Asia, in mountain woods; as of Portugal, Spain, South of France, Italy, Sicily, Greece, about Aleppo, Tauria, Iberia, and Caucasus. Woodv. med. bot. t. 147. M. gravèolens, Host, fl. austr. 2. p. 128. M. foliòsa, Opiz, ex Rchb. fl. germ. exc. p. 329. M. occidentàlis, Rafin. M. Cŏrsica, Host. —Sabb. hort. rom. 3. t. 61.—Blackw. herb. t. 27.—Lob. icon. t. 277. Plant very variable in hairiness, size, form, and bases of leaves, and length of corollas. Leaves from ½ to 2-3 inches long, those of the stems and sterile branches truncate or cordate at the base: upper floral and rameal ones smaller, rounded or cuneated at the base, all obtuse, or the upper ones are acute, more or less villous on both surfaces. Whorls distant. Cymes distinct, 3-6-flowered. Corolla white or pale yellow, twice as long as the calyx.

Balm, in its recent state, has a weak, roughish, aromatic taste, and a pleasant smell, somewhat of the lemon kind. It is now little used, unless for making a simple balm tea, which affords a grateful diluent drink in fevers, and for forming a light agreeable beverage, under the name of balm wine. Anciently it was generally recommended in hypochondriacal affections, and by Paracelsus promised a complete renovation of man. From the fondness of bees for this plant, it was named *Apiástrum*, *Melissa*, *Melissophýllum*; and was directed by the ancients, among other herbs, to be rubbed upon the hive, to render it agreeable to the swarm.

Var. β, *villòsa* (Benth. lab. p. 393.) leaves shorter; plant more villous; odour disagreeable. ♃. H. Native of Italy, about Rome, Greece, &c. M. Romàna, Mill. dict. no. 2. M. hirsùta, Balb. M. cordifòlia, Pers. ench. 2. p. 132. M. Taŭrica, Hortul. M. altíssima, Sibth. et Smith, fl. græc. 6. p. 63. t. 579. Corollas white, smaller than those of the species.

Officinal or Common Balm. Fl. June, Oct. Clt. 1573. Pl. 2 to 4 feet.

21 M. hirsu'ta (Blum. bijdr. p. 830.) heads verticillate, axillary; leaves ovate-oblong, bluntly serrated, and are, as well as the calyxes, hairy. ♃. H. Native of Java, on the top of Mount Tjerimai, in the province of Cheribon. Allied to *M. officinàlis*.

Hairy Balm. Pl. 2 to 3 feet.?

22 M. parviflòra (Benth. in Wall. pl. rar. asiat. 1. p. 65. lab. p. 394.) herbaceous, erect, nearly glabrous; leaves ovate or ovate-lanceolate, acute, somewhat serrated, rounded at the base or cuneated; floral leaves similar to the others; whorls axillary, loose, secund; bracteas few, small, oblong-linear; corollas scarcely longer than the calyxes. ♃.H. Native of Nipaul and Kamaon, Wall.; Deyra Dhoun, Royle. Scutellària Japónica, Burm. fl. ind. p. 130. Geniósporum axillàre, Benth. in Wall. pl. asiat. rar. 2. p. 18. This has the character of *M. officinàlis*, but the habit is very different. The whole plant is purplish and glabrous, except a few hairs on the angles of the stem and nerves of the leaves. Leaves hardly an inch long. Inflorescence of *M. officinàlis*. Corollas blue, hardly exserted.

Small-flowered Balm. Pl.

23 M. fla'va (Benth. in Wall. pl. rar. asiat. 1. p. 65. lab. p. 394.) herbaceous, erect, nearly glabrous; leaves ovate or ovate-lanceolate, acute, serrately crenated, rounded at the base; floral leaves similar to the rest; whorls axillary, loose, secund; bracteas few, oblong-linear; corolla about thrice as long as the calyx. ♃. H. Native of Nipaul, Wall. Habit of *M. parviflòra*. Calyxes coloured at top. Corolla yellow, incurvedly ascending.

Yellow-flowered Balm. Pl.?

Sect. VI. Macromeli'ssa (from μακρος, *macros*, long; and μελισσα, *melissa*, balm; so called in reference to the long corollas.) Benth. lab. p. 394. Whorls very loose, usually few-

flowered; cymes umbel-formed; peduncles elongated, scarcely dichotomous. Throat of calyx spreading, almost naked inside: lips very deep, spreading. Corolla elongated, purplish: tube dilated. Stamens rather distant at apex.

24 M. grandiflòra (Lin. spec. 827.) herbaceous, erectish, sparingly pilose; leaves petiolate, ovate, acute, coarsely toothed, rounded or cuneated at the base, green on both surfaces; racemes loose, few-flowered; cymes pedunculate, hardly dichotomous, few-flowered; corolla ample, more than twice the length of the calyx. ♃. H. Native of Europe, in shady woods; as of the Pyrenees, Cevennes, Piedmont, Switzerland, Germany, Mounts Athos, and Olympus; South of Tauria, about Baidar. Bieb. Curt. bot. mag. 208. Calamíntha grandiflòra, Mœnch. meth. p. 408. Thỳmus grandiflòrus, Scop. carn. ed. 2d. no. 732. D. C. fl. fr. 3. p. 562.—Riv. mon. t. 46.—Mor. hist. sect. 11. t. 21. f. 1.—Besl. hort. eyst. 7. t. 7. f. 1. Stems branched at the base, and decumbent. Branches erectish. Whorls few, subsecund. Leaves 2-3 inches long. Corolla 1 to 1½ inch long, purplish; throat much inflated. Stamens loosely approximate. There is a variety of this with white flowers, and another with red flowers; both much inferior to the purple: there is also a variety with variegated leaves. The leaves, when bruised, have the smell of common balm.

Great-flowered Balm. Fl. June, July. Clt. 1596. Pl. 1 foot.

25 M. macroste'ma (Moc. et Sessé, mss. ex Benth. lab. p. 395.) shrubby; branches divaricate, villous in the young state; leaves petiolate, ovate, or oblong, acute, roundly cuneated at the base, serrated, green above, and pale beneath, nearly glabrous, or rather hispid on both surfaces; whorls loose, rather secund, few-flowered; peduncles and pedicels elongated; calyxes glabrous: upper lip spreading. ♄. H. Native of New Spain. Leaves distant, ½ to 1 inch long. Cymes generally 2-3-flowered. Corolla downy, about 4 times the length of the calyx, with a dilated tube: upper lip, and middle lobe of lower lip emarginate, like the preceding.

Long-crowned Balm. Shrub 1 to 2 feet. ?

Sect. VII. Heteromeli'sson (from ἕτερος, *heteros*, variable; and μελισσα, *melissa*, a bee, also the name given to balm.) Benth. lab. p. 395. Whorls irregular, few or many-flowered, rather secund, usually ending in leafy branches. Bracteas subfoliaceous. Calyx elongated, not gibbous at the base, scarcely bilabiate: teeth straight, setaceous: throat almost naked inside. Corolla elongated, purple: tube erectish.

26 M. longicau'lis (Wall. mss. ex Benth. lab. p. 395.) suffruticose; branches elongated, decumbent, pubescent; leaves ovate-oblong, obtuse, a little toothed, cuneate, or narrowed at the base, rather villous: floral ones similar to the rest; whorls few-flowered, irregular, secund; calyx elongated, a little declinate, with lanceolate, subulate teeth. ♃. H. Native of Nipaul, Wall. Thỳmus piperìtus, D. Don, prod. fl. nep. p. 112. Thỳmus origanifòlius, D. Don, prod. fl. nep. p. 112. Clinopòdium longicaûle, Benth. in Wall. pl. rar. 1. p. 66. Stems weak, woody at the base; branches purplish at top. Leaves scarcely ½ an inch long, quite entire, or furnished with 1 or 2 crenæ on both sides. Bracteas foliaceous. Corolla violaceous, hardly twice as long as the calyx. Superior stamens usually abortive. Probably a proper genus, intermediate between *Hedeòma* and *Melissa*.

Long-stemmed Balm. Pl. decumbent.

† *Doubtful species.*

27 M. rugòsa (Lour. coch. p. 368.) annual, erect, much branched; leaves very rugose, roundish, acuminated; racemes crowded, axillary and terminal. ☉. H. Native of Cochinchina. Stem tetragonal. Leaves serrated, petiolate. Corolla white, tinged with red. The whole plant is obscure green, except the corollas.

Wrinkled-leaved Balm. Pl. 1½ foot.

28 M. obtusifòlia (Pers. ench. 2. p. 132.) leaves broad-ovate, obsoletely serrated, rounded at apex; stem villous; peduncles simply divided and solitary, much shorter than the leaves; corolla pale violet. ♃. ? G. Native of South America, Michx.

Blunt-leaved Balm. Pl. ?

29 M. veronicæfòlia (Pers. ench. 2. p. 132.) leaves broad-ovate, serrated, petiolate; stem branched, diffuse; peduncles elongated, branched. ♃. H. Native of the Bahamas. Thỳmus veronicæfòlius, Spreng. syst. 2. p. 698. Stem villous. Leaves nearly glabrous. Calyx glabrous. Corolla purplish inside, variegated with violaceous and white spots. Habit of *Verónica arvénsis*.

Speedwell-leaved Balm. Pl. ½ foot. ?

† † *Doubtful Clinopòdia of authors.*

30 M. Asia'tica; leaves oblong, nerved, wrinkled, tomentose beneath; spikes verticillate, terminal. ♄. G. Native of Cochinchina. Clinopòdium Asiáticum, Lour. coch. p. 374. Stem suffruticose, tetragonal, simple, villous. Leaves ovate-oblong, blunt, serrated. Flowers violaceous, disposed in an oblong, compound, terminal spike. Calyx bilabiate, entire, unequal, very pilose. Upper lip of corolla concave, equally trifid: lower lip refracted, quite entire, longer.

Asiatic Balm. Shrub 2½ feet.

31 M. hu'milis; plant humble, branched; leaves wrinkled; heads flattened. ♃. H. Native of Carolina. Clinopòdium hùmile, Mill. dict. no. 4.

Humble Balm. Pl. dwarf.

32 M. Carolinia'na; stem erect, not branched; leaves villous beneath; whorls fewer; bracteas longer than the calyxes. ♃. H. Native of Carolina. Clinopòdium Caroliniànum, Mill. dict. no. 5.

Carolina Balm. Pl. 1 foot. ?

Cult. All the species of Balm will grow in common garden earth, and are of easy culture. The perennial herbaceous kinds are readily increased by parting the roots; the suffruticose species by cuttings or parting; and seeds of annual kinds may be sown either on rockwork or in the open border. The species belonging to section *A'cinos* are all well fitted for decorating rockwork.

L. GARDO'QUIA (dedicated to Don Diego Gardoqui, Minister of Finance under Charles IV. of Spain, who greatly promoted the publication of the "Flora Peruviana.") Ruiz, et Pav. prod. fl. per. et chil. p. 130. syst. veg. per. p. 149. D. Don, in Sweet, fl. gard. n. s. 3. t. 271. Benth. lab. p. 397. Rizòa, Cav. icon. 6. p. 56.—Cunìla species, Nutt.—Melíssa species, Spreng.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 13-nerved, a little incurved, with an equal or oblique mouth; teeth short, straight, nearly equal or sub-bilabiate. Tube of corolla much exserted, straight, or incurved, naked inside; limb bilabiate: upper lip erect, flattish, emarginate: lower one spreading a little, with flat lobes, the middle lobe the broadest. Stamens 4, subdidynamous, loosely ascending, rather distant at apex: lower ones the longest: superior ones now and then abortive; filaments toothless; anthers 2-celled: cells distinct, parallel, or somewhat divergent. Lobes of style nearly equal. Achenia

dry, smooth.—Much branched, leafy, shrubs or under-shrubs, often procumbent. Flowers beautiful, usually scarlet. This genus is not distinct from *Micromèria*, unless in the length of the corolla, and erect lobes of the limb.

1 G. MULTIFLÒRA (Ruiz, et Pav. syst. veg. fl. per. et chil. p. 149.) shrubby, nearly glabrous; leaves petiolate, ovate, bluntish, crenated a little, rounded at the base, green, pale beneath; floral leaves conforming to the others; whorls loose, subsecund; cymes pedunculate, scarcely dichotomous; calyx almost glabrous, with acute teeth, and the throat naked inside; corolla 3 times as long as the calyx. ♄. G. Native of Chili, in the province of Conception, in fields. Rizòa ovatifòlia, Cav. icon. 6. p. 56. t. 578. bad. Stems hard at the base, but scarcely woody. Branches, leaves, and calyxes glabrous, or clothed with fine pubescence. Leaves an inch long. Corolla more than an inch long, beautiful, scarlet or purple. Stamens a little exserted.

Many-flowered Gardoquia. Shrub 1 foot.

2 G. RUGÒSA (Benth. lab. p. 399.) shrubby, villous; leaves petiolate, ovate-rhomboid, serrately toothed, rounded at the base, coriaceous, wrinkled, villous on both surfaces, hardly canescent beneath; whorls loose, many-flowered; calyx villous, with subulate ciliated teeth, and with the throat almost naked inside; corolla scarcely twice as long as the calyx. ♄. G. Native of Peru, Ruiz, et Pav. Hairs rufous. Leaves 1 to 1½ inch long. Cymes on short peduncles. Corolla villous. Anthers approximating by pairs.

Wrinkled Gardoquia. Shrub.

3 G. ELLI'PTICA (Ruiz, et Pav. syst. fl. per. p. 149.) shrubby, erect; branches glabrous; leaves petiolate, ovate, acutish, serrately crenated, rounded at the base, or cuneated, green on both surfaces, glabrous, or a little ciliated; floral leaves smaller; whorls usually 6-flowered; calyx green, pilose, with acute teeth, and with the throat naked inside; corolla about 4 times as long as the calyx. ♄. G. Native of Peru, towards Cheuchin and Sayan, Ruiz et Pav.; in the valley of Canta, between Obrajillo and Pacron, Chruikshanks. Leaves about an inch long. Corolla about 1½ inch long, pubescent, scarlet: lobes short. Stamens exserted.

Elliptic-leaved Gardoquia. Shrub erect.

4 G. THYMOI'DES (H. B. et Kunth, nov. gen. amer. 2. p. 314.) shrubby; branches pubescent; leaves ovate, acute, subcordate, with revolute, subserrated margins, nearly glabrous above, but clothed with hoary pubescence beneath; whorls many-flowered, distant; calyx pubescent, with unequal, acuminately subulate segments; corolla about 3 times the length of the calyx. ♄. G. Native on the Andes of Quito. ? Leaves 3 lines long. Flowers pedunculate. Corolla yellow? pubescent outside; throat bearded with long hairs behind; limb spotted with purple.

Thyme-like Gardoquia. Shrub.

5 G. E'LEGANS (H. B. et Kunth, nov. gen. amer. 2. p. 315.) shrubby; branches pubescent, clothed with white tomentum while young; leaves roundish-rhomboid, obtuse, serrated, pubescent above, and clothed with white tomentum beneath; peduncles axillary, usually 3-flowered; calyx tomentose, with unequal acuminated teeth. ♄. G. Native of Quito, on the declivity of the burning mount Catopaxi, between Mulalo and Pansache. Shrub aromatic. Leaves entire towards the base, 9 lines long. Corolla red, downy outside: throat yellow, spotted with red.

Elegant Gardoquia. Shrub 3 to 4 feet.

6 G. PULCHE'LLA (H. B. et Kunth, l. c.) shrubby; branches pubescently tomentose; leaves ovate or roundish-ovate, obtuse, cuneated at the base, with subrevolute crenated margins, rather scabrous above, and clothed with white tomentum beneath; peduncles usually 3-flowered; calyx clothed with tomentose pubescence, with acuminately-subulate, unequal teeth. ♄. G. Native of Peru, in hot places between Cascas and Contumasay. Leaves 8-9 lines long. Flowers on long pedicels.

Neat Gardoquia. Shrub 3 to 4 feet.

7 G. TOMENTÒSA (H. B. et Kunth, l. c. p. 314.) shrubby; branches pubescent; leaves roundish-ovate, acutish, rather truncate at the base, with revolute serrated margins, pubescent above, and clothed with white tomentum beneath; peduncles axillary, usually 3-flowered; calyx clothed with tomentose pubescence, with unequal acuminated teeth; corolla 3 times as long as the calyx. ♄. G. Native of the kingdom of Quito, near Llactacunga, Hambato, and Riobamba Nuevo. Shrub aromatic. Leaves hardly ½ an inch long. Flowers pedicellate, Corolla pale red, pubescent outside; tube short; throat bearded by long hairs. Stamens inclosed.

Tomentose Gardoquia. Shrub 3 feet.

8 G. GRANDIFLÒRA (H. B. et Kunth, l. c.) branches pubescent; leaves roundish-ovate, obtuse, acute at the base, toothed towards the apex, pubescent above, and clothed with hoary tomentum beneath; flowers axillary, solitary; calyx clothed with hoary tomentum, with acuminated nearly equal teeth; corolla 4 times as long as the calyx. ♄. G. Native of South America, in the valley of the river Chambo, between Mount Tunguragua and Penipe. Leaves ½ an inch long. Flowers on short peduncles. Corolla yellow, downy outside; throat bearded inside. Stamens a little exserted. From the description, this does not appear to differ from *G. incàna*, unless in the leaves being serrated at apex.

Great-flowered Gardoquia. Shrub 3 feet.

9 G. BREVIFLÒRA (Benth. lab. p. 401.) shrubby, hoary; leaves on short petioles, roundish-ovate, obtuse, with scarcely revolute margins, pubescent above, and clothed with hoary pubescence beneath; floral leaves similar to the rest, equalling the calyxes; whorls 2-6-flowered, secund; calyx a little coloured, with lanceolate-acute teeth, and with the throat naked inside; corolla exceeding the calyx a little. ♄. G. Native of Peru, Ruiz et Pavon. Habit of *G. incàna;* but the leaves are shorter, broader, and greener above, obtuse, or shortly mucronate. Hardly distinct from the genus *Micromèria*, in consequence of the corolla hardly exceeding the calyx.

Short-flowered Gardoquia. Shrub.

10 G. INCA'NA (Ruiz et Pav. syst. fl. per. p. 150.) shrubby, hoary; leaves on short petioles, ovate, obtuse, quite entire, flat, pale above, and clothed with hoary tomentum beneath; floral leaves similar to the others, equalling the calyxes; whorls 2-6-flowered; calyx hoary, with an oblique mouth, and short acute teeth, and with the throat naked inside. ♄. G. Native of Peru. Ruiz et Pav. fl. per. ined. 4. t. 493. f. 4. Leaves of *Heliánthemum cànum*, ½ an inch long. Corolla beyond an inch in length, yellow. Genitals a little exserted.

Hoary Gardoquia. Shrub.

11 G. HOOKE'RI (Benth. lab. p. 401.) shrubby, quite glabrous; leaves obovate, quite entire, narrowed into the short petioles at the base, green on both surfaces; peduncles 2-3-flowered; calyx glabrous, subbilabiate, having the upper lip shortly tridentate, erect: throat clothed by villi inside. ♄. G. Native of Florida. D. Don, in Sweet. fl. gard. n. s. 3. t. 271.

FIG. 80.

Cunìla coccínea, Nutt. ex Hook. exot. fl. 3. t. 163. Melíssa coccínea, Spreng. syst. 2. p. 224. Leaves ½ an inch long, 1-3 nerved, glandularly dotted. Peduncles sometimes short and 1-flowered. Corolla scarlet, clothed with glandular pubescence. Stamens distant, a little exserted. (fig. 80.)

Hooker's Gardoquia. Fl. June, Oct. Clt. 1834. Shrub 1 to 2 feet.

12 G. seri'cea (Presl, mss. ex Benth. lab. p. 402.) suffruticose, procumbent, clothed with silky tomentum; leaves sessile, linear, quite entire, with revolute margins, clothed with silky wool on both surfaces; floral leaves and bracteas similar to the cauline leaves, but smaller; flowers axillary, solitary; calyx silky, with short, nearly equal teeth: throat naked inside. ♄. G. Native of Peru, in the valleys of the Cordillera. Leaves 3-5 lines long. Corolla 10-11 lines long, scarlet, pubescent. Stamens exserted: superior ones inclosed or abortive.?

Silky Gardoquia. Shrub procumbent.

13 G. argen'tea (H. B. et Kunth, nov. gen. amer. 2. p. 313.) shrubby, clothed with silky silvery pubescence; leaves oblong-lanceolate, obtuse, with revolute, quite entire margins; flowers axillary, solitary; calyx bilabiate, silky, with acute teeth, and a naked throat; corolla 3 times as long as the calyx. ♄. G. Native of Peru, on the Andes near Micuipampa. Leaves 2-3 lines long. Calyx tridentate. Corolla scarlet, downy outside; throat bearded below. Stamens inclosed.

Silvery Gardoquia. Shrub.

14 G. di'scolor (H. B. et Kunth, nov. gen. 2. p. 312.) branchlets clothed with canescent pubescence; bark soluble; leaves oblong, acute, cuneated at the base, quite entire, puberulous above, but clothed with silky hoary pubescence beneath; flowers axillary, solitary; calyx villous, having the throat closed with white hairs: the limb bilabiate, with lanceolate-acute, unequal segments; corolla 2-4 times as long as the calyx. ♄. G. Native of the Spanish Main, on Silla de Caraccas. Leaves on short petioles, 4-8 lines long. Throat of corolla naked. Corolla purple.

Discoloured-leaved Gardoquia. Fl. April, July. Clt. 1827. Shrub.

15 G. Gillie'sii (Graham, in edinb. phil. journ. 1831. sept. 377. Benth. lab. p. 402.) suffruticose; branches divaricate, pubescent; leaves oblong-linear or cuneated, obtuse, quite entire, narrowed at the base, green on both surfaces, flat; floral leaves similar to the others, and are, as well as the bracteas, rather shorter than the calyxes; whorls few, many-flowered, rather loose, irregular; calyx elongated, erect, with lanceolate-subulate, nearly equal teeth, and the throat naked inside. ♄. G. Native of Chili, near Valparaiso. G. Chilénsis, Hook. et Arn. in Beech. voy. pt. bot. p. 58. Stems divaricate or procumbent. Branches ending each in a long terminal raceme. Leaves 3-6 lines long. Calyx bilabiate. Corolla pubescent; scarlet.

Gillies's Gardoquia. Fl. April, July.? Clt. 1828. Shrub procumbent.

16 G. obova'ta (Ruiz, et Pav. syst. fl. per. p. 150.) shrubby; branches canescent; leaves obovate-oblong, narrowed at the base, with revolute, quite entire margins, smoothish above, pale and few-veined beneath, glabrous on both surfaces; whorls about 2-flowered, secund; calyx nearly glabrous, with short obtuse teeth, and with the throat villous inside. ♄. G. Native of Peru, at Cheuchin. Ruiz, et Pav. fl. per. ined. 4. t. 494. f. a. Leaves 3-4 lines long, on very short pedicels. Corolla about 3 times as long as the calyx, very villous. Stamens much exserted.

Obovate-leaved Gardoquia. Shrub 3 feet.

17 G. glabra'ta (H. B. et Kunth, nov. gen. 2. p. 313.) branches pubescent; leaves lanceolate-oblong, acute at both ends, with revolute serrated margins, glabrous, full of glandular dots beneath; flowers axillary, solitary; calyx glandularly dotted, bilabiate, with acuminated, nearly equal teeth, or the 3 upper teeth are longest; corolla twice as long as the calyx. ♄. G. Native near Quito. Leaves on short petioles, scarlet, shining above, ½ an inch long. Corolla downy outside, with a pilose throat. Stamens inclosed.

Glabrous Gardoquia. Shrub.

18 G. taxifòlia (H. B. et Kunth, l. c. p. 312.) branches clothed with hoary villi; leaves linear-lanceolate or oblong, obtuse, narrowed at the base, quite entire, glabrous, dotted beneath; flowers axillary, solitary; calyx bilabiate, with acuminated, nearly equal teeth, and having the throat closed by hairs. ♄. G. Native of New Granada, on the Andes, especially on the declivity of Paramo de Saraguru, near Onâ. Leaves 4-5 lines long. Corolla red,? pubescent outside, with a rather pilose throat. Genitals exserted.

Yew-leaved Gardoquia. Shrub.

19 G. stria'ta (Ruiz, et Pav. syst. fl. per. p. 148.) shrubby; branches clothed with wool-like villi; leaves small, ovate, quite entire, flat, or complicate, quite glabrous on both surfaces, striated or ciliated on the back; whorls 2-flowered, secund; calyx glabrous, with short obtuse teeth, and the throat rather villous inside. ♄. G. Native of Peru, on arid hills in the provinces of Tarma and Huanuco. Ruiz, et Pav. fl. per. ined. 4. t. 494. f. b. Leaves sessile, 2 lines long, rounded or subcordate at the base: upper ones obtuse. Corolla scarlet, downy outside, 3 times the length of the calyx. Stamens a little exserted.

Striated-leaved Gardoquia. Shrub 3 feet.

20 G. microphy'lla (H. B. et Kunth, l. c. p. 311.) branches crowded, pubescently pilose while young; leaves ovate, obtuse, cordate, with revolute, quite entire margins, glabrous, having the margins and middle nerve ciliated; flowers axillary, solitary; calyx rather scabrous, bilabiate, with acute, ciliated, unequal teeth, and a naked throat; corolla 5 times as long as the calyx. ♄. G. Native of the Andes of Pasto, in frigid places near Rio Blanco, between Guachucal and Tulcan. Leaves on short petioles, hardly a line long. Pedicels short. Corolla red, downy outside; throat bearded. Stamens hardly exserted.

Small-leaved Gardoquia. Shrub 2 to 3 feet.

21 G. Jameso'ni (Benth. lab. p. 404.) shrubby, procumbent, glabrous; leaves small, broad-ovate, obtuse, quite entire, flat, or conduplicate, green and glabrous on both surfaces; whorls about 2-flowered; calyx glabrous, with short obtuse teeth, and with the throat naked inside. ♄. G. Native of Peru, at Paramo de Antisana, Jameson. Leaves hardly a line long, numerous, sessile. Corolla smaller than that of *G. revolùta*, pale red, pubescent outside. Stamens all fertile.

Jameson's Gardoquia. Shrub procumbent.

22 G. revolu'ta (Ruiz, et Pav. syst. fl. per. p. 149.) suffruticose, procumbent; branches pubescent; leaves small, roundish, very blunt, quite entire, cordate at the base, with revolute margins, glabrous above, clothed with white tomentum beneath; whorls about 2-flowered; calyx tomentose, with short broad teeth, and the throat almost naked inside. ♄. G. Native of Peru, in the fissures of rocks towards Huassa-huassi, Panao, and Huariaca, Ruiz, et Pav.; Cordilleras, Hænke and Mathews. Leaves numerous, sessile, hardly a line long, blistered. Flowers usually solitary, but sometimes 3 on each peduncle. Corolla scarlet, 10-11 lines long, pubescent, a little incurved. Stamens all fertile.

Revolute-leaved Gardoquia. Shrub procumbent.

† *Doubtful species.*

23 G. capita'ta (Spreng. syst. cur. post. p. 225.) heads

ovate, on long peduncles; bracteas and calyxes spinose; leaves fascicled, linear-oblong, with revolute, quite entire margins, hispid, as well as the stem, which is branched. ♄. ? G. Native of Rio Grande.

Capitate-flowered Gardoquia. Shrub. ?

24 G. SPICA'TA (Spreng. l. c.) spikes terminal, villous; leaves subfascicled, spatulate, almost quite entire, rough. ♄. G. Native of Rio Grande.

Spiked-flowered Gardoquia. Shrub. ?

Cult. Most of the species of *Gardòquia* bear large scarlet blossoms, and are, therefore, showy, and worth cultivating. A light rich soil, or one composed of equal parts of sand, loam, and peat, will suit the species well. Cuttings strike root readily in the same kind of soil, with a hand-glass placed over them.

LI. GLE'CHON (from γληχων, *glechon*, the Greek name for Pennyroyal; this genus has been so called from its similarity to Pennyroyal.) Spreng. syst. cur. post. p. 227. Benth. lab. p. 405.

LIN. SYST. *Diándria, Monogýnia.* Calyx ovate or tubular, 13-nerved, equal or sub-bilabiate, 5-toothed, the 2 lower teeth usually the longest. Tube of corolla equalling the calyx, naked inside; limb bilabiate; upper lip emarginate or semi-bifid, falcate, arched or galeate, erect, or lying on the lower lip; lower lip spreading, with flat entire lobes: lateral lobes the broadest, often adhering to the upper lip at the base. Two lower stamens fertile, ascending under the upper lip, or exserted a little from the notch; filaments glabrous; anthers 2-celled: cells linear, parallel, diverging, or at length divaricate. Style glabrous, having the upper lobe very short, and the lower one elongated and flattened. Achenia oblong, smooth, dry.—Usually canescent, suffruticose plants. Leaves for the most part small; floral leaves similar to the others, rarely smaller, and bractea-formed. Whorls axillary, 2-6-flowered, rarely disposed in short racemes towards the tops of the branches. Corollas yellowish, flesh-coloured, or blue. The galeate upper lip of the corolla in this genus separates it from all other genera of tribe *Melissíneæ*.

1 G. SPATULA'TA (Benth. lab. p. 406.) leaves petiolate, roundish-spatulate, subcrenated, thick, clothed with canescent tomentum on both surfaces; teeth of calyx short, the 2 lower ones the longest; upper lip of corolla erect, subgaleate. ♄. F. Native of Brazil, near Anjo, in the Missions of the Uruguay; and near Santa Maria, in the province of Rio Grande do Sul, very plentiful. Shrub procumbent at the base; branches ascending, clothed with tomentose pubescence. Floral leaves conforming to the rest, shorter than the flowers. Corolla pubescent.

Spatulate-leaved Glechon. Shrub procumbent.

2 G. THYMOI'DES (Spreng. syst. cur. post. p. 227.) leaves petiolate, obovate, subcrenated, greenish on both surfaces, and nearly glabrous; calycine teeth very short, nearly equal; upper lip of corolla large, galeate. ♄. F. Native of the South of Brazil, Sello. Branches clothed with hoary pubescence. Leaves obtuse or emarginate, glandular beneath: floral ones similar to the others. Whorls 2-flowered. Corolla twice as long as the calyx, downy outside.

Thyme-like Glechon. Shrub.

3 G. SERPYLLIFÒLIA (St. Hil. mss. ex Benth. lab. p. 407.) leaves small, petiolate, ovate, obtuse, quite entire, greenish on both surfaces, glabrous; calycine teeth subulate, rather unequal: longer ones equalling the tube; upper lip of corolla large, falcate. ♄. F. Native of Brazil, in the province of Cisplatin, among stones from Santa Theresa to Rocha. Branches prostrate, glabrous, or finely tomentose. Leaves 2-3 lines long, form of those of *Thymus Serpyllum*, glandularly dotted; floral leaves conforming to the others, but usually a little larger, exceeding the calyxes. Whorls 2-flowered. Corollas flesh-coloured, size of those of *G. thymoìdes*, but the upper lip is less incumbent. Perhaps a variety of *G. marifòlia*.

Serpyllum-leaved Glechon. Shrub prostrate.

4 G. MARIFÒLIA (Benth. lab. p. 407.) leaves on short petioles, ovate, quite entire or scarcely crenated, pale on both surfaces, and finely tomentose; calycine teeth setaceous, nearly equal, about equal in length to the tube; upper lip of corolla erect, subgaleate. ♄. F. Native of the South of Brazil, Sello. Shrub procumbent, rooting at the base; branches clothed with hoary tomentum. Adult leaves nearly glabrous, glandular on both surfaces; floral leaves conforming to the others. Whorls 2, rarely many-flowered. Corollas size of those of *G. thymoìdes*, pubescent outside.

Cat-Thyme-leaved Glechon. Shrub procumbent.

5 G. CANE'SCENS (St. Hil. mss. ex Benth. lab. p. 407.) leaves nearly sessile, roundish, sub-crenated, canescent on both surfaces; calycine teeth setaceous, nearly equal, equalling the tube in length; upper lip of corolla erect, subgaleate. ♄. F. Native of Brazil, in the Missions of the Uruguay, in sandy places, among palms, near Carapuru, Villanova, &c.; also in the provinces Cisplatin and St. Catharine. G. cándida, Benth. mss. in mus. berol. Rooting at the base; branches elongated, clothed with hoary tomentum as well as the leaves; floral leaves conforming to the others. Whorls 2-6-flowered. Corolla flesh-coloured or yellowish, dotted with purple. Perhaps a variety of *G. marifòlia*.

Canescent Glechon. Shrub $1\frac{1}{2}$ to $2\frac{1}{2}$ feet.

6 G. ORIGANIFÒLIA (Benth. lab. p. 408.) stem hairy; leaves sessile, broad-ovate, or roundish, crenated, cordate at the base, green on both surfaces, tomentosely pubescent, or villous; calycine teeth subulate, lower ones longer than the tube; corolla hardly exceeding the calycine teeth; upper lip galeate. ♄. F. Native of Brazil, in the province of Minas Geraes, on the Juruoca mountains, and near Villa Rica, St. Hil.; South of Brazil, Sello. Procumbent; branches elongated. Floral leaves conforming to the others, rather shorter than the flowers. Whorls 6-10-flowered. Corolla white or yellowish.

Marjoram-leaved Glechon. Shrub procumbent.

7 G. SQUARRÒSA (Benth. lab. p. 408.) leaves almost sessile, ovate, rounded at the base, or sub-cordate, stiff, complicate, glabrous, or ciliated; calycine teeth subulate: lower ones equal in length to the tube; upper lip of corolla galeate. ♄. F. Native of Brazil, in humid pastures, near Carrancas, in the province of Minas Geraes; and in the Campos Geraes, in the province of St. Paul, St. Hil.; South of Brazil, Sello. Procumbent at the base; branches ascending or erect, glabrous, pubescent, or villous. Leaves 3-4 lines long, glandular on both surfaces; floral leaves conforming to the rest, shorter than the flowers. Whorls about 6-flowered. Corolla white or pale blueish, villous outside, exceeding the calycine teeth.

Squarrose Glechon. Shrub.

8 G. CILIA'TA (Benth. lab. p. 408.) stem pilose; leaves ovate or oblong, quite entire, narrowed at the base, green on both surfaces, ciliated; calycine teeth subulate, longer than the tube; upper lip of corolla galeate. ♄. F. Native of Brazil, in the province of Rio Janeiro, ? Sello. Procumbent at the base; branches erect, pubescent, or pilose. Leaves $\frac{1}{2}$ an inch long; superior and floral leaves almost sessile: lower ones on short petioles, quite entire, or furnished with 1 or two teeth, glandular on both surfaces: floral ones twice the length of the flowers. Whorls about 6-flowered. Corolla longer than the calycine teeth, villous outside.

Ciliated-leaved Glechon. Shrub procumbent.

9 G. RI'NGENS (Benth. lab. p. 409.) leaves petiolate, ovate, quite entire, rather canescent on both surfaces; floral leaves small; calycine teeth lanceolate, shorter than the tube; corolla 3 times the length of calyx: upper lip elongated, falcate. ♄. F. Native of the South of Brazil, Sello. Shrub clothed with hoary tomentum, with the habit of *Heliánthemum halimifòlium*. Leaves glandular; floral leaves shorter than the calyxes. Corolla downy outside. Whorls 6-10-flowered.

Ringent-flowered Glechon. Shrub erect.

10 G. MYRTOI'DES (St. Hil. mss. ex Benth. lab. p. 409.) branches villous; leaves ovate, crenated, narrowed at the base, green on both surfaces, or rather canescent beneath, roughish; calyx tubular, with lanceolate, acute teeth, which are shorter than the tube; upper lip of corolla erect, arched. ♄. G. Native of Brazil in elevated places, on Serra do Papagaio, in the province of Minas Geraes. Shrub much branched. Floral leaves conforming to the others, equalling the calyxes. Corolla blue, about half again as long as the calyx. Odour of *Méntha Pulègium*. Habit between *Glèchon* and *Keíthia rubiàcea*.

Myrtle-like Glechon. Shrub 3-4-feet.

Cult. For culture and propagation, see *Gardòquia*, p. 787.

LII. KEI'THIA (named in honour of the Rev. Patrick Keith, F. L. S., a distinguished physiological botanist, and author of "System of Physiological Botany," two vols. 8vo. London, 1816.) Benth. lab. p. 409.

Lin. syst. *Diándria, Monogýnia*. Calyx tubular, about 13-nerved, striated, with an equal or oblique mouth, and 5 nearly equal teeth; throat naked, or villous inside. Corolla with an exserted tube, and a bilabiate limb: upper lip erect, emarginate, flat: lower lip spreading, trifid, with flat nearly equal lobes. Two lower stamens fertile, ascending, without any vestiges of the upper ones; anthers 2-celled, with a thick connective and distinct divaricate cells. Lobes of style nearly equal, or the lower one is longest and flattened, involving the base of the upper one.—Herbs, sub-shrubs, or shrubs. Whorls sometimes axillary and sometimes approximating into terminal spikes. Corollas usually scarlet. This genus differs from *Melissa* in the more regular calyx, and the abortion of the 2 upper stamens, which latter character alone separates it from *Gardòquia*.

Sect. I. Eriothy'mus (from *εριον, erion*, wool; and *θυμος, thymos*, thyme; woolly thyme.) Benth. lab. p. 410. A shrub, with divaricate leafy branches. Cymes pedunculate, few-flowered. Throat of calyx villous inside. Upper lip of corolla bifid. Perhaps a proper genus.

1 K. RUBIA'CEA (Benth. lab. p. 410.) shrubby; branches and leaves nearly glabrous; cymes umbel-formed, clothed with soft hairs; calyx acutely toothed. ♄. G. Native of Brazil, in the province of Minas Geraes, on mountains at Villa Ricca and elsewhere. Angles of branches pubescent. Leaves ½ an inch long, sessile, ovate, obtuse, quite entire, glabrous, rounded or sub-cordate at the base. Throat of calyx closed by a ring of hairs. Stamens exserted.

Rubiaceous Keithia. Shrub.

Sect. II. Kei'thia (see genus for derivation.) Benth. lab. p. 410. Branches herbaceous, elongated, procumbent, leafy. Whorls axillary, few-flowered. Throat of calyx naked inside. Upper lip of corolla scarcely emarginate.

2 K. SCUTELLARIOI'DES (Benth. lab. p. 410.) branches glabrous or ciliated on the angles; leaves glabrous; flowers nearly sessile; corolla hardly twice as long as the calyx. ♃. G. Native of Brazil, in the province of Minas Geraes, on the top of Mount Itambe, Mart.; and in marshes near Silio, &c., South of Brazil, Sello. Leaves sessile, lanceolate, crenated, cordate at the base. Whorls usually 6-flowered, secund. Corolla downy outside, purple. Stamens equalling the corolla.

Skull-cap-like Keithia. Pl. procumbent.

3 K. PILÒSA (Benth. lab. p. 411.) branches, leaves, and calyxes pilose; flowers almost sessile; corolla more than twice the length of the calyx. ♃.? G. Native of Brazil, in humid pastures, at Morangara and near Castro in Campos Geraes, in the province of St. Paul, St. Hil.; South of Brazil, Sello. Habit of the preceding, but the flowers are generally solitary, and twice the size. Corolla deep purple, 9-10 lines long.

Pilose Keithia. Pl. procumbent.

4 K. CILIA'TA (Benth. lab. p. 732.) erect; leaves and calyxes ciliated with long stiff hairs; whorls sub-racemose; flowers sessile; corolla half again as long as the calyx. ♃.? F. Native of Texas. Herb a little branched; branches clothed with fine tomentose pubescence. Leaves ½ to 1 inch long. Whorls 6-flowered.

Ciliated Keithia. Pl. ½ foot.

Sect. III. Rhabdocau'lon (from *ραβδος, rhabdos*, a twig; and *καυλον, kaulon*, a stem; in reference to the twiggy branches.) Benth. lab. p. 411. Under shrubs or herbs; branches twiggy, erect, leafy at the base, or nearly altogether naked. Whorls approximating into terminal spikes. Calyx acutely toothed; throat very villous inside.

5 K. VILLÒSA (Benth. lab. p. 411.) stem erectish, branched, clothed with hoary villi; leaves sessile, oblong-linear, obtuse, with revolute margins, villous on both surfaces; racemes spike-formed, dense, a little branched; whorls 6-flowered; flowers sessile; corolla about twice as long as the hoary villous calyx. ♃.? F. Native of the South of Brazil, Sello. Leaves ½ an inch long. Corollas villous outside. Stamens hardly exserted.

Villous Keithia. Pl. 1½ foot.

6 K. LAVANDULOI'DES (Benth. lab. p. 411.) stem erect, branched, clothed with silky tomentum; leaves sessile, oblong-linear, acute, with sub-revolute edges, silky on both surfaces: racemes spike-formed, dense, interrupted at the base; whorls many-flowered; flowers sessile; corolla half again as long as the calyx. ♃.? G. Native of Brazil, in the province of Minas Geraes, in fields near Congonhas do Campo; and in humid places near Fazenda de Carapicuva, in the province of St. Paul, St. Hil.; South of Brazil, Sello. Nearly allied to *K. villòsa*, but differs in the pubescence being short, silky, and adpressed, and in the corollas being shorter, &c.

Lavender-like Keithia. Pl. 1½ foot.?

7 K. GRA'CILIS (Benth. lab. p. 412.) stem herbaceous; branches erect, tetragonal, almost naked, nearly glabrous; raceme terminal; whorls remote, 2-6-flowered; teeth of calyx acute. ♃.? F. Native of Brazil, in grassy fields, in the provinces of Minas Geraes, St. Paul, and Rio Grande do Sul. Stems nearly simple, glabrous, or with lines of pubescence. Leaves few, 2-3 lines long: floral ones and bracteas hardly a line long. Corolla purplish, pubescent, half as long again as the calyx. Stamens inclosed.

Slender Keithia. Pl. 1 to 1½ foot.

8 K. DENUDA'TA (Benth. lab. p. 412.) stem herbaceous; branches erect, somewhat articulated, nearly naked, glabrous; racemes short, terminal, dense; flowers pedicellate; corolla more than twice as long as the calyx, which is pubescent. ♃.? F. Native of Brazil, in dry desert fields, in the province of Minas Geraes, Mart. and St. Hil.; South of Brazil, Sello. Stems rising from a hard base, almost simple. Leaves few, ses-

sile, 6-8 lines long, linear, obtuse, quite entire, glabrous: floral ones smaller. Racemes branched a little. Corolla clothed with silky villi outside. Stamens hardly exserted.

Naked-branched Keithia. Pl. 2 to 3 feet.

SECT. IV. GYMNOCY'LIX (from *γυμνος*, *gymnos*, naked; and *κυλιξ*, *kylix*, a calyx; in allusion to the throat of the calyx being naked inside.) Benth. lab. p. 412. Herbs, with erect, strict, nearly naked branches. Whorls few-flowered, distinct, subracemose. Calyx bluntly toothed; throat naked inside.

9 K. COCCI'NEA (Benth. lab. p. 412.) branches tetragonal, like other species, but sub-articulated, glabrous; whorls few, subracemose towards the tops of the branches. ♃. ? G. Native of Brazil, in the province of Minas Geraes, on Mount Itambe, Mart.; and in marshes on Serra da Ibitipoca, St. Hil. Branches and leaves altogether as in *K. denudàta*. Whorls usually 2-flowered. Flowers on short pedicels. Corolla scarlet, more than an inch long, about 3 times as long as the calyx. Stamens exserted.

Scarlet-flowered Keithia. Pl. 2 to 3 feet.

Cult. For culture and propagation, see *Gardòquia*, p. 787.

LIII. THY'MBRA (*θυμβρα*, *thymbra*, is the Greek name for a sweet-scented herb.) Lin. gen. no. 708. Schreb. gen. no. 962. Juss. gen. 115. Benth. lab. 413.

LIN. SYST. *Didynàmia*, *Gymnospérmia*. Calyx erect, oblong, flat above, bilabiate; upper lip tridentate, erect; lower lip bifid; throat villous inside. Tube of corolla a little exserted; upper lip erect, emarginate, flattish; lower lip spreading trifid, with flat lobes, middle lobe rather the largest. Stamens 4, ascending under the upper lip, lower ones the longest; anthers approximate by pairs, 2-celled: cells distinct, parallel. Style about equally bifid at apex; lobes subulate, stigmatiferous at top. An under shrub, with the habit of *Hyssòpus*, and the characters of *Melissa*.

1 T. SPICA'TA (Lin. spec. 795.) ♄. F. Native of the region of the Mediterranean, on dry hills, among heath; as of Achaia, Melos, Samos, Cyprus, Candia; Asia Minor, about Smyrna, and of Palestine. Sibth. et Smith, fl. græc. 6. p. 37. t. 546. T. verticillàta, Lin. spec. p. 796.; this is a monstrous garden variety. ? T. ambígua, Clarke, trav. 4. p. 239.—Barr. icon. 281. t. 1230.—Plukn. phyt. t. 116. f. 5. A stiff, hard, procumbent shrub, with ascending hardly pubescent branches. Leaves of the sterile branches small, decussate, obtuse; those of the fertile branches an inch long, linear, acute, stiff, flat or complicate, ciliated. Whorls many-flowered, disposed in spikes, which are sometimes interrupted. Floral leaves and bracteas broad-lanceolate, acute, coloured, ciliated, and closely imbricated with the flowers, and covering the calyxes. Calyx glabrous or ciliated on the nerves. Corolla purple.

Spicate-flowered Thymbra. Fl. June, July. Clt. 1699. Shrub ½ to 1 foot.

Cult. This is a plant well fitted for rockwork, or to be grown in pots among other Alpine plants. A poor stony or gravelly soil suits it best; for in no other soil will it survive our winter without shelter. The plant is readily propagated by young cuttings and by seed.

LIV. DICERA'NDRA (from *δις*, *dis*, twice, *κερας*, *keras*, a horn, and *ανηρ ανδρος*, *aner andros*, a male; the anthers are 2-horned, each of the cells being spurred at top.) Benth. in bot. reg. vol. 15. lab. p. 413. Ceranthèra, Elliott, bot. car. 2. p. 93. but not of Beauv.

LIN. SYST. *Didynàmia*, *Gymnospérmia*. Calyx about 13-nerved, tubular, striated, bilabiate; upper lip spreading, entire, or shortly tridentate; lower lip bifid; throat pilose inside. Corolla bilabiate, with an exserted, straight tube, which is naked inside. Stamens 4, didynamous, ascending, approximate: lower ones the longest; anthers 2-celled: cells divaricate, spurred at top: spurs in both cells equal, straight, acute, and length of the cells. Style villous, bifid at top; lobes subulate, equal, stigmatiferous at top. This genus is readily distinguished by the form of the anthers.

1 D. LINEA'RIS (Benth. l. c.) ♄. ? F. Native of Carolina, between the rivers Flint and Chatahouchie, Elliott. Ceranthèra linearifòlia, Elliott, l. c. Habit of the narrow-leaved variety of hyssop. Stems erect, twiggy, pubescent. Leaves sessile, narrow, ½ to 1 inch long, quite entire, glabrous, fascicled in the axils. Whorls 6-flowered. Corolla twice as long as the calyx, downy.

Linear-leaved Dicerandra. Pl. ?

Cult. For culture and propagation, see *Thýmbra*, above.

LV. POGO'GYNE (from *πωγων*, *pogon*, a beard; and *γυνη*, *gyne*, a female; in reference to the villous style.) Benth. lab. p. 414.

LIN. SYST. *Didynàmia*, *Gymnospérmia*. Calyx about 13-nerved, campanulate, striated; teeth straight, lanceolate, the 2 lower ones twice as long as the 3 upper ones; throat naked inside, Corolla bilabiate; tube exserted, straight, naked inside; upper lip erect, flattish, entire; lower lip spreading, trifid, with flat entire lobes. Stamens 4, didynamous, ascending, approximate at apex, lower 2 the longest; anthers 2-celled: cells parallel, distinct, mutic. Style villous, bifid at apex; lobes subulate, equal, stigmatiferous at top.—Herbs. Whorls densely spicate at the tops of the branches. Floral leaves, bracteas, and calyxes ciliated with long white hairs.

1 P. DOUGLA'SII (Benth. lab. p. 414.) floral leaves and bracteas exceeding the flowers; stamens shorter than the corolla; lower calycine teeth more than twice as long as the tube. ♃. ? F. Native of North California, Douglas. Stems a little branched, quite glabrous. Leaves petiolate, 1 to 1½ inch long, oblong, obtuse, quite entire, green, glabrous. Corolla purplish ?; throat pilose inside.

Douglas's Pogogyne. Pl. 1 foot.

2 P. MULTIFLÒRA (Benth. lab. p. 414.) floral leaves and bracteas shorter than the corollas; stamens exserted. ♃. ? F. Native of North California, Douglas. This differs from *P. Douglàsii*, in the stem being divaricately branched; in the spikes being smaller, and more numerous; and in the flowers being smaller. Lower calycine teeth hardly twice as long as the tube.

Many-flowered Pogogyne. Pl. 1 foot. ?

3 P. PARVIFLÒRA (Benth. lab. p. 414.) floral leaves exceeding the flowers; stamens shorter than the corolla; lower calycine teeth hardly longer than the tube. ♃. ? F. Native of North California, Douglas. Allied to *P. Douglàsii*; but the spikes are hardly an inch long; the leaves narrower and smaller, and the flowers one half smaller.

Small-flowered Pogogyne. Pl. 1 foot. ?

Cult. For culture and propagation see *Prunélla*, p. 791.

Tribe VI.

SCUTELLARI'NEÆ (this tribe contains plants agreeing with the genus *Scutellària* in the characters given below.) Benth. lab. p. 416. Calyx bilabiate; upper lip truncate, entire, or sub-tridentate. Tube of corolla exserted, ascending, annulate inside or naked; upper lip of limb arched. Stamens 4, ascend-

ing under the upper lip, didynamous: the 2 lower ones the longest.

LVI. PRUNE'LLA (from the German die Braune, a disease of the jaws and throat which this plant is said to cure.) Lin. gen. no. 735. Schreb. gen. no. 990. Benth. lab. p. 416. Brunélla, Tourn. inst. t. 84. Juss. gen. p. 116. Mœnch, meth. F. Hamilt. mon. in Ser. bull. bot. 1. p. 153.

Lin. syst. *Didynàmia*, *Gymnospérmia*. Calyx tubularly campanulate, irregularly somewhat 10-nerved, and reticulately veined, flat above, bilabiate; upper lip flat, broad, truncate, shortly tridentate: lower lip semi-bifid, with lanceolate segments: throat naked inside. Tube of corolla ample, exserted, ascending, annulate inside, near the base, with short hairs or scales, inflated under the throat beneath, and a little contracted at the throat; upper lip erect, galeate, rather carinated above, entire; lower lip dependent, with the lateral lobes oblong and deflexed, and the middle lobe roundish concave and crenulated. Stamens 4, didynamous, ascending: lower 2 the longest; filaments toothless at the base, glabrous, shortly bidentate at top, especially the upper ones; the lower tooth antheriferous. Anthers approximate by pairs under the upper lip, free, 2-celled: cells distinct, divaricate. Style glabrous, bifid at top; lobes subulate, stigmatiferous at the extremity. Achenia oblong, dry, smooth. —Herbs. Whorls 6-flowered, densely spicate. Floral leaves bractea-formed, orbicular, permanent, equalling the calyxes, and imbricated with them.

1 P. hyssopifòlia (Lin. spec. 837. Lam. fl. fr. 2. p. 366. under Brunella.) leaves sessile, oblong, or lanceolate, quite entire, strigosely hispid; lateral teeth of upper lip of calyx lanceolate. ♃ H. Native of Spain, South of France and Piedmont, in dry open places. Brunélla Canadénsis. Mill. dict. no. 2. P. hyssopifòlia, Rchb. icon. bot. eur. 3. p. 42. t. 243.—Mor. hist. 3. p. 364. sect. 11. t. 5. f. 7. Stems ascending, and like the leaves stiffer than in *P. vulgàris*. Superior leaves somewhat stem clasping. Corollas smaller than those of *P. grandiflòra*, but larger than those of *P. vulgàris*, purple, rarely white.

Hyssop-leaved Self-heal. Fl. July, Aug. Clt. 1731. Shrub ½ to 1 foot.

2 P. grandiflòra (Lin. spec. p. 837. Mœnch. meth. 414. under Brunella.) leaves petiolate, ovate, quite entire or toothed; lateral teeth of upper lip of calyx lanceolate; corollas large, more than twice as long as the calyxes. ♃.H. Native throughout Europe, along with P. vulgàris, in woods and other shady places. Jacq. austr. 4. t. 377. Curt. bot. mag. t. 337. and 2014. P. speciòsa, Wender. schrift. nat. gesel. marb. ex Benth. P. hastæfòlia, Brot. fl. lus. 1. p. 181. This hardly differs from *P. vulgàris*, unless in the size of the flowers. Herb glabrous or villous. Leaves usually toothed at the base, sometimes sub-hastate, and sometimes quite entire. Corolla more than an inch long, violet or purple, seldom white.

FIG. 81.

Great-flowered Self-heal. Fl. July, Sept. Clt. 1598. Pl. ½ to ¾ foot.

3 P. vulga'ris (Lin. spec. p. 837.) leaves petiolate, ovate or oblong, entire, toothed or deeply pinnatifid; teeth of upper lip of calyx truncate, awned or almost mutic, rarely sub-lanceolate; corolla half as long again as the calyx, or scarcely twice as long as the calyx. ♃. H. Native throughout the world in temperate regions, Europe, Asia, Africa, America, and Australia. Stems branched from the base; branches decumbent at the base. Plant glabrous or pilose. Corollas violaceous, purple, white, rarely pale red.

Var. α, hìspida (Benth. lab. p. 417.) stem and leaves villously hispid; leaves almost entire. ♃. H. Native of the mountains of India and South of Europe. P. hìspida, Benth. in Wall. pl. asiat. rar. 1. p. 66. P. hirsùta, Wender. schrift, nat. gesel. marb.? P. hírta, Bernh.? ex Benth. Corollas violaceous.

Var. β, vulgàris, (Benth. lab. p. 417.) leaves entire, ovate or oblong, glabrous or sparingly hispid. ♃. H. Native of Europe and Asia, very plentiful, America, Australia. P. vulgàris, Lin. spec. p. 837. Hook, fl. lond. vol. 3. icon. Curt. lond. 4. t. 42. Fl. dan. 910. Mart. fl. rust. t. 137. Smith, engl. bot. t. 961. Sabb. hort. rom. 3. t. 32. P. officinàlis, Crantz, fl. austr. 279. P. intermèdia, Brot. fl. lus. 1. p. 180. but not of Rchb. P. latifòlia, Donn. hort. cant. P. réptans, Dumort, fl. belg. p. 44. P. surrécta, Dumort, fl. belg. p. 44. P. Fischeriàna, F. Hamilt. mon. p. 164.? P. Pennsylvánica, Willd. enum. p. 631. P. Caroliniàna, Mill. dict. no. 6. P. æquinoxiàlis, H. B. et Kunth, nov. gen. amer. 2. p. 323. t. 162. P. ovàta, Pers. ench. 2. p. 137. Riv. mon. t. 29. f. 1. Mill. fig. t. 70. f. 2. Corolla violaceous, seldom white or red. This plant being astringent, it was formerly used in fluxes and in gargarisms, for aphtha and inflammations of the fauces. It was considered as one of the best vulnerary herbs, but is now out of use.

Var. γ, elongàta, (Benth. lab. p. 417.) leaves entire, oblong-lanceolate, glabrous or sparingly villous. ♃. H. Native of North America, plentiful, but rare in Asia and Europe. P. elongàta, Dougl. mss. B. Pennsylvánica, Willd. enum. p. 631. B. Australácica, Moric. ex Hamilt. mon. p. 162. t. 7. f. A. B. P. angustifòlia, Wender. schrift, nat. gesel. Marb.? ex Benth. Corollas violaceous.

Var. δ, parviflòra, (Benth. lab. p. 417.) leaves almost entire, ovate, sparingly hispid; corolla scarcely exceeding the calyx. ♃. H. Native of Europe, in the region of the Mediterranean. B. parviflòra, Poir. suppl. 1. p. 711.

Var. ε, pinnatífida (Benth. lab. p. 418.) cauline leaves all or many of them cut or pinnatifid; corollas purple. ♃. H. Native of the South of Europe. P. longifòlia, Pers. ench. 2. p. 137. Rchb. icon. bot. eur. 6. p. 21. t. 588. P. pinnatífida, Pers. ench. 2. p. 137. P. incìsa, Link, enum. 2. p. 121.? P. dissécta, Wender. schrift. nat. gesell. Marb.? P. vulgàris pinnatífida, Rchb. icon. bot. eur. 3. p. 39. t. 239.

Var. ξ, laciniàta (Benth. lab. p. 418.) cauline leaves deeply pinnatifid, or the lower ones are entire; corollas white or cream-coloured. ♃. H. Native of Europe, plentiful, but rare in North America. P. laciniàta, Lin. spec. p. 837. Jacq. fl. austr. 4. p. 41. t. 378. Rchb. icon. bot. eur. 3. p. 38. t. 239. B. sulfùrea, Mill. dict. no. 5. P. álba, Pall ex Bieb. fl. cauc. 2. p. 67. B. verbénæ foliis, Vaill, bot. par. t. 5. f. 1.

Common Self-heal. Fl. July, Sept. Britain. Pl. ½ to 1 foot.

Cult. All the species and varieties of *Prunélla* are showy when in blossom, and are therefore well fitted for decorating the front of flower borders, or ornamenting rockwork. They grow in any common garden soil, but prefer a moist, shady situation; for in rich land, or in an open situation, they seldom continue more than two years. They are readily increased by division and by seed. The seed should be sown in autumn as soon as gathered, and the plants will rise early in spring; but if the sowing be deferred till spring, the plants seldom rise until the spring of the following year.

LVII. CLEO'NIA (probably adopted by Linnæus from Cleonicium of Pliny, and κλεωνικιον of Dioscorides.) Lin. gen. no. 736. Schreb. gen. no. 991. Gærtn. fruct. 1. t. 66. Brunélla species, Lam. et Juss.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, 10-nerved, obliquely bilabiate; upper lip broad, shortly tridentate; lower lip bifid, with pilose sinuses. Tube of corolla slender, exserted, ascending, naked inside, and the throat a little dilated; upper lip erect, galeate, keeled, entire; lower lip short, dependent, with oblong, erectish, lateral lobes, and a spreading, emarginately bifid middle lobe. Stamens 4, didynamous, ascending; lower two longest; filaments toothless at the base, glabrous, but shortly bifurcate at apex, the upper fork subulate, and the lower fork a little flattened and antheriferous; anthers approximate by pairs, 2-celled: cells divaricate. Style shortly quadrifid at apex, with nearly equal subulate lobes, which are stigmatiferous at top. Achenia large, orbicular, a little compressed. This genus has most of the characters of *Prunélla*, with the corolla of *Scutellària*.

1 C. Lusita'nica (Lin. spec. p. 837.) ⊙. H. Native of Spain, in the sterile fields of Arragon; Portugal, Barbary. Mill. fig. t. 70. f. 1. Prunélla intermèdia, Rchb. icon. bot. eur. 3—4. t. 205, but not of Brot. Búgula, Gærtn. fruct. 1. p. 318. t. 66. f. 7.—Mor. hist. 3. p. 363. and 391. sect. 11. t. 5. f. 4. Habit of *Prunélla vulgàris*, var. laciniàta. Stem branched at the base; branches hispid. Leaves sessile, oblong-lanceolate or linear, green, rather hispid. Whorls 6-flowered, disposed in loose spikes. Corollas form and size of those of *Scutellària galericulàta*, blue or violet, pubescent outside, 3 times as long as the calyx.

Portugal Cleonia. Fl. June, July. Clt. 1710. Pl. ½ to 1 foot.

Cult. The seeds of *Cleònia* should be sown in autumn, and the plants will come up the following spring; as seeds sown in the spring frequently take a whole year to vegetate.

LVIII. SCUTELLA'RIA (from *scutella*, a little saucer; in reference to the form of the calyx.) Lin. gen. no. 734. Schreb. gen. no. 989. Juss. gen. no. 117. Benth. lab. p. 419. Cássida, Tourn. inst. t. 84. Mœnch.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, bilabiate; lips entire, from the coalition of the sepals, closed after the falling of the corollas, and at length cleft even to the base: superior lip furnished with a dilated scale at top, which is concave above, falling away at maturity: lower lip permanent. Tube of corolla much exserted, naked inside, straight or usually recurvedly ascending beyond the calyx, dilated into the throat above; limb bilabiate; upper lip entire at apex, or emarginate; lower lip spreadingly dilated, convex, emarginate at apex; the lateral lobes sometimes free and spreading, but usually joined to the upper lip, rarely to the lower lip. Stamens 4, ascending under the galea, didynamous; the 2 lower ones the longest. Anthers approximate by pairs, ciliated, those of the lower stamens dimidiate, and those of the superior stamens 2-celled, cordate; cells sub-divaricate. Superior lobe of style very short; lower one stigmatiferous at top. Ovarium oblique, elevated upon the incurved gynophore. Achenia dry, naked, tubercled, glabrous or clothed with adpressed tomentum.—Annual or perennial herbs, rarely shrubs. Inflorescence sometimes tetragonally spicate, with membranous, sub-imbricated coloured floral leaves; sometimes racemose, with small floral leaves; sometimes axillary, with the floral leaves almost similar to the cauline leaves. Peduncles solitary, 1-flowered in the axils of the floral leaves, short, usually opposite, except in sect. *Heteranthèsia*, in which both the floral leaves and flowers are scattered. Bracteas almost wanting. Corollas blue or yellow, rarely purple or scarlet.

Sect. I. Lupulina'ria (so called from containing *S. lupulìna.*) A. Hamilt. mon. p. 11. Benth. lab. p. 423. § 1. Spicàtæ, Benth. in bot. reg. vol. 18. Floral leaves usually membranous. Flowers disposed in tetragonal spikes; or sub-racemose, and scarcely secund.

1 S. orienta'lis (Lin. spec. p. 834.) stems procumbent; leaves petiolate, ovate, deeply toothed or pinnatifid, hoary beneath; floral leaves membranous, entire, sub-imbricated; spikes tetragonal, oblong. ♃. H. Native of the South-east of Europe and Middle Asia, among rocks and on calcareous mountains; as of Croatia, Syria, Persia, Armenia, Tauria, and Caucasus; Altaian mountains, Himalaya, Kanaour, &c. Sibth. et Smith, fl. græc. 6. p. 64. t. 580. Rchb. icon. bot. eur. 1. p. 10. t. 8. f. 17. Sims, bot. mag. 2120. S. Sievérsii, Bunge, in Led. fl. alt. 2. p. 394. fl. ross. alt. ill. t. 123. S. Caucásica, Arth. Hamilt. mon. 141.—Tourn. itin. 3. p. 306. icone.—Comm. rar. 30. icone.—Mart. cent. t. 18. Stems much branched, radicant, creeping; branches ascending, clothed with fine hoary tomentum. Leaves obtuse, cuneately truncate at the base. Corolla yellow, pubescent. The floral leaves vary much in size. (fig. 82.)

FIG. 82.

Var. β, pinnatífida (Lin. spec. p. 834. Rchb. icon. bot. eur. 1. p. 10. t. 8. f. 16.) leaves smaller, deeply pinnatifid. ♃. H. Native of the region of the Mediterranean. S. orientàlis incàna, foliis laciniatis, flore luteo, Tourn. cor. 11.

Eastern Skullcap. Fl. July, Sept. Clt. 1729. Pl. ½ foot.

2 S. grandiflòra (Sims, bot. mag. t. 635.) stems procumbent; leaves petiolate, ovate-roundish, deeply toothed, hoary from soft tomentum beneath, or on both surfaces; floral leaves entire, rather membranous, imbricate; spikes tetragonal, oblong. ♃. H. Native of the Altaian mountains, in stony places at the river Tschuja. S. pulchélla, Bunge, enum. crit. pl. alt. ined. Allied to *S. orientàlis*, but with a different habit and leaves. Branches smoothish. Leaves not half the size of those of *S. orientàlis*. Floral leaves greenish, pubescent. Corollas red, with a yellow lip, about the size of those of *S. orientàlis*.

Great-flowered Skullcap. Fl. July, Aug. Clt. 1804. Pl. ½ foot.

3 S. prostra'ta (Jacquemont, mss. ex Benth. lab. p. 733.) stems prostrate; leaves petiolate, broad-ovate, deeply crenated, green on both surfaces, and clothed with soft pubescence; floral leaves quite entire, rather membranous, imbricate; spikes tetragonal, oblong. ♃. H. Native of the North of India, about Pangui, Rarang, and Choupienna, Jacquemont. Habit and form of leaves of *S. grandiflòra*, and the flowers of *S. orientàlis;* but differs from both in the leaves being green on both surfaces. Corolla yellowish, size of that of *S. orientàlis:* upper lip violaceous above.

Prostrate Skullcap. Pl. prostrate.

4 S. fruticòsa (Desf. cat. hort. par. p. 63.? Benth. lab. p. 424.) stems suffruticose; branches ascending, clothed with hoary tomentum or wool; leaves on short petioles, ovate-cordate, deeply crenated; floral leaves ovate, quite entire, wrinkled, hoary, and rather woolly; flowers opposite, subsecund? racemose. ♄. F. Native of Syria, near Aleppo, Russel; Persia, Persoon.? Stems numerous, branched a little, clothed with white wool on the upper part. Leaves similar to those of *S.*

orientàlis. Corollas size of those of *S. orientàlis*, with a yellow tube, and blueish-yellow lips.

Shrubby Skullcap. Shrub ascending.

5 S. pinnatífida (Arth. Hamilt. mon. 16. t. 2. f. 2.) the whole plant pilose; leaves ovate, of the same colour on both surfaces, petiolate, pinnatifid: lobes oblong, obtuse; flowers loosely imbricated into a spike; bracteas ovate, toothed, coloured a little. ♃. H. Native of the Levant, between Kermancha and Amadan. This differs from *S. orientàlis*, in the flowers being a little larger; in the bracteas being pinnatifid; in the leaves being deeply cut, and in being covered with wool on both surfaces.

Pinnatifid-leaved Skullcap. Pl. ½ foot.?

6 S. alpìna (Lin. spec. p. 834.) stems procumbent; leaves nearly sessile, or on short petioles, ovate, serrately crenated, of the same colour on both surfaces; floral leaves membranous, imbricated; spikes tetragonal, oblong. ♃. H. Native of the Pyrenees, Switzerland, Upper Italy, Calabria, Croatia, Galicia, Siberia, in all temperate parts, and on the Altaic mountains. All. ped. p. 142. t. 26. f. 3. Waldst. et Kit. hung. 2. p. 146. t. 137. Sweet, fl. gard. 1. t. 90. Bot. reg. 1460. S. Altàica, Fisch. cat. hort. gorenki. p. 39. Sweet, fl. gard. 1. t. 45. S. variegàta, Spreng. fil. tent.—Gmel. sib. 3. p. 229. no. 52. t. 48. S. compréssa, Arth. Hamilt. mon. p. 29. Habit of *S. orientàlis*. Branches pilose or pubescent. Leaves green, pubescent, or pilose; floral leaves coloured, pilose. Corolla altogether purple, or the tube and lower lip is yellow, 12-15 lines long.

Var. β, lùtea; flowers yellow. ♃. H. S. lupulìna, Lin. spec. p. 835. Schmidt, icon. t. 73. Bot. reg. 1493. S. vérna, Bess. prim. fl. gal. 2. p. 43.

Alpine Skullcap. Fl. June, Oct. Clt. 1752, *β*. 1731. Pl. procumbent.

Sect. II. Heteranthe'sia (from ἕτερος, *heteros*, variable; and ανθος, *anthos*, a flower; in allusion to the flowers being scattered, not opposite, as in the other sections.) Benth. lab. p. 425. § 2. Racemosæ, floribus sparsis, Benth. in bot. reg. vol. 18. Floral leaves small, green. Flowers racemose, secund, all or only the upper ones scattered, not opposite.

7 S. longifòlia (Benth. in bot. reg. vol. 18. lab. p. 425.) glabrous; stems erect; leaves petiolate, ovate-lanceolate, acuminated, remotely toothed, roundly cuneated at the base; floral leaves linear, minute, deciduous; racemes elongated, a little branched; flowers secund, scattered; corolla 8 times as long as the calyx, which is glabrous. ♃. F. Native of New Spain. Leaves 3 inches long. Corolla scarlet, pubescent, more than an inch long: lips short, erect.

Long-leaved Skullcap. Pl. 1½ foot.

8 S. multiflòra (Benth. l. c. lab. p. 426.) stems erect, finely pubescent; leaves petiolate, ovate, acuminated, bluntly and sinuately toothed, roundly truncate at the base; floral leaves lanceolate-linear, rather longer than the calyxes; racemes elongated, simple; flowers secund, scattered; corolla 5 times the length of the calyx, which is villous. ♃. F. Native of New Spain, Moçino et Sessé. Stem a little branched. Leaves similar to those of *S. longifòlia*, but broader; floral leaves permanent. Flowers sometimes alternate, usually many, and collected into false whorls. Corolla purple? 10-11 lines long, incurved, villous.

Many-flowered Skullcap. Pl. 1 foot.?

9 S. atriplicifòlia (Benth. l. c. lab. 426.) plant clothed with hoary pubescence; leaves petiolate, broad-ovate, bluntish, almost quite entire or repand, truncate at the base, and subcordate, rather fleshy; floral leaves ovate, acuminated, rather longer than the calyxes; racemes elongated, simple; flowers secund, scattered; corolla about 6 times the length of the calyx. ♃.? G. Native of Peru? Pavon. Lower flowers opposite: upper ones falsely verticillate. Floral leaves deciduous. Corolla about an inch long, almost straight, nearly glabrous.

Atriplex-leaved Skullcap. Pl. 1 foot.?

10 S. cocci'nea (H. B. et Kunth, nov. gen. amer. 2. p. 325.) stems erect, branched, downy; leaves oblong, obtuse at both ends, quite entire, glabrous, of a violet-purple colour beneath; racemes terminal; flowers scattered. ♃. G. Native of New Granada.? Roots fascicled, terete, nearly simple. Leaves sometimes puberulous beneath, about 2 inches long. Pedicels and petioles pubescent. Bracteas lanceolate, obtuse, pubescent, equalling the pedicels. Corolla scarlet, smoothish.

Scarlet-flowered Skullcap. Pl. 1 foot.?

11 S. incarna'ta (Vent. choix. t. 39.) stems erect, pubescent, branched; leaves cordate, toothed, tomentose beneath; spikes terminal, secund; bracteas linear-lanceolate, equalling the pedicels. ♃.? G. Native near Santa Fe de Bogota. Leaves petiolate, 1-3 inches long, pubescent above. Calyx tubular, compressed, villous, nearly entire. Corolla pubescent, of a beautiful red, 6 times the length of the calyx.

Flesh-coloured-flowered Skull-cap. Pl. 1 foot.?

12 S. tubiflòra (Benth. l. c. lab. p. 427.) stems ascending, branched, pubescent; leaves petiolate, ovate, obtuse, coarsely crenated, rounded at the base, rather hispid above, and clothed with soft pubescence beneath; floral leaves ovate, imbricate before the expansion of the flowers; racemes simple; flowers secund, scattered; corolla 6 times as long as the calyx. ♃.? G. Native of the South of Brazil, Sello. Herb many-stemmed; branches terete. Leaves an inch long, pubescent: floral leaves rather large. Corolla an inch long, with a slender tube.

Tube-flowered Skullcap. Pl. 1 foot.?

13 S. uliginòsa (St. Hil. mss. ex Benth. lab. p. 427.) stems ascending or erect, branched, pubescent; leaves petiolate, ovate, coarsely crenated, rounded or subcordate at the base, almost glabrous on both surfaces; floral leaves small, loose; racemes simple; flowers subsecund, scattered; corolla 5 times as long as the calyx. ♃.? G. Native of Brazil, in boggy parts of woods in the province of St. Paul, St. Hil. Branches terete. Leaves twice the size of those of *S. tubiflòra*, sometimes glabrous, and sometimes rather pilose; the upper surfaces hispid. Floral leaves oblong, rather shorter than the calyxes, glabrous. Corolla scarcely ½ an inch long, blue, with a white palate and slender tube.

Bog Skullcap. Pl. ½ to 1 foot.

14 S. breviflòra (Benth. l. c. lab. p. 427.) glabrous; stems erect; leaves petiolate, ovate, acuminated, bluntly and sinuately toothed, roundly truncate at the base; floral leaves lanceolate-linear, rather longer than the calyxes; racemes elongated, simple, loose; flowers secund, scattered; corolla about 3 times as long as the calyx, which is glabrous. ♃. G. Native of Peru, Pavon. Intermediate between *S. multiflòra* and *S. uliginòsa*. Leaves 1½ to 2 inches long. Corolla glabrous, bluish, 4-5 lines long, with a spreading limb.

Short-flowered Skullcap. Pl. 1½ foot.

15 S. purpura'scens (Swartz, fl. ind. occ. 2. p. 1013.) stems erectish, humble, finely pubescent, or almost glabrous; leaves petiolate, broad-ovate, obtuse, sinuately crenated, very broadly truncate at the base, rounded or subcordate, rather hispid above, glabrous beneath, or on both surfaces; floral leaves minute, deciduous; racemes loose; flowers secund, scattered, or the lower ones are opposite; calyxes shorter than the pedicels, large, and nearly glabrous in the fructiferous state. ♃. G. Native of Brazil, in the province of Bahia; and of Caraccas; also of the West Indies, in Guadaloupe and St. Vincent. S. Felisbérti, Nees et Mart. in nov. act. bonn. 11. p. 77. Herb slender,

flaccid. Floral leaves minute. Corolla half an inch long, pubescent, purplish.

Purplish-flowered Skullcap. Fl. June, July. Clt. 1820. Pl. ½ foot.

16 S. AGRE'STIS (St. Hil. mss. ex Benth. lab. p. 428.) stems erectish, finely pubescent; leaves petiolate, ovate-roundish, obtuse, sinuately crenated, cordate at the base, rather hispid above, and nearly glabrous beneath; floral leaves minute, almost wanting; racemes short, simple; flowers scarcely secund, scattered. ♃. G. Native of Brazil, at San Miguel da Jetiquinhonha, in the province of Bahia. Herb much branched at the base. Branches, petioles, and nerves of leaves, canescent from fine tomentum. Leaves ½ to 1 inch long, green on both surfaces. Corolla blue, about 4 lines long. Nearly allied to the preceding.

Field Skullcap. Pl. ¼ to ½ foot.

17 S. DI'SCOLOR (Colebr. in Wall. pl. rar. asiat. 1. p. 66.) stems rooting at the base, leafy, ascending, almost naked above; leaves petiolate, ovate, obtuse, crenated, roundly cuneated at the base: lower leaves cordate: floral ones minute; racemes elongated, somewhat branched at the base; flowers secund, scattered. ♃. F. Native of Nipaul and Silhet. S. I'ndica, D. Don, prod. fl. nep. p. 109. but not of Lin. Leaves 1½ to 2 inches long, pubescent on both surfaces, usually purplish beneath. Corolla hardly downy outside, violaceous, ½ an inch long.

Two-coloured-leaved Skullcap. Pl. 1 to 1½ foot.

Sect. III. STACHY'MACRIS (from *σταχυς*, *stachys*, a spike; and *μακρος*, *macros*, long; in reference to the long spikes or racemes of flowers.) Arth. Hamilt. mon. p. 17. Benth. lab. 428. § 2. Racemosæ, * * floribus oppositis, Benth. in bot. reg. vol. 18. Floral leaves green, small, different in form from the cauline leaves. Flowers racemose, secund, opposite.

18 S. I'NDICA (Lin. spec. p. 833. but not of D. Don.) stems procumbent at the base; branches ascending, villous; leaves small, petiolate, roundish, crenated, cordate at the base, clothed with soft pubescence on both surfaces; floral leaves minute; racemes almost simple, dense; flowers opposite, secund; floriferous calyxes pubescent, shorter than the pedicels; lower lip of corolla very broad. ♃. G. Native of China, near Macao, Sir G. Staunton; Japan, Thunb.; Java, in hedges about Tugu, in the province of Buitenzorg, Blume.—Pluck. alm. t. 441. f. 1.? Leaves scarcely ½ an inch long, form of those of Ground-ivy. Corolla smoothish, white, ex Thunb. Anthers of upper stamens bearded.

Indian Skullcap. Pl. ½ to 1 foot.

19 S. JAPÓNICA (Morren, et Decaisne, in ann. sc. nat. par. 1834. 2. p. 315.) stems prostrate at the base; branches ascending, quadrifariously puberulous; leaves ovate, obtuse, coarsely crenated, rounded at the base, glabrous, petiolate; floral leaves becoming gradually smaller; flowers opposite, loose; calyx rather pilose; corolla pubescent, blue. ♃. H. Native of Japan, Siebold.

Japan Skullcap. Pl. ascending.

20 S. COLEBROOKIA'NA (Wall. pl. rar. asiat. 1. p. 67.) stem erect, branched, finely pubescent; leaves petiolate, ovate-roundish, obtuse, crenated: lower leaves cordate at the base: upper leaves deltoid, roundly truncate at the base, all finely pubescent on both surfaces: floral leaves minute; raceme simple, loose; flowers opposite, secund; floriferous calyxes pubescent, shorter than the pedicels, but increased and glabrous in the fructiferous state; lower lip of corolla very broad. ♃. G. Native of the Peninsula of India. Allied to *S. violàcea;* but the stem is firmer and more branched, and the form of the leaves is different. Leaves scarcely an inch long.

Colebrooke's Skullcap. Pl. ½ to 1 foot.

21 S. VIOLA'CEA (Heyne, ex Wall. pl. asiat. rar. 1. p. 66. Benth. lab. p. 429.) stem erect or ascending, pubescent; leaves petiolate, cordate-ovate, crenated, rather hispid above, and pubescent beneath, or glabrous; floral leaves sessile, ovate, shorter than the pedicels; raceme loose, nearly simple; flowers opposite, secund. ♃. G. Native of the Indian Peninsula, Ceylon, &c. S. I'ndica, Roxb. hort. beng. p. 45. but not of Lin. Stem a little branched, hispid, or pubescent, rarely almost glabrous. Corolla ½ an inch long, violaceous.

Var. β, hispidior (Benth. lab. p. 429.) plant more hispid. ♃. G. S. Wightiàna, Benth. in Wall. pl. rar. asiat. 1. p. 67. S. nodulòsa, Arth. Hamilt. mon. p. 26.?

Violaceous-flowered Skullcap. Pl. ½ to 1 foot.

22 S. OBLÓNGA (Benth. in bot. reg. vol. 18. lab. p. 429.) stems ascending, pubescent; leaves petiolate, oblong-elliptic, acutish, subserrated at apex, rounded at the base, and quite entire, almost glabrous; floral leaves ovate, minute; raceme loose, almost simple; flowers opposite, secund; calyxes equalling the pedicels: fructiferous ones large, nearly glabrous; lower lip of corolla very broad. ♃. S. Native of Ceylon, Macrae. Very nearly allied to *S. violàcea*, but differs in stature, inflorescence, and flowers. Leaves scarcely an inch long.

Oblong-leaved Skullcap. Pl. procumbent.?

23 S. INCU'RVA (Wall. pl. asiat. rar. 1. p. 67. Benth. lab. p. 430.) stems ascending, branched, pubescent; leaves almost sessile, oblong-elliptic, acute, remotely serrated, nearly glabrous; floral leaves minute; racemes terminal, simple; flowers opposite, secund; pedicels 3 times as long as the calyxes; tube of corolla slender, incurved; lips of corolla deeply cleft: the upper lip large, cucullate, the lower one shorter. ♃. S. Native near Ava, on Mount Taong Dong.

Incurved-flowered Skullcap. Pl. ascending.

24 S. GRÓSSA (Wall. l. c. Benth. l. c.) stems procumbent at the base; branches ascending, villous; leaves petiolate, ovate, acuminated, crenated, roundly truncate at the base, almost glabrous; floral leaves petiolate: lower ones almost similar to the cauline leaves: upper ones scarcely exceeding the calyxes; racemes loose, simple; flowers opposite, secund; corollas elongated, slender. ♃. S. Native of the mountains of Kamaon and Syen, &c. Stem rather woody at the base. Leaves 1 to 1½ inch long, pubescent on the nerves. Corolla 9 lines long, hardly pubescent.

Coarse Skullcap. Pl. procumbent.

25 S. COLU'MNÆ (All. pedem. 1. p. 40. t. 84. f. 2.) stems erect, branched, pubescent; leaves petiolate, ovate, crenated, broadly-cordate or truncate at the base, scarcely wrinkled, finely pubescent; floral leaves ovate, shorter than the fructiferous calyxes; raceme elongated, loose, branched a little, pilose; flowers opposite, secund; pedicels shorter than the fructiferous calyxes, which are large and pilose; corolla 6 times longer than the calyx. ♃. H. Native of the South of Europe, in woods and in fields; as near Paris, North of Sicily; Italy, from Piedmont to Naples; Hungary, Dalmatia, Island of Cyprus, and near Constantinople. Sweet, fl. gard. 1. t. 52. S. peregrìna, Sibth. et Smith, fl. græc. 6. p. 66. t. 582. but not of Lin. S. altíssima, Arth. Hamilt. mon. 18. and many other authors, and probably of Lin. Cássida racemòsa, Mœnch. meth. 414.? S. pállida, Guss. fl. sic. prod. 2. p. 137.? but not of Bieb.—Column. ecphr. 1. p. 187. t. 189. Leaves 2 inches long. Corolla dark purple, pubescent, almost an inch long: lips white.

Columna's Skullcap. Fl. June, Aug. Clt. 1806. Pl. 2 to 3 feet.

26 S. Tournefórti (Benth. in bot. reg. vol. 18. lab. p. 431.) quite glabrous; stems erect, branched; leaves petiolate, ovate, or ovate-lanceolate, coarsely crenated: lower ones broadly subcordate at the base: superior ones roundish, truncate: floral leaves ovate-lanceolate, rather shorter than the fructiferous calyxes; racemes elongated, loose, glabrous; flowers opposite, secund; calyxes longer than the pedicels: fructiferous ones large, glabrous; corolla 6 times longer than the calyx. ♃. H. Native of Persia; and at the Caspian Sea, near Lenkoran. This is very nearly allied to *S. commutàta*, but differs in the cordate leaves, and larger, glabrous corollas.

Tournefort's Skullcap. Pl. 1 to 2 feet.

27 S. commuta'ta (Guss. prod. fl. sic. 2. p. 136.) stems erect, branched, nearly glabrous; leaves petiolate, ovate, or ovate-lanceolate, crenated, broadly cordate at the base, scarcely wrinkled, glabrous; floral leaves ovate, rather shorter than the fructiferous calyxes; racemes elongated, loose, a little branched, glabrous; flowers opposite, secund; calyxes longer than the pedicels, large and glabrous in the fructiferous state; corolla 4 times longer than the calyx. ♃. H. Native of the South-east of Europe, and Middle Asia, in groves; as of Hungary, Dalmatia, Tauria, and Caucasus. S. peregrìna, Waldst. et Kit. pl. rar. hung. 2. p. 154. t. 125. but not of Lin. S. altíssima, Lin. spec. p. 836.? Benth. in bot. reg. vol. 18. Nearly allied to *S. Colúmnæ;* but differs from it in smoothness, and in the corollas being half the size. Corollas purple. There are several plants in the gardens similar to this; one with dark purple, pubescent, dense flowers, *S. altíssima*, Hort.; another with bluish purple flowers, having the lower lip whitish, *S. colúmnæ*, Hort.; and a third with the flowers altogether blue, *S. peregrìna*, Hort.

Changed Skullcap. Fl. June, Oct. Clt. 1683. Pl. 2 feet.

28 S. peregri'na (Lin. spec. p. 836.) stems procumbent; branches elongated, glabrous or pubescent at top; leaves petiolate, ovate, obtuse, crenated, roundly truncate at the base, glabrous; floral leaves bractea-formed, petiolate, ovate-oblong, acute at both ends, quite entire, pubescent; racemes elongated, loose; flowers nearly sessile, opposite, secund; calyxes large, rather pilose; corolla pubescent outside. ♃. H. Native of Tauria and Sicily. S. rubicúnda, Horn. hort. hafn. Spreng. syst. 2. p. 702. Stems dark purple, or reddish. Whorls almost an inch distant. Corolla violaceous, hardly 5 lines long.

Foreign Skullcap. Fl. June, Oct. Clt. 1823. Pl. 2 feet.

29 S. a'lbida (Lin. mant. p. 248.) branches divaricate, pubescent; leaves petiolate, broad-ovate, obtuse, crenated, roundly truncate at the base, or the lower ones are cordate, finely pubescent; floral leaves petiolate, ovate-oblong, acute at both ends, quite entire, pilose, exceeding the calyxes; racemes elongated, loose; flowers nearly sessile, opposite, secund; calyxes very pilose; corolla villous outside. ♃. H. Native of the South-east of Europe, and Middle Asia, in mountain woods; as of the Bithynian Olympus; near Constantinople, Candia, Mount Lebanon, South of Tauria, Siberia, &c. Arth. Hamilt. mon. 21. t. 1. Sibth. et Smith, fl. græc. 6. p. 65. t. 581. S. Crética, Mill. dict. S. nigréscens, Spreng. syst. 2. p. 702. S. pállida, Bieb. fl. cauc. 2. p. 65. but not of Gussone.—Sab. hort. rom. 3. t. 29. Rachis of raceme villous. Corolla half an inch long, dirty white.

Whitish-flowered Skullcap. Fl. June, Aug. Clt. 1771. Pl. 1 to 2 feet.

30 S. hi'rta (Sibth. et Smith, fl. græc. 6. p. 66. t. 583.) very hairy; leaves petiolate, ovate, obtuse, crenated, roundly truncate at the base, or cordate, hairy on both surfaces, scarcely wrinkled; floral leaves petiolate, oblong, about equal in length to the calyxes; racemes loose; flowers nearly sessile, opposite, secund; fructiferous calyxes inflated, very pilose; corolla villous outside. ♃. H. Native of Candia, and Mount Lebanon. Stem branched. Corollas almost of *S. Colúmnæ*.

Hairy Skullcap. Fl. June, July. Clt. 1825. Pl. 1 foot.

31 S. salviæfòlia (Benth. lab. p. 433.) stems ascending, hispid; leaves petiolate, ovate, subcordate at the base, much wrinkled, hispid; floral leaves bractea-formed, petiolate, oblong, wrinkled, about equal in length to the calyxes; racemes loose; flowers opposite, secund; calyxes villous. ♃. H. Native of Greece. Corollas pubescent, size of those of *S. peregrìna*, or a little larger.

Sage-leaved Skullcap. Pl. ½ foot.

32 S. versi'color (Nutt. gen. amer. 2. p. 38.) stems erect, branched, pubescent; leaves petiolate, broadly-ovate, crenated, deeply cordate at the base, pubescent on both surfaces, wrinkled; floral leaves sessile, broad-ovate, quite entire, rather longer than the calyxes; raceme simple, or a little branched, elongated, many-flowered; flowers opposite, subsecund; calyxes hairy. ♃. H. Native of the flats and open woods of Ohio and Arkansas, Nuttall; at Lexington, in Kentucky, Torrey; Louisiana, Drummond. S. cordifòlia, Muhl, cat. The whole plant pubescent, the racemes viscid. Leaves 2-4 inches long. Corolla pubescent, with a slender tube, a dilated blue throat, and a white lower lip.

Var. β, bracteàta (Benth. lab. p. 433.) floral leaves larger, and coloured a little. ♃. H. Native of Texas, at Rio Brazos.

Party-coloured-flowered Skullcap. Pl. 3 to 4 feet.

33 S. cane'scens (Nutt. gen. amer. 2. p. 38.? Benth. lab. p. 433.) stems tall, branched, pubescent; leaves petiolate, ovate, or ovate-lanceolate, acute, crenated, narrowed at the base, rounded, or the lower ones are cordate, pubescent on both surfaces, hoary beneath: floral leaves oblong, exceeding the calyxes; racemes loose, panicled, canescent; flowers opposite, secund; calyxes clothed with hoary tomentum; corolla pubescent outside. ♃. H. Native of Canada, Ohio, Kentucky, Upper Louisiana, &c., in open woods. S. serràta, Spreng. syst. 2. p. 703. and many other authors, but not of Andr. S. pubéscens, Muhl, cat.? S. incàna, Spreng. in Steud. nom. p. 757.? Leaves 2-3 inches long. Corolla blue, 8-9 lines long.

Canescent Skullcap. Pl. 2 to 3 feet.

34 S. serra'ta (Andr. bot. rep. t. 494.) stem tall, branched, glabrous; leaves petiolate, ovate, acutish, crenately serrated, cuneated at the base, quite entire, nearly glabrous on both surfaces; floral leaves oblong-lanceolate: upper ones scarcely longer than the pedicels; racemes loose, nearly simple; flowers opposite, secund; calyxes strigosely pubescent; corollas large, pubescent outside. ♃. H. Native of North America, Andrews; near Fredericstown, Herb. monac. Leaves purplish above, and pale beneath. Racemes glabrous or pubescent. Corolla blue, beyond an inch long.

Serrated-leaved Skullcap. Fl. June, Sept. Clt. 1800. Pl. 4 feet.

35 S. pilòsa (Michx. fl. bor. amer. 2. p. 11.) stem erect, almost simple, pubescent; leaves remote, on short petioles, ovate, obtuse, crenated: lower ones rounded at the base: superior ones cuneated, or narrowed, pubescent on both surfaces, or pilose; floral leaves obovate-lanceolate, about equal in length to the calyxes; racemes loose, a little branched, panicled; flowers opposite, secund; calyxes villous; corollas pubescent outside: throat a little dilated. ♃. H. Native of Pennsylvania; at West Chester, Virginia, Carolina, Georgia, &c., in shady woods. S. Caroliniàna, Walt. fl. car. p. 163. S. ellíptica, Muhl, cat.? Leaves 1½ inch long. Corolla blue, 8-9 lines long, pubescent.

Var. β, pubéscens; plant clothed with fine pubescence, not

pilose. ♃. H. Native of New Jersey, at Princetown, Torrey. S. ovalifòlia, Pers. ench. 2. p. 136. ?

Pilose Skullcap. Fl. June, Aug. Clt. 1825. Pl. 1 to 3 feet. ?

36 S. villòsa (Elliott, bot. car. 2. p. 90.) stem erect, branched, villous; leaves large, lanceolate, acute at both ends, coarsely toothed, villous beneath, rather hispid above; racemes panicled, crowded with flowers. ♃. H. Native of Georgia, between the rivers Oakmalgu and Flint, Elliott.

Villous Skullcap. Pl. 2 to 3 feet. ?

37 S. integrifòlia (Lin. spec. 836.) stems erect, almost simple, pubescent; leaves remote, on short petioles, oblong-lanceolate or linear, obtuse, quite entire, or the lower leaves are toothed, nearly glabrous; floral leaves exceeding the calyxes; racemes a little branched, loose; flowers opposite, secund; calyx pubescent; corolla almost glabrous, having the top of the tube and the throat widely dilated. ♃. H. Native from Pennsylvania and New York, to Carolina and Georgia, in dry or humid places. S. polymórpha, Arth. Hamilt. mon. p. 38. S. hyssopifòlia, Lin. spec. p. 836. S. Caroliniàna, Lam. dict. 7. p. 706. ill. t. 515. f. 3. S. ovalifòlia, Pers. ench. 2. p. 136. ?—Pluckn. phyt. t. 313. f. 4. Habit of *S. pilòsa*, but the leaves and flowers are very different. Leaves purplish beneath: upper ones 1 to 1½ inch long, glabrous or pubescent. Corollas large, blue, 8-9 lines long, the lower lip marked with deeper spots.

Var. β, *hispida* (Benth. lab. p. 435.) stems hispid; corollas villous. ♃. H. Native of New Orleans.

Entire-leaved Skullcap. Fl. June, Sept. Clt. 1731. Pl. 1 to 2 feet.

38 S. linea'ris (Benth. in Wall. pl. rar. asiat. 1. p. 66. lab. p. 435.) stems procumbent; leaves nearly sessile, oblong-linear, obtuse, almost entire, with subrevolute margins, canescent beneath; floral leaves ovate, concave, rather longer than the calyxes; racemes simple, dense; flowers opposite, subsecund; calyxes pilose; corollas almost glabrous. ♃. H. Native of Kamaon. Stems numerous from a thick woody base, pilosely pubescent. Leaves 6-9 lines long, almost glabrous above. Corollas cream-coloured, nearly an inch long: lips broad, purplish. Genitals a little exserted.

Linear-leaved Skullcap. Pl. procumbent, ½ foot.

39 ? S. visci'dula (Bunge, enum. pl. chin. p. 52.) stems decumbent; leaves sessile, linear-oblong, obtuse, quite entire, flat, green on both surfaces, viscid; floral leaves ovate, concave, rather longer than the calyxes; calyxes pilose; corollas nearly glabrous. ♃. H. Native of the North of China, in gravelly places between Jui-lin and Zsimin-i, Bunge. Habit of *S. lineàris;* but differs in the leaves being green on both surfaces, and viscid, and a little broader. Corollas cream-coloured. Perhaps this species, with *S. lineàris*, should have been placed in section *Lupulinària*.

Viscid Skullcap. Pl. decumbent.

40 S. macra'ntha (Fisch. Rchb. icon. bot. eur. 5. p. 52. t. 488. Benth. lab. p. 436.) stems procumbent at the base, ascending, almost glabrous; leaves sessile, lanceolate, obtuse, quite entire, rounded at the base, nearly glabrous, ciliated; floral leaves longer than the calyxes; racemes simple; flowers opposite, secund; calyxes pilose; corolla ample, pubescent outside, the tube dilated above. ♃. H. Native of Dahuria, North of China. S. grandiflora, Bunge, but not of Sims. Scutellària, &c., Gmel. sib. 3. p. 228. no. 50. Stems usually purplish, having the angles usually ciliated, the rest glabrous. Leaves deep green above, glabrous, or with a few short hairs, paler beneath, and quite glabrous. Corolla an inch long, blue. This species connects sections *Stachymórpha* and *Galericulàta*, but has the habit of the latter.

Long-flowered Skullcap. Fl. July, Sept. Clt. 1827. Pl. ½ to ¾ foot.

Sect. IV. Galericula'ta (from *galericulus*, a narrow-brimmed hat; in reference to the form of the calyx.) Arth. Hamilt. mon. p. 31. Benth. lab. p. 436. § 3. Axillàres, Benth. in bot. reg. vol. 18. Floral leaves green, similar to the cauline leaves, but gradually smaller. Flowers opposite, secund, axillary, or the upper ones are somewhat racemose.

41 S. angustifòlia (Pursh, fl. amer. sept. 2. p. 412.) nearly glabrous; stems erect, almost simple; lower leaves petiolate, ovate, toothed: superior ones nearly sessile, oblong-linear, quite entire, all roundly cuneated at the base; floral leaves similar to the rest: upper ones sterile; flowers axillary, opposite, secund; calyxes shorter than the pedicels. ♃. H. Native of North-west America, along the river Kooskoosky, Pursh; at Fort Vancouver, on the Columbia, Douglas. Herb glabrous, or finely pubescent. Corolla 8 lines long, blue. ?

Narrow-leaved Skullcap. Pl. ½ foot.

42 S. scordifòlia (Fisch, ind. sem. hort. petrop. p. 62. Trev. in nov. act. bonn. 13. p. 185.) glabrous; stems branched; leaves on short petioles, oblong-lanceolate, obtuse, quite entire, or remotely serrated, rounded or cuneated at the base; floral leaves similar to the rest; flowers axillary, opposite, secund. ♃. H. Native of the Altaic mountains, and at Lake Baikal, and of Kamtschatka. S. Adámsii, Spreng. syst. 2. p, 701. ? Arth. Hamilt. mon. p. 34. t. 2. f. 3. Scutellària, &c., Gmel. sib. 3. p. 229. no. 51. t. 47. ? Cássida, &c., Amm. stirp. 43. t. 55.—A species intermediate between *S. angustifòlia* and *S. galericulàta*. Corollas blue, longer than those of *S. angustifòlia*.

Var. β, *Adámsii* (Benth. lab. p. 437.) leaves less toothed; floral leaves smaller; flowers subracemose. ♃. H.

Scordium-leaved Skullcap. Fl. June, July. Clt. 1817. Pl. ½ foot.

43 S. galericula'ta (Lin. spec. p. 835.) stems branched, divaricate; leaves on short petioles, ovate-lanceolate, acute, roundly cordate at the base, crenated: floral leaves similar; flowers axillary, opposite, secund, on short pedicels. ♃. H. Native of Europe, Asia, and North America, in humid places, by the sides of ditches, ponds, rivers; almost in every part of Europe; plentiful in Britain. Smith, engl. bot. t. 523. Hook, fl. lond. vol. 2. with a figure. Curt. lond. 3. t. 36. Fl. dan. t. 637. S. epilobiifòlia, Arth. Hamilt. mon. p. 32.—Riv. mon. t. 77. f. 1.—Sabb. hort. rom. 3. t. 30.—Mor. hist. sec. 11. t. 20. f. 6. ord. 3. Cássida galericulàta, Scop. carn. no. 741. Hall, helv. no. 28. Mœnch. meth. p. 413. Plant very variable in stature and pubescence, but readily distinguished by the form of the leaves and flowers. Corolla 7-8 lines long, blue, whitish underneath. The plant was formerly considered a cure for certain fevers.

Hooded or Common Skullcap. Fl. June, Sept. Britain. Pl. ½ to 1 foot.

44 S. hastæfòlia (Lin. spec. p. 835.) stems ascending, nearly simple, glabrous; leaves on short petioles, ovate-lanceolate, obtuse, quite entire, truncate at the base, and hastately sub-lobate: floral ones similar to the rest; flowers opposite, secund, subracemose; calyxes pubescent; corolla elongated, with a dilated throat: galea shorter than the lower lip. ♃. H. Native of France, Austria, and Germany, Sweden; and Caucasus, at the river Kuma. Cássida hastifòlia, Scop. fl. carn. 1. p. 439.—Riv. mon. irr. t. 77. f. 2. This differs from *S. galericulàta* in the leaves being hastate at the base, in the corollas being a little longer, and more approximate into a terminal raceme. Corollas blue.

Halbert-leaved Skull-cap. Fl. June, July. Clt. 1798. Pl. ½ foot.

45 S. rivula'ris (Wall. pl. rar. asiat. 2. p. 66. Benth. lab. p. 438.) quite glabrous; stem procumbent at the base; branches ascending, almost simple; lower leaves petiolate, ovate-roundish, and the middle ones ovate-lanceolate, obtuse, crenated, dilated and cordate at the base: superior and floral leaves smaller, narrowed at the base; flowers opposite, secund, sub-racemose; calyxes and corollas glabrous. 4. H. Native of Nipaul and China, by sides of rivulets and rivers. S. peregrìna, Roxb. hort. beng. p. 45. but not of Lin. S. barbàta, D. Don. prod. fl. nep. p. 109. S. squamulòsa, Arth. Hamilt. mon. p. 35. Stems rooting at the base. Lower cauline leaves an inch long, those of the sterile branches hardly ½ an inch. Corolla 4 lines long, blueish, hairy.

Rivulet Skullcap. Pl. ½ to 1 foot.

46 S. rumicifòlia (H. B. et Kunth, nov. gen. amer. 2. p. 324.) quite glabrous; stems humble, diffuse, branched; lower leaves petiolate, broad-ovate, hastately cordate at the base: middle ones lanceolate, acute, hastate at the base: upper and floral leaves nearly sessile, lanceolate, or linear, rounded or narrowed at the base; flowers minute, opposite, secund. 4. F. Native of Mexico, at the Hacianda de la Llaguna; Santa Fe de Bogota; Montevideo; Brazil, at Rio Pardo, in the province of Rio Grande do Sul; Mendoza, Valparaiso, and Buenos Ayres. Herb small, much branched, and rooting at the base. Leaves of sterile branches, often shaped like those of *Rùmex acetocélla*. Lower cauline leaves ½ an inch long: upper 3 lines long. Corolla hardly 3 lines long, downy outside. Genitals a little exserted.

Sorrel-leaved Skullcap. Pl. ½ to 1 foot.

47 S. mi'nor (Lin. spec. p. 835.) plant humble, glabrous; leaves on short petioles: lower ones broad-ovate: middle ones ovate-lanceolate, cordate at the base, sub-hastate: upper and floral leaves lanceolate, rounded at the base, all obtuse; flowers small, axillary, opposite, secund; corolla almost glabrous, with the throat hardly dilated. 4. H. Native of Europe and Siberia; plentiful in Britain in moist places, as by the sides of rivulets, rivers, canals, ponds, &c. Smith, engl. bot. t. 524. Hook, fl. lond. vol. 2. icone. Curt. fl. lond. 4. t. 43. S. breviflòra, Turcz. mss.—Mor. hist. sect. 11. t. 20. f. 8. Leaves like that of *S. galericulàta*, but the plant is of lower stature. Leaves a little toothed or entire. Corolla 3 lines long, red.

Smaller Skullcap. Fl. July, Aug. Britain. Pl. ¼ to ½ foot.

48 S. Havane'nsis (Jacq. obs. 2. p. 5. t. 29.) stem branched, procumbently erect; leaves cordate-ovate, obtuse, crenated, nearly glabrous; flowers axillary; both lips of corolla trifid. 4. G. Native of Cuba, among rocks; near Havana, by the sea-side. Jacq. amer. pict. 85. t. 165. Leaves hardly ½ an inch long. Corolla nearly an inch long, blue.

Havana Skullcap. Fl. May, June. Clt. 1793. Pl. proc.

49 S. microphy'lla (Moc. et Sesse, ex Benth. lab. p. 439.) pubescent; stem diffuse, humble, branched; leaves petiolate: lower ones roundish, sinuately crenated: superior leaves ovate: uppermost ones almost quite entire, narrowed at both ends; flowers small, axillary, opposite, secund; pedicels longer than the calyxes. 4. F. Native of New Spain. Very nearly allied to *S. hùmilis*, but villous. Corollas size of those of *S. mìnor*.

Small-leaved Skullcap. Pl. humble.

50 S. hu'milis (R. Br. prod. p. 507.) plant strigosely pubescent; stem humble; leaves on short petioles: lower ones rounded, deeply crenated: upper ones ovate, roundly dilated, sub-hastately lobed, all cordate at the base: upper floral leaves hardly exceeding the calyxes; flowers small, axillary, opposite, secund. 4. F. Native of New South Wales, about Port Jackson; and of Van Diemen's Land. Leaves hardly 3-4 lines long. Corolla twice as long as the calyx. Genitals a little exserted.

Humble Skullcap. Fl. June, July. Clt. 1823. Pl. ¼ foot.

51 S. pa'rvula (Michx. fl. bor. amer. 2. p. 12.) stem humble, divaricate, branched, pubescent; lower leaves on short petioles, ovate-roundish: middle, superior, and floral leaves sessile, ovate, or ovate-lanceolate, all obtuse, quite entire, rarely toothed, subcordate at the base; flowers small, axillary, opposite, secund; corolla nearly glabrous, with a scarcely dilated throat, hardly twice as long as the calyx. 4. H. Native of Canada, on the banks of rivers, and in other humid places, Virginia, banks of Missouri; at Lexington in Kentucky; Texas, at Rio Brazos. Hook. exot. fl. 2. t. 106. S. ambígua, Nutt. gen. amer. 2. p. 37. Herb densely leafy, more or less pubescent. Leaves small. Corollas small pale blue. Genitals a little exserted.

Small Skullcap. Fl. June, Aug. Clt. 1822. Pl. ¼ foot.

52 S. resinòsa (Torrey, in ann. lyc. 2. p. 232.) clothed with minute glandular pubescence; stem humble, erect, much branched; leaves scarcely petiolate, broad-ovate, obtuse, quite entire, rounded at the base: floral leaves similar to the rest; flowers axillary, opposite, secund; corolla villous, more than 4 times as long as the calyx. 4. H. Native of North America, at the river Canadian, among the Rocky Mountains. Habit of *S. párvula*, but more stiff and more branched. Leaves 4-5 lines long. Corolla blue, size of those of *S. galericulàta*, villous.

Resinous Skullcap. Pl. ½ foot.

53 S. antirrhinoi'des (Benth. lab. p. 440.) stem diffuse, branched, glabrous; leaves on short petioles, ovate, obtuse, quite entire, narrowed at the base, thickish, glabrous or finely pubescent; floral leaves similar to the rest: upper ones sterile; flowers axillary, opposite, secund; calyxes shorter than the pedicels. 4. H. Native of North-west America, near Fort Vancouver, on the Columbia river. Habit of *Antirrhìnum sempervìrens*. Leaves ½ an inch long. Flowers similar to those of *S. angustifòlia*.

Snap-Dragon-like Skull-cap. Pl. diffuse.

54 S. nervòsa (Pursh, fl. amer. sept. 2. p. 412.) stem almost simple, glabrous; lower leaves petiolate, rounded: middle ones sessile, broad-ovate, dentately crenated, cordate at the base: upper floral leaves ovate-lanceolate, quite entire, all glabrous or rather hispid above, with scabrous margins; flowers small, axillary, opposite, secund; corollas almost glabrous, twice or thrice longer than the calyxes. 4. H. Native of North America, among bushes on the banks of the rivers Schuylkill, Susquehanna, Missouri, and Ohio. Herb slender, pale green. Largest leaves 10-12 lines long. Corollas full a little larger than those of *S. párvula* or *S. mìnor*, blue.

Nerved-leaved Skullcap. Fl. July, Aug. Clt. 1826. Pl. ½ to 1 foot.

55 S. Drummóndi (Benth. lab. p. 441.) stems ascending, a little branched, villous; leaves petiolate, ovate, obtuse, crenated, cuneated at the base: floral leaves more entire, smaller, all villous on both surfaces; flowers small, axillary, opposite, secund; corolla villous, scarcely thrice as long as the calyx. 4. F. Native of Texas, at Rio Brazos. Leaves ⅓ an inch long. Corolla 3-4 lines long, blue.

Drummond's Skullcap. Pl. ½ foot.

56 S. mòllis (R. Br. prod. p. 507.) stem nearly simple, pubescent; leaves petiolate, ovate-roundish, obtuse, coarsely crenated, broadly cordate at the base: upper and floral leaves ovate-lanceolate, acute, all clothed with soft villi on both surfaces; flowers opposite, secund, axillary, or the upper ones are subracemose; corolla twice as long as the calyx, which is shorter than the pedicels. 4. H. Native of New Holland. Stem a little branched. Corolla 3-4 lines long.

Soft Skullcap. Pl. 1 to 1½ foot.

57 S. tuberòsa (Benth. lab. p. 441.) stem humble, simple, erect, villous; leaves petiolate, broad-ovate, obtuse, coarsely

crenated, roundly truncate at the base: floral leaves oblong, all villous on both surfaces; flowers axillary, opposite, secund; corolla villous, more than 4 times as long as the calyx. ♃. H. Native of North California, Douglas. Stems simple, rising from a tuberous root. Leaves 4-5 lines long: floral ones shorter than the flowers, but exceeding the calyxes. Corolla size of that of *S. galericulàta*, with a slender tube.

Tuberous-rooted Skullcap. Pl. 1-3 inches.

58 S. cæru'lea (Moc. et Sessé, ex Benth. lab. p. 442.) stem nearly simple, pubescent; leaves on short petioles, ovate-rhomboid, obtuse, crenated, rounded at the base: floral leaves nearly similar to the others but narrower, the uppermost ones lanceolate, almost quite entire, all pubescent above; flowers opposite, secund, axillary, or the uppermost ones are sub-racemose, nearly sessile; corolla 6 times longer than the calyx. ♃. F. Native of Mexico. Stems ascending. Lower leaves small: middle ones an inch long. Corolla 8-9 lines long, pubescent, blue.

Var. β. Leaves pubescent on both surfaces. ♃. F. Mexico, near Tlalpuxahua.

Blue-flowered Skullcap. Pl. ½ to 1 foot.

59 S. Mocinia'na (Benth. lab. p. 442.) branches ascending, ? villous at the base; leaves petiolate, ovate, somewhat sinuately crenated, green on both surfaces, rather hispid above, and almost glabrous beneath: lower floral leaves similar to the rest: uppermost ones small and oblong; flowers opposite, secund; corolla 6 times longer than the calyx, which is pedicellate. ♃. F. Native of New Spain. Branches rather woody at the base. Leaves an inch long. Corolla showy, scarlet, 1½ inch long, nearly glabrous.

Moçino's Skullcap. Pl. ?

60 S. malvæflòra (H. B. et Kunth, nov. gen. 2. p. 325.) stem branched, pubescent; leaves roundish, ovate, obtuse, coarsely serrate-crenated, beset with adpressed hairs above, and glabrous beneath; flowers opposite, pedicellate, sub-spicate. ♃. G. Native of New Granada, in bushy, mountain places, near St. Anna, in the province of Mariquito. Leaves petiolate, 8-10 lines long. Calyx pubescent. Corolla blue. ? This species with the two following probably belong to the genus *Perilòmia*.

Mallow-flowered Skull-cap. Pl.

61 S. Cumane'nsis (H. B. et Kunth, l. c.) shrubby; leaves ovate, or ovate-orbicular, obtuse, rounded at the base or cuneated, crenated, clothed with hairy pubescence on both surfaces, canescent beneath; flowers opposite, pedicellate. ♄. G. Native of America, in dry places near Cumana and Bordones. Leaves 8-12 lines long. Pedicels and calyxes pubescent. Corolla 5 times as long as the calyx, pubescent.

Cumana Skullcap. Shrub.

62 S. volu'bilis (H. B. et Kunth, l. c.) twining; leaves elliptic, rounded at both ends, crenated, pubescent above, but clothed with soft pilose tomentum beneath and hoary; flowers opposite, pedicellate. ♃. ? ◠. S. Native of New Granada, in woods, near Loxa and Gonzanama. Leaves petiolate, reticulately 5-nerved, 14-16 lines long. Stem pilose. Calyx pilosely pubescent. Corolla downy, red. ?

Twining Skullcap. Pl. twining.

Sect. V. Maschalóstachys (from *μασχαλη, maschale*, an axil, and *σταχυς, stachys*, a spike; in reference to the axillary spikes.) Benth. lab. p. 443. § 4. Lateriflòræ, Benth. in bot. reg. vol. 18. Floral leaves green, similar to the lower cauline leaves: upper ones small, bractea-formed. Flowers opposite, secund, disposed, in axillary and terminal racemes.

63 S. re'pens (Hamilt. in D. Don. prod. fl. nep. p. 110.) clothed with hoary pubescence, clammy above; branches scandent; leaves petiolate, ovate, crenated, rounded at the base, subcordate: uppermost ones acute, rather cuneated at the base: floral leaves ovate, obtuse, rather exceeding the calyxes; racemes numerous, axillary, and terminal, short, loose; flowers opposite, secund. ♄. ◠. G. Native of the East Indies, in Nipaul, Kamaon, Ava, &c. S. càna, Wall. pl. asiat. rar. 1. p. 67. S. Wallichiàna, Arth. Hamilt. mon. 28. t. 2. f. 1. Leaves 1½ inch long. Corolla 7-8 lines long, yellow.

Creeping Skullcap. Shrub climbing.

64 S. sca'ndens (Hamilt. in D. Don. prod. fl. nep. p. 110.) stem scandent; branches glabrous, very acutely tetragonal; leaves on short petioles, ovate-lanceolate, acuminated, crenated, roundedly cordate at the base, glabrous: floral leaves broad-ovate, acuminated, hardly exceeding the calyxes; racemes axillary and terminal, pubescent; flowers opposite, secund. ♄. ◠. G. Native of Nipaul and Kamaon. S. angulòsa, Benth. in Wall. pl. asiat. rar. 1. p. 67. S. celtidifòlia, Arth. Hamilt. mon. p. 27. Branches often glaucescent. Corolla an inch long, hairy.

Climbing Skullcap. Shrub climbing.

65 S. lateriflòra (Lin. spec. p. 835.) glabrous; stems erect, fleshy; leaves petiolate, ovate-lanceolate, acuminated, rounded at the base: upper floral leaves hardly exceeding the calyxes; racemes axillary and terminal, flowers opposite, secund. ♃. H. Native of North America, on margins of ponds, lakes, and ditches, from New York to the North-west coast, and from Canada to Carolina. Cássida lateriflòra, Mœnch. meth. Plant glabrous. Stem much branched. Corolla blue, hardly 3 lines long. Achenia tubercled.

Lateral-flowered Skullcap. Fl. June, Sept. Clt. 1752. Pl. 1 foot.

Cult. Most of the species of *Scutellària* are very pretty while in blossom, and are therefore well fitted for decorating the fronts of flower borders, being short in stature. They will grow in any common soil, and are readily increased by division and by seed. Those species marked greenhouse and frame require protection in winter, but answer well when planted out into the open ground during the summer months. The shrubby kinds will be readily increased by young cuttings.

LIX. PERILO'MIA (from *περι, peri*, around, and *λωμα, loma*, a fringe; in allusion to the membranaceously winged achenia.) H. B. et Kunth, nov. gen. 2. p. 326. Benth. lab. p. 445.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, bilabiate; lips entire, closed after the falling of the corolla, at length cleft even to the base: the upper lip furnished with a short scale, deciduous: lower lip permanent. Corolla with an exserted, recurvedly ascending tube, which is naked inside, a rather dilated throat, and a short bilabiate limb, having the upper lip erectish, emarginately bifid, and the lower lip trifid; the lateral lobes short and spreading a little, and the middle lobe larger, spreading, and emarginate. Stamens 4, ascending, didynamous, the lower ones the longest; anthers approximate by pairs, glabrous, those of the lower stamens dimidiate, and those of the upper stamens 2-celled. Upper lobe of style very short; lower one stigmatiferous at apex. Ovarium nearly sessile, on a thick disk, which is usually increased into an obtuse tooth. Achenia dry, with membranaceously winged margins.—Herbs or shrubs. Flowers axillary, solitary. Floral leaves almost similar to the cauline ones. This genus differs from *Scutellària*, in the form of the corolla and winged achenia.

1 P. scutellarioi'des (H. B. et Kunth, nov. gen. 2. p. 327. t. 157.) glabrous; leaves petiolate, ovate, rounded at the base or subcordate, those of the panicle, branches, and floral ones small; racemes slender; flowers secund; corolla scarcely 3 times as long as the calyx, which is glabrous. ♃. S. Native of Peru, Jos. de Jussieu. Stems apparently scandent. Leaves 1½ inch

long, coarsely crenated; upper and floral ones hardly 2-3 lines long. Panicle like that of *Odontìtes rùbra*. Flowers opposite, scarlet, ? clothed with rufous pubescence outside.

Skullcap-like Perilomia. Pl. climbing.

2 P. ocymoi'des (H. B. et Kunth, l. c. p. 328.) glabrous or scarcely pubescent; leaves petiolate, ovate, crenated, roundedly truncate at the base: floral leaves similar to the rest, but gradually smaller; racemes elongated; corolla 4-5 times longer than the calyx. ♃. G. Native of Peru, in dry places, near Alausi, Humb. et Bonpl.; near Obrajillo, Cruikshanks; at Cuesta de Parrochuta, Mathews. Leaves ½ to 1½ inch long. Corolla scarlet, 7-8 lines long.

Basil-like Perilomia. Pl. erect.

3 P. fruticòsa (Schiede et Deppe, in Linnæa, 5. p. 102.) pubescent or hairy; leaves ovate or elliptic, acuminated, coarsely and unequally serrated, and almost entire, pale beneath; racemes 3-9-flowered. ♄. G. Native of Mexico, among bushes at Jalapa, and on Serro Colorado. Leaves 1 to 4 inches long. Flowers opposite. Corolla showy, scarlet, about 15 lines long, pubescent underneath.

Shrubby Perilomia. Shrub.

4 P. tomentòsa (Benth. lab. p. 446.) leaves ovate, pubescent above, clothed with white tomentum beneath; corolla about 3 times longer than the calyx, which is clothed with woolly villi. ♃. G. Native of Mexico, Moçino et Sessé. Habit of *P. ocymoìdes*. Flowers a little smaller. Perhaps woody.

Tomentose Perilomia. Shrub. ?

† *A doubtful species.*

5 P. du'bia (Spreng. syst. 2. p. 704.) leaves ovate-oblong, acute, serrated; calyxes and fruit pubescent. ♃.? S. Native of Brazil, Sello.

Doubtful Perilomia. Pl.?

Cult. For culture and propagation, see *Prostanthèra*, p. 800.

Tribe VII.

PROSTANTHE'REÆ (this tribe contains genera agreeing with the genus *Prostanthèra*, in the characters given below.) Benth. lab. p. 447. Calyx campanulate, sometimes bilabiate; lips flat, entire, or the lower lip is bidentate or bifid; sometimes equal and 5-toothed; throat naked inside. Corolla with a short ample tube, a campanulate throat, and a bilabiate limb; lips flattish; upper lip emarginate or bifid; lower lip trifid. Stamens 4, didynamous, shorter than the corolla; lower ones sometimes the longest and sometimes abortive. Achenia coriaceous, wrinkled reticulately. Style almost permanent.

LX. CHILO'DIA (from χειλος, *cheilos*, a lip, and οδους, *odous*, a tooth; application not evident.) R. Br. prod. p. 507. Benth. lab. p. 447.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, bilabiate; tube short, 13-nerved; upper lip entire; lower lip emarginate; throat naked inside. Corolla with a short ample tube and a campanulately sub-bilabiate limb: upper lip erect, flattish, emarginately bifid: lower lip trifid, the middle lobe the largest and bifid, all flat and spreading. Stamens 4, nearly equal, shorter than the tube; filaments glabrous, naked; anthers 2-celled: cells parallel, glabrous, naked, mutic. Style shortly bifid at apex; lobes unequal, stigmatiferous at apex.—A shrub, with the habit of *Prostanthèra*.

1 C. scutellarioi'des (R. Br. p. 507.) ♄. G. Native of New Holland, about Port Jackson. Prostanthèra empetrifòlia, Sieb. pl. nov. holl. exs. no. 187. A shrub, with glabrous or pubescent branches. Leaves sessile, scarcely ½ an inch long, linear or lanceolate, acute, quite entire, with sub-revolute edges, green on both surfaces, glabrous, or finely downy beneath in the young state; floral leaves exceeding the flowers. Pedicels axillary, bibracteate. Calyxes ciliated. Corolla blue, glabrous, exceeding the calyx a little.

Skull-cap-like Chilodia. Shrub.

Cult. For culture and propagation, see *Prostanthèra*, p. 800.

LXI. CRY'PHIA (from κρυφιος, *kryphios*, hidden; in allusion to the inclosed corollas.) R. Br. prod. p. 508. Benth. lab. p. 448.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx bilabiate, bibracteate, closed; lips entire, equal. Corolla inclosed, ringent; upper lip or galea very short; middle segment of the lower lip rather the largest. Anthers mutic.—Glandular, strong-scented shrubs. Leaves small, entire, size of those of *Thymus Serpyllum*. Peduncles axillary, solitary, 1-flowered. Intermediate between *Chilòdia* and *Prostanthèra*.

1 C. serpyllifòlia (R. Br. p. 508.) leaves oblong-linear, flattish, and are, as well as the calyxes, glabrous, scarcely longer than the fructiferous peduncles; branchlets almost glabrous; down very fine and adpressed. ♄. G. Native of New Holland, on the South Coast.

Wild Thyme-leaved Cryphia. Shrub.

2 C. microphy'lla (R. Br. p. 508.) leaves oval, convex, very minute, fascicled, and are, as well as the calyxes, pubescent, much longer than the peduncles; branches pubescent; down spreading, curved. ♄. G. Native of New Holland, on the south coast. Probably only a variety of the preceding.

Small-leaved Cryphia. Shrub.

Cult. For culture and propagation, see *Prostanthèra*, p. 800.

LXII. PROSTANTHE'RA (from προσθηκη, *prostheke*, an appendage, and ανθηρα, *anthera*, an anther; in reference to the connectives of the anthers being spurred underneath.) Labill. nov. holl. 2. p. 18. R. Br. prod. p. 508. Benth. lab. p. 448.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate; tube short, 13-striped; lips undivided, closing the fruit; throat naked inside. Corolla with a short ample tube, a campanulate throat, and a bilabiate limb; upper lip erect, flattish, emarginately bifid; lower lip spreading, 3-lobed, the middle lobe the largest, entire, or bifid. Stamens 4, ascending, scarcely didynamous: lower ones rather the longest; filaments glabrous, naked; anthers all approximate, 2-celled: cells parallel, having the connective spurred beneath. Style shortly bifid at apex: lobes nearly equal, stigmatiferous at apex. Achenia nucumentaceous, rather baccate, coriaceous, and reticulately wrinkled in the dried state. Albumen wanting or small.—Strong-scented shrubs, beset with sessile glands. Leaves opposite. Flowers sometimes racemose, terminal, the floral leaves soon falling off; sometimes solitary in the axils of the floral leaves, which are similar to the cauline ones. Bracteas small, under the calyx.

1 P. lasia'nthos (Labill. nov. holl. 2. p. 18. t. 157.) shrubby; leaves oblong-lanceolate, dentately serrated, glabrous; racemes panicled; corolla hairy; longer spur of anther exceeding the cell: shorter one equal in length to the cell, adnate. ♄. G. Native of New South Wales, about Port Jackson; and of Van Diemen's Land. Andr. bot. rep. t. 641. Ker. bot. reg. t. 143. Sims, bot. mag. t. 2434. Branches nearly glabrous. Leaves green. Corolla white, tinged with red; throat spotted with red inside.

Woolly-flowered Prostanthera. Fl. June, July. Clt. 1808. Shrub 3-6 feet.

2 P. CÆRU'LEA (R. Br. prod. p. 508.) shrubby; leaves lanceolate, dentately serrated, glabrous; racemes rather panicled, divided a little; corolla beardless outside; spurs of anthers nearly equal, adnate, scarcely exceeding the cells. ♄. G. Native of New South Wales, about Port Jackson, &c. Habit of *P. lasiánthos*. Leaves narrower. Corolla glabrous, blue, size of those of *P. lasiánthos*.

Blue-flowered Prostanthera. Shrub 3 to 4 feet. ?

3 P. INCI'SA (R. Br. prod. p. 509.) branchlets nearly glabrous; leaves ovate-oblong, narrowed at the base, toothed or cut, glabrous, glandular on both surfaces; racemes few-flowered; upper lip of calyx narrower, and twice as long as the lower lip; spurs equal, adnate, shorter than the cells. ♄. G. Native of New South Wales, about Port Jackson. Leaves ½ to ¾ inch long. Floral leaves small: upper ones wanting or deciduous. Corolla twice as long as the calyx, nearly glabrous.

Cut-leaved Prostanthera. Shrub 3 to 5 feet. ?

4 P. SIEBE'RI (Benth. lab. p. 451.) branchlets nearly glabrous; leaves ovate-oblong, deeply toothed, narrowed a long way at the base, glabrous: racemes loose, few-flowered; lips of calyx equal; spurs of anthers equal, adnate, shorter than the cells. ♄. G. Native of New South Wales, from Port Jackson towards the south. P. incìsa, Sieb. fl. nov. holl. exs. 189. but not of R. Br. Leaves on long petioles, nearly an inch long; floral leaves smaller: upper ones minute. Very like *P. incìsa*.

Sieber's Prostanthera. Shrub 6 feet.

5 P. PRUNELLOI'DES (R. Br. prod. p. 508.) leaves thick, ovate, entire, or coarsely toothed, glabrous: floral leaves bractea-formed, deciduous; racemes terminal, a little panicled; corolla hairy outside; longer spur of anther twice as long as the cell. ♄. G. Native of New South Wales, about Port Jackson; frequent on stony hills at Hunter river. Angles of stem denticulated. Leaves an inch long: floral leaves ciliated, deciduous. Corolla twice as long as the calyx. Flowers almost like those of *P. lasiánthos*.

Prunella-like Prostanthera. Shrub.

6 P. OVALIFÒLIA (R. Br. prod. p. 509.) branches clothed with fine down; leaves oval, glabrous, entire, and sometimes with a few crenatures; racemes short, terminal, and axillary; calyx glabrous, glandular; spurs of anthers equal, adnate, equal in length to the cells. ♄. G. Native of New Holland, on the east coast, within the tropic, and on the north-west coast. Leaves 4-6 lines long.

Oval-leaved Prostanthera. Shrub humble.

7 P. ATRIPLICIFÒLIA (Cunningh. mss. ex Benth. lab. p. 451.) branchlets tomentose; leaves ovate-oblong, quite entire, glabrous; racemes loose, terminal; calyxes glabrous; spurs of anthers equal, adnate, equal to the cells in length. ♄. G. Native of the interior of New Holland; on arid, sterile hills at the river Lachlan. Shrub dense, sweet-scented. Leaves on short petioles, 4-6 lines long. Corollas purple. Very nearly allied to *P. ovalifòlia*.

Atriplex-leaved Prostanthera. Shrub.

8 P. COTINIFÒLIA (Cunningh. mss. ex Benth. lab. p. 452.) branches tomentose; leaves orbicular, thickish, glabrous, quite entire, retuse, or emarginate at apex; racemes elongated; lips of calyx quite entire. ♄. G. Native of New Holland, in the interior. Very nearly allied to *P. rotundifòlia*, but differs in the leaves being never crenated, and in the longer racemes.

Cotinus-leaved Prostanthera. Shrubs.

9 P. RETU'SA (R. Br. prod. p. 509.) leaves orbicular, crenated, glabrous, glandular on both surfaces; flowers axillary; lower lip of calyx retuse; spurs of anthers scarcely exceeding the cells. ♄. G. Native of Van Diemen's Land. Very nearly allied to *P. rotundifòlia*.

Retuse-leaved Prostanthera. Shrub.

10 P. ROTUNDIFÒLIA (R. Br. prod. p. 509.) branchlets tomentose; leaves orbicular or spatulate, thickish, glabrous, entire, or crenated; flowers sub-racemose; calyx glabrous, with quite entire lips; spurs of anthers equal, adnate, shorter than the cells. ♄. G. Native of Van Diemen's Land. Leaves 3-4 lines long. Racemes sub-secund, simple or compound. Corolla large, nearly glabrous outside.

Round-leaved Prostanthera. Clt. 1824. Shrub 3 to 6 feet.

11 P. NI'VEA (Cunningh. mss. ex Benth. lab. p. 452.) quite glabrous; leaves linear, quite entire, with smooth revolute margins; racemes loose, terminal; calyx glabrous, having the upper lip large, ciliated, one half shorter than the lower lip; one spur of each anther twice as long as the cell: the other shorter, adnate. ♄. G. Native of the interior of New Holland, on sterile rocky mountains. Leaves ½ to 1 inch long. Flowers sub-secund. Corolla snow-white, twice as long as the calyx, downy outside.

Snow-white-flowered Prostanthera. Shrub 3 feet.

12 P. BAXTE'RI (Cunningh. mss. ex Benth. lab. p. 452.) branches clothed with white tomentum; leaves linear, quite entire, with smooth revolute edges, glabrous; flowers sub-axillary; calyx clothed with silky tomentum; upper lip large, lower one shorter. ♄. G. Native of New Holland, at King George's Sound, Baxter. Leaves ½ an inch long. Flowers in the axils of the floral leaves.

Baxter's Prostanthera. Shrub.

13 P. LINEA'RIS (R. Br. prod. p. 509.) quite glabrous; leaves linear, quite entire, glabrous, smooth, with sub-recurved margins; racemes terminal; calyxes glabrous, finely ciliated; longer spur of each anther twice as long as the cell. ♄. G. Native of New South Wales, at Port Jackson, R. Br.; on rocks at Springfield and elsewhere, Cunningh. Leaves about an inch long, obtuse. Corolla a little longer than the calyx, downy outside, with a villous throat.

Linear-leaved Prostanthera. Clt. 1824. Shrub 3 to 4 feet.

14 P. DENTICULA'TA (R. Br. prod. p. 509.) branchlets scabrous from pubescence; leaves linear, entire, glabrous, glandular beneath, tubercularly denticulated above, near the recurved margin; calyxes ciliated, rather pilose; longer spur of anther rather exceeding the cell. ♄. G. Native of New South Wales, about Port Jackson, and on mountains near Bathurst. Habit of *Westríngia*. Branches nearly terete. Leaves sessile. Racemes loose, secund, terminal. Corolla twice as long as the calyx.

Denticulated-leaved Prostanthera. Clt. 1824. Shrub 3 to 4 feet. ?

15 P. CRYPTANTHOI'DES (Cunningh. mss. ex Benth. lab. p. 453.) glabrous; leaves lanceolate or linear, obtuse, quite entire or denticulated, fascicled in the axils: floral leaves similar to the rest; flowers few, axillary; calyx glabrous, having the upper lip tridentate; longer spur of anther twice the length of the cell. ♄. G. Native of New Holland, on rocks at Hunter's river.—An humble, glandular, rather clammy shrub, glabrous, or furnished with a few scattered hairs. Leaves scarcely 2-3 lines long. Bracteas foliaceous, equalling the calyxes. Corolla more than twice as long as the calyx.

Cryptantha-like Prostanthera. Shrub humble.

16 P. ASPALATHOI'DES (Cunningh. mss. ex Benth. lab. p. 453.) branches pubescent; leaves small, linear, quite entire, with revolute margins, nearly glabrous, fascicled; floral leaves similar to the others; flowers few, axillary, nearly sessile; calyx glabrous, with nearly equal, quite entire lips. ♄. G. Native of the interior of New Holland, on sterile hills at the river Lachlan. Shrub decumbent. Branches clammy. Leaves 1-2 lines long, furnished with a few hairs while young. Corolla scarlet, glabrous outside, more than twice as long as the calyx.

Aspalathus-like Prostanthera. Shrub decumbent.

17 P. CALE'YI (Benth. lab. p. 454.) branches pubescent;

leaves small, ovate-elliptic, obtuse, with revolute edges, fascicled in the axils, scarcely pubescent; floral leaves conforming to the others; flowers few, axillary, pedicellate; calyx pubescent, with quite entire lips; longer spur of anther about equal in length to the cell. ♄. G. Native of New Holland, Caley. Allied to *P. aspalathoìdes*, but distinct. Leaves 1-2 lines long, convex. Corolla hardly exceeding the calyx.

Caley's Prostanthera. Shrùb humble.

18 P. microphy'lla (Cunningh. mss. ex Benth. lab. p. 454.) branches almost glabrous; leaves small, thick, all obtuse, quite entire, spreadingly recurved, glabrous: floral leaves similar to the others; flowers few, axillary; calyx pubescent, with nearly equal, quite entire lips; spurs of anthers adnate: longer one scarcely exceeding the cell. ♄. G. Native of the interior of New Holland, in desert places near the river Lachlan.—A humble, much branched shrub. Leaves numerous, scarcely a line long: the floral ones and bracteas similar. Corolla scarlet, hardly twice as long as the calyx, pubescent outside.

Small-leaved Prostanthera. Shrub humble.

19 P. saxi'cola (R. Br. prod. p. 509. Benth. lab. p. 454.) leaves linear-oblong, quite entire, thick, rather pilose while young; floral leaves similar to the others, exceeding the flowers; flowers axillary; calyx hairy at top; longer spurs of anther twice the length of the cell. ♄. G. Native of New South Wales, about Port Jackson; and on rocks near Bathurst, on the west side of the Blue Mountains. Stem diffuse, suffruticose at the base, R. Br.—A slender shrub, with twiggy, hairy branches. Leaves sessile, 3-6 lines long, obtuse. Corolla twice as long as the calyx, pubescent outside, ex Benth. Lips of calyx nearly equal, R. Br.

Stone Prostanthera. Shrub diffuse.

20 P. marifòlia (R. Br. prod. p. 509.) branches hairy; leaves ovate, or elliptic-lanceolate, quite entire, with revolute edges, hispid on both surfaces; flowers axillary, subracemose; calyx hairy, with nearly equal lips; lower lip retuse; spurs of anthers exceeding the cells a little. ♄. G. Native of New South Wales, at Port Jackson, and on the Blue Mountains. Leaves distant, nearly sessile, 2-4 lines long; floral leaves equalling the calyxes. Calyx bluish at top. Corolla a little longer than the calyx.

Cat-Thyme-leaved Prostanthera. Shrub 1 to 1½ foot.

21 P. thymifòlia (Cunningh. mss. ex Benth. lab. p. 455.) branchlets finely pubescent; leaves ovate, roundish, few-crenated, glabrous, with recurved margins; flowers shortly racemose; calyx almost glabrous, with quite entire lips; spurs of anthers equal, adnate, shorter than the cells. ♄. G. Native of New South Wales, near Port Jackson; and at Springwood. P. retùsa, Sieb. fl. nov. holl. exs. but not of R. Br. Leaves on short petioles, 1-2 lines long, glabrous, or ciliated with a few hairs on the nerves beneath: floral leaves minute, deciduous. Calyx glabrous, or ciliated on the stripes. Corolla white, glabrous, exceeding the calyx a little. Nearly allied to *P. violàcea*.

FIG. 83.

Thyme-leaved Prostanthera. Shrub.

22 P. viola'cea (R. Br. prod. p. 509.) leaves roundish, crenated, with revolute edges, pubescently hairy on both surfaces, as well as on the branches; racemes dense, few-flowered; calyx pubescently hairy, with quite entire lips: lower lip twice as long as the upper, and narrower; spurs of anthers equal, rather shorter than the cells. ♄. G. Native of New South Wales, at Port Jackson. Bot. reg. 1072. Leaves 3-4 lines long; floral leaves small: upper ones minute. Corolla violaceous, twice as long as the calyx. (Fig. 83.)

Var. β, *glàbrior* (Benth. lab. p. 455.) leaves smaller, and more glabrous. ♄. G. Native of New South Wales, near Port Jackson; at Springwood, and on the Blue Mountains. This appears to be an intermediate plant between *P. violàcea* and *P. thymifòlia*.

Violaceous-flowered Prostanthera. Fl. May, Aug. Clt. 1820. Shrub 4 to 6 feet.

23 P. inca'na (Cunningh. mss. ex Benth. lab. p. 455.) leaves ovate, obtuse, crenated, bullately wrinkled, hispid from villi on both surfaces, as well as the branches; racemes very short, dense; spurs of anthers equal, adnate, shorter than the cells. ♄. G. Native of New South Wales, on the Blue Mountains; and on rocks at the junction of the rivers Nepean and Warragumba. Shrub divaricately branched. Leaves ½ an inch long; floral leaves smaller, sometimes coloured a little. Flowers almost sessile. Corolla purple, scarcely pubescent outside, exceeding the calyx a little.

Hoary Prostanthera. Shrub 5 to 6 feet.

24 P. rugòsa (Cunningh. mss. ex Benth. lab. p. 456.) leaves crenated, bullately wrinkled, hispid from villi on both surfaces, as well as the branches; flowers few, axillary; calyx hispid: upper lip somewhat tridentate, and the lower one emarginate; spurs of anthers shorter than the cells. ♄. G. Native of New Holland, at the river Hunter. Habit and leaves that of *P. violàcea*, but more hispid; but the inflorescence and calyx are very distinct. Corolla almost glabrous outside.

Wrinkled-leaved Prostanthera. Shrub 5 to 6 feet.?

25 P. rhómbea (R. Br. prod. p. 509.) leaves rhombeo-orbicular, quite entire, shining above in the adult state, glandular beneath; branches and calyxes pubescent; flowers axillary; spurs of anthers shorter than the cells. ♄. G. Native of New South Wales, about Port Jackson. Branches divaricate, sparingly pilose. Leaves almost sessile, bullately convex above, 2-4 lines long; floral leaves similar to the rest, on short pedicels. Corolla scarcely exceeding the calyx.

Rhomb-leaved Prostanthera. Clt. 1823. Shrub 3 to 4 feet.?

Cult. All the species are showy when in blossom. A light rich soil, or one composed of equal parts of loam, peat, and sand, will answer. Cuttings of young wood strike root readily in the same kind of soil, with a hand-glass over them.

LXIII. HEMIA'NDRA (from ἡμι, *hemi*, a half; and ανηρ ανδρος, *aner andros*, a male; so called in allusion to the dimidiate anthers.) R. Br. prod. p. 502. Benth. lab. p. 456.

Lin. syst. *Didynàmia, Gymnospérmia*. Calyx campanulate, striated at the base; lips flat, closed over the fruit: upper lip entire, mucronate: lower one semi-bifid. Corolla with a short ample tube, a campanulate throat, and a bilabiate limb; lips flat, spreading: upper one bifid: lower one 3-lobed, the middle lobe emarginate. Stamens 4, loosely ascending, didynamous: lower ones the longest; filaments glabrous, naked; anthers dimidiate: fertile cell ascending, and the sterile cell slender, and descending on the filament. Style almost equally bifid at apex; lobes subulate, stigmatiferous at tops.—A small shrub, with the habit of *Prostanthèra*.

1 H. pu'ngens (R. Br. prod. p. 502.) ♄. G. Native of New Holland, on the south coast, R. Br.; on hills near Swan River, Frazer.—A stiff, decumbent, densely leafy shrub; branches hard, glabrous or pubescent at the base. Leaves ses-

sile, lanceolate, very acute, pungent, quite entire, glabrous, rigid, 1-3-nerved beneath; floral leaves similar, exceeding the calyxes. Corolla glabrous, twice as long as the calyx, white, tinged or dotted with purple. Plant without any scent when dried, not aromatic like the species of *Prostanthèra*.

Pungent-leaved Hemiandra. Shrub decumbent.

Cult. For culture and propagation see *Prostanthèra*, p. 800.

LXIV. HEMIGE'NIA (from ἡμι, *hemi*, a half, and γενεα, *genea*, an offspring; in reference to only one of the cells of each anther being fertile.) R. Br. prod. p. 502. Benth. lab. p. 457.

Lin. syst. *Didynàmia, Gymnospérmia*. Calyx subcampanulate, deeply 5-cleft, equal. Corolla with a short tube, which is naked inside; a wide throat, and a sub-bilabiate limb: upper lip flat, sub-bifid: lower lip spreading, trifid, the middle lobe semi-bifid. Stamens 4, somewhat ascending, didynamous: lower ones the longest. Anthers approximate; one of the cells ascending and polliniferous; the other descending, of a different form, and empty. Style shortly bifid at apex. Achenia reticulately wrinkled.—Shrubs, with the habit of *Westríngia* or *Macrocòrys*. Flowers axillary, solitary. Beard of upper anthers very short, similar to the crest of the spurs in *Prostanthèra*.

1 H. purpu'rea (R. Br. prod. p. 502.) leaves 3 in a whorl; corolla shorter than the calyx. ♄. G. Native of New South Wales, at Port Jackson.—A slender shrub, with twiggy, leafy, glabrous branches. Leaves sessile, half an inch long, or longer, linear, acute, nearly terete, glabrous. Corolla bluish-purple, glabrous outside; but the lower lip is villous above.

Purple-flowered Hemigenia. Shrub.

2 H. Siebe'ri (Benth. lab. p. 457.) leaves 4 in a whorl; corolla exceeding the calyx. ♄. G. Native of New South Wales, about Port Jackson. H. purpùrea, Sieb. pl. nov. holl. exs. no. 191. Shrub more rigid, and larger than *H. purpùrea*. Leaves thicker, broader, and blunter, often mucronulate. Lower lip of corolla densely villous.

Sieber's Hemigenia. Shrub.

Cult. For culture and propagation see *Prostanthèra*, p. 800.

LXV. WESTRI'NGIA (named, by Sir J. E. Smith, after J. P. Westring, physician to the king of Sweden.) Smith, tracts, p. 277. t. 3. R. Br. prod. p. 501. Benth. lab. p. 457.

Lin. syst. *Didynàmia, Gymnospérmia*. Calyx campanulate, 10-nerved, equal, 5-toothed: throat naked inside. Corolla with a short tube, which is naked inside: a wide throat, and a sub-bilabiate limb; upper lip flat, bifid, rather spreading; lower lip spreading, 3-lobed, the middle lobe rather bifid. Stamens 4, erect, distant, inclosed in the tube of the corolla; superior 2 fertile, bearing dimidiate, 1-celled, glabrous anthers: lower 2 sterile, bearing bipartite anthers, the lobes linear, dependent, and empty. Style about equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia coriaceous, reticulately wrinkled.—Shrubs. Leaves permanent, 3-4 in a whorl, quite entire; floral leaves similar to the rest, with 1-flowered axils. Flowers 3-4 in a whorl, sometimes distant, and sometimes approximate into a short terminal raceme. Bracteas minute, adpressed to the calyx.

1 W. rosmarinifórmis (Smith, tracts. p. 277. t. 3.) leaves 4 in a whorl, lanceolate, with revolute edges, almost glabrous above, and silvery beneath; floral leaves about twice as long as the calyxes; calyx silvery, having the teeth one half shorter than the tube. ♄. G. Native of New South Wales, frequent on sandy hills about Port Jackson, Botany Bay, and towards the South. Andr. bot. rep. t. 214. Cunìla fruticòsa, Willd. spec. 1. p. 122. Young branches covered with dense silky hairs. Leaves an inch long, sessile. Flowers 4 in a whorl, like the leaves. Corollas villous outside, and bearded inside by a few hairs, white: lower lip spotted. Filaments villous.

Rosemary-formed Westringia. Fl. May, Aug. Clt. 1791. Shrub 1 to 3 feet.

2 W. Dampie'ri (R. Br. prod. p. 501.) leaves 4 in a whorl, linear, with revolute margins, nearly glabrous above, and cinereous beneath; floral leaves twice as long as the calyxes; calyx silvery, having the teeth one half shorter than the tube. ♄. G. Native of New South Wales, about Port Jackson; and on sandy hills at King George's Sound. Hook. bot. mag. t. 3308. Hardly to be distinguished from *W. rosmarinifórmis*, except in the more numerous, narrower, longer leaves, which are less silky beneath. Corolla white; lower lip spotted with red and yellow. (Fig 84.)

FIG. 84.

Dampier's Westringia. Fl. May, Aug. Clt. 1803. Shrub 1 to 3 feet.

3 W. brevifòlia (Benth. lab. p. 459.) leaves 4 in a whorl, elliptic-lanceolate, with revolute margins, shining above and silvery beneath; floral leaves rather shorter than the calyxes; calyx silvery, having the teeth one half shorter than the tube. ♄. G. Native of Van Diemen's Land, Gunn. Very similar to *W. rosmarinifórmis;* but differs from it in the much smaller, more glabrous leaves, and smaller flowers.

Short-leaved Westringia. Shrub.

4 W. ri'gida (R. Br. prod. p. 501.) leaves 3 in a whorl, linear-lanceolate, with revolute edges, glabrous above, and cinereous beneath, as well as the calyxes; teeth of calyx one half shorter than the tube. ♄. G. Native of New Holland, on the south coast; frequent on rocks by the sea side in Rottnest Island; and at the mouth of Swan River, on the west coast. Very nearly allied to *W. Dampièri;* but differs in the shorter leaves being 3 in a whorl, and usually shortly mucronate.

Stiff Westringia. Fl. May, Aug. Clt. 1823. Shrub 1 to 3 feet.

5 W. cine'rea (R. Br. prod. p. 501.) leaves 3 in a whorl, linear-lanceolate, divaricate, mucronate, pungent, with revolute margins, cinereous on both surfaces, as well as the calyxes; calycine teeth very short. ♄. G. Native of New Holland, on the south coast, R. Br.; on the south-west coast, at King George's Sound; and in the Dick Hartog Island, on the west coast, Cunningham. Hook. bot. mag. t. 3307.—A much branched, humble shrub. Leaves form of those of *W. Dampièri*. Flowers sessile. Upper lip of corolla villous, pale purple; but the lower lip is white; both lips are spotted with purple dots.

Cinereous Westringia. Fl. May, Aug. Clt. 1821. Shrub humble.

6 W. angustifòlia (R. Br. prod. p. 501.) leaves 3 in a whorl, linear, spreading, with revolute edges, scabrous above in the adult state, and cinereous beneath, as well as the calyxes; calycine teeth one half shorter than the tube. ♄. G. Native of Van Diemen's Land.

Narrow-leaved Westringia. Fl. May, Aug. Clt. 1823. Shrub.

7 W. eremi'cola (Cunningh. mss. ex Benth. lab. p. 459.)

leaves 3 in a whorl, linear, with revolute margins, cinereous beneath; calyxes clothed with silky pubescence, having the teeth rather longer than the tube. ♄. G. Native of New Holland, in the interior; in deserts near the river Lachlan, and on rocks near Bathurst, Cunningh.; at the river Macquarie, and in the valleys of Lushington and Glen Finlas, ex herb. Hook. Branches divaricate, very leafy. Leaves scarcely ½ an inch long.

Desert Westringia. Shrub.

8 W. longifòlia (R. Br. prod. p. 501.) leaves 3 in a whorl, linear, with recurved margins, and are, as well as the calyxes, green on both surfaces; calycine teeth length of tube. ♄. G. Native of New South Wales, about Port Jackson, on the banks of rivulets. Prostanthèra lineàris, Sieb. fl. nov. holl. exs. but not of R. Br. Angles of branches rough. Leaves an inch long, rather scabrous above, and pilose beneath while young.

Long-leaved Westringia. Clt. 1823. Shrub 1 to 3 feet. ?

9 W. gla'bra (R. Br. prod. p. 501.) leaves 3 in a whorl, linear-lanceolate, flat, glabrous on both surfaces, as well as the calyxes. ♄. G. Native of tropical New Holland. Allied to *W. longifòlia;* but the leaves are broader, and flat, and the whole plant quite glabrous. Leaves about an inch long. Flowers nearly sessile.

Glabrous Westringia. Clt. 1824. Shrub.

10 W. rubiæfòlia (R. Br. prod. p. 501.) leaves 4 in a whorl, elliptic, flattish, quite glabrous, shining; calyx nearly glabrous, having the teeth rather longer than the tube. ♄. G. Native of Van Diemen's Land. This differs from *W. rosmarinifórmis* in its smoothness, acuter calycine teeth, shorter, broader leaves, with the edges almost flat. Whorls 6-8-flowered.

Madder-leaved Westringia. Clt. 1820. Shrub.

Cult. For culture and propagation see *Prostanthèra*, p. 800.

LXVI. MICROCO'RYS (from μικρος, *micros*, small; and κορυς, *korys*, a helmet; probably from the upper lip or galea of corolla.) R. Br. prod. p. 502. Benth. lab. p. 460.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, about 10-nerved, equal, 5-toothed; throat naked inside. Corolla with the tube equal in length to the calyx, naked inside: throat widened: limb sub-bilabiate; upper lip flattish, emarginately bifid, erectly spreading: lower lip spreading, trifid. Stamens 4, erect, distant, inclosed in the tube of the corolla: upper 2 fertile, bearing dimidiate, 1-celled, bearded anthers: lower 2 sterile, bearing bipartite anthers, the lobes linear, dependent, and empty. Style almost equally bifid at top; lobes subulate, stigmatiferous at apex.—Shrubs, with the habit of *Westringia*. Leaves 3 in a whorl. Flowers small, white or purple, solitary in the axils of the floral leaves, which are similar to the cauline leaves, and, like them, 3 in a whorl.

1 M. virga'ta (R. Br. prod. p. 502.? Benth. lab. p. 461.) leaves oblong-linear, obtuse, and are, as well as the calyxes, glabrous; bracteas caducous; corolla hairy outside. ♄. G. Native of New Holland, on the south coast; and in boggy places at King George's Sound.

Twiggy Microcorys. Shrub.

2 M. barba'ta (R. Br. prod. p. 502.) leaves linear, obtuse, glabrous; calyxes and corollas hairy outside; bracteas caducous. ♄. G. Native of New Holland, on the south coast, R. Br.; at King George's Sound, ex herb. Hook. Very nearly allied to *M. virgàta*, but differs from it in the calyxes being densely villous, &c.

Bearded-flowered Microcorys. Shrub.

3 M. purpu'rea (R. Br. prod. p. 502.) leaves oval-oblong, with recurved margins, furnished with a few short hairs on both surfaces, dotted beneath; branchlets silky; calyxes greyish; bracteas setaceous, permanent. ♄. G. Native of New Holland, on the south coast.

Purple-flowered Microcorys. Shrub.

Cult. For culture and propagation see *Prostanthèra*, p. 800.

Tribe VIII.

NEPE'TEÆ (the genera contained in this tribe agree with *Népeta* in the characters given below.) Benth. lab. p. 462. Calyx equal, oblique, or sub-bilabiate; upper teeth the largest. Corolla inclosed or exserted; throat usually inflated; upper lip rather arched: lower lip spreading. Stamens 4, didynamous, ascending or diverging, the upper ones the longest. The whole of this tribe may not inappropriately be considered as a single genus, ex Benth.

LXVII. LOPHA'NTHUS (from λοφος, *lophos*, a crest; and ανθος, *anthos*, a flower; in allusion to the crenated or crested middle lobe of lower lip of corolla.) Benth. in bot. reg. vol. 15. lab. p. 462. Hyssòpus species of authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 15-nerved, rather incurved, with an oblique, 5-toothed mouth: superior teeth rather the longest. Corolla having the tube equalling the calyx, naked inside; and the limb bilabiate; the upper lip erectish, emarginately bifid: lower one spreading a little, trifid, the middle lobe broadly crenated. Stamens 4, didynamous, distant or divaricate: lower ones the shortest; anthers 2-celled: cells parallel, at length rather diverging. Style shortly bifid at apex; lobes nearly equal, subulate, stigmatiferous at apex. Achenia dry, smooth, naked.

Sect. I. Chiasta'ndra (probably from χειω, *cheio*, to scatter abroad, and ανηρ ανδρος, *aner andros*, a male; perhaps from the inequality of the stamens.) Benth. lab. p. 462. Whorls collected into terminal spikes. Upper stamens declinate: lower ones ascending. Leaves entire.

1 L. urticifòlius (Benth. lab. p. 462.) glabrous; leaves cordate-ovate, crenated, green on both surfaces; spikes dense, oblong; calycine segments linear-subulate; genitals much exserted. ♃. H. Native of North-west America, at Lewis and Clark's River, frequent. Stem branched. Bracteas rather shorter than the calyxes, coloured. Corollas purplish.

Nettle-leaved Lophanthus. Fl. July, Aug. Clt. 1826. Pl. 3 to 4 feet.

2 L. anisa'tus (Benth. in bot. reg. t. 1282.) glabrous; leaves ovate or ovate-lanceolate, acute, crenated, green above and white beneath; spikes cylindrical, interrupted at the base; calycine segments lanceolate, acute; genitals exserted. ♃. H. Native of North America, in bushy places at the rivers Missouri, Nutt.; Saskatchawan, Columbia, and Red River, Douglas. Hyssòpus anisàtus, Nutt. gen. amer. 2. p. 27. Hyssòpus díscolor, Desf. cat. hort. par. ed. 3d. p. 97. Stàchys fœnículum, Pursh, fl. amer. sept. 2. p. 407. Hyssòpus Fœnículum, Spreng. cent. pl. min. cogn. p. 24. Stem branched. Flowers one half smaller than those of *L. urticifòlius*. Corollas blue, incurved.

Anise-scented Lophanthus. Fl. July, Sept. Clt. 1825. Pl. 2 to 3 feet.

3 L. rugòsus (Fisch. et Meyer, ind. sem. hort. petrop. 1835. p. 30.) nearly glabrous; leaves wrinkled, cordate-ovate, caudately acuminated, serrately toothed, of the same colour on both surfaces; spikes dense, oblong; calycine lobes lanceolate,

acutish; genitals much longer than the corolla. ♃. H. Native of China. Stature of *L. urticifòlius;* but differs in the leaves being caudately acuminated; in the calycine lobes being acutish. Corollas blue. Odour of Peppermint.

Wrinkled-leaved Lophanthus. Pl. 2 to 4 feet.

4 L. scrophulariæfòlius (Benth. lab. p. 463.) stem pubescent; leaves ovate, serrately crenated, green on both surfaces, glabrous above, and pubescent beneath; spikes cylindrical, interrupted at the base; calycine teeth lanceolate, acute. ♃. H. Native of North America, in shady humid places from Pennsylvania to Virginia, rare, Pursh; at West Chester, Drummond. Hyssòpus scrophulariæfòlius, Willd. spec. 3. p. 48. Hyssòpus catariæfòlius, Hort. par. Habit of *L. anisàtus;* but differs in the leaves being broader, pubescent beneath, not white; and in the flowers being a little larger. Corolla blue.? Calyx coloured at top.

Scrophularia-like Lophanthus. Fl. July, Aug. Clt. 1800. Pl. 3 to 4 feet.

5 L. nepetoi'des (Benth. lab. p. 463.) glabrous; leaves ovate, acutish, serrately crenated, green on both surfaces, glabrous, or scarcely pubescent beneath; spikes cylindrical, interrupted at the base: calycine teeth ovate, bluntish. ♃. H. Native from Pennsylvania to Virginia, Pursh; near St. Louis, on the Mississippi; and near West Chester, Drummond. Hyssòpus nepetoìdes, Lin. spec. p. 796. Jacq. hort. vind. 1. p. 28. t. 69. Leaves $1\frac{1}{2}$ to 2 inches long, rounded or subcordate at the base. Corolla yellowish-white, scarcely exceeding the calycine teeth. Achenia villous at top.

Nepeta-like Lophanthus. Fl. Aug. Oct. Clt. 1692. Pl. 3 to 5 feet.

Sect. II. Resupina'ria (so called from the almost resupinate flowers of the species.) Benth. lab. p. 464. Cymes axillary, pedunculate, loose, few-flowered. Flowers almost resupinate. Lower stamens nearly erect; upper ones ascending.

6 L. Chine'nsis (Benth. lab. p. 464.) leaves ovate or oblong, crenated: floral ones similar to the others; cymes axillary, pedunculate, loose, few-flowered. ♃. H. Native of the North of China, ex Lin.; Siberia, about Peshkova, near Nertscha, Patrin. Hyssòpus lophánthus, Lin. spec. p. 796. Jacq. hort. vind. 2. p. 85. t. 182. Hyssòpus resupinàtus, Mœnch. Népeta lophántha, Fisch. Plant rather clammy, glabrous, or scarcely pubescent. Leaves an inch long. Peduncles subsecund, bearing unilateral cymes at apex. Corollas blue: tube shortly exserted. Achenia oblong, smooth.

China Lophanthus. Fl. Aug. Sept. Clt. 1752. Pl. $1\frac{1}{2}$ to 2 feet.

Cult. For culture and propagation see *Népeta*, p. 811.

LXVIII. NE'PETA

(a name used by Pliny; derived from *nepa*, a scorpion; being supposed to be efficaceous against the bite of the scorpion. Linnæus derives it from Nepet, a town in Tuscany.) Lin. gen. no. 710. Schreb. gen. no. 964. Juss. gen. p. 113. ed. Usteri, p. 126. Benth. lab. p. 464. Catària, Tourn. inst. p. 202. t. 95. Mœnch. Glechòma, Lin.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 13-15-nerved, for the most part incurved, with an obliquely 5-toothed mouth; rarely ovate, straight, with the mouth and teeth equal. Corolla having the tube slender at the base, inclosed or exserted, naked inside, the throat widened, and the limb bilabiate; upper lip straight, and rather concave, emarginate or bifid; lower lip spreading, trifid, the middle lobe large, sometimes sub-bifid, with reflexedly spreading lobes, and sometimes entire, concave, and crenulated. Stamens 4, didynamous, ascending: lower ones the shortest. Anthers usually approximate by pairs, 2-celled; cells diverging, at length divaricate. Style about equally bifid at apex; lobes subulate, stigmatiferous at apex. Achenia dry, smooth, naked.

Sect. I. Schizone'peta (from σχιζω, *schizo*, to cut; and *Népeta;* in allusion to the cut leaves of the species.) Benth. lab. p. 468. Whorls crowded: upper ones approximating into somewhat interrupted terminal spikes; cymes all sessile. Bracteas various. Calyx tubular, straight, but usually incurved, with an equal or oblique mouth. Stamens exserted a little, loosely ascending. Leaves dissected or lobed.

1 N. botryoi'des (Ait. hort. kew. 2. p. 287.) plant ascending, humble, much branched, pubescent; leaves petiolate, deeply sub-bipinnatifid: segments oblong-lanceolate or linear, obtuse, quite entire, or somewhat pinnatifid; floral leaves linear-subulate; spikes cylindrical, hardly interrupted at the base; racemes simple, spike-formed; bracteas and calycine teeth acute. ♃. H. Native of Eastern Siberia, in the Altaic region, at the rivers Katunga and Tschuja, Bunge; in the Kirghisean Steppe, Meyer. N. multífida, Lin. fil. suppl. 273. N. ánnua, Pall. in act. petrop. 1779. 2. p. 263. t. 12. N. bipinnàta, Cav. icon. 1. p. 36. t. 49. Leaves usually bipinnatifid: upper ones simply pinnatifid: floral ones minute. Bracteas minute. Calyx with an oblique mouth. Corolla cream-coloured or white, villous. Stamens rather shorter than the corolla.

Botrys-like Cat-mint. Fl. June, July. Clt. 1779. Pl. $\frac{1}{2}$ to 1 foot.

2 N. tenuifòlia (Benth. lab. p. 468.) stems procumbent, glabrous, or finely pubescent; leaves petiolate, pinnate: segments oblong-linear, acute, a little serrated, narrowed at the base, almost glabrous on both surfaces; upper leaves and floral ones entire; spikes slender, interrupted at the base; corollas minute, exceeding the calyxes a very little. ♃. H. Native of China, between Pekin and Jehol, Sir G. Staunton. This species differs from *N. lavandulàcea*, in the leaves, slender spikes, and minute flowers; and from *N. botryoìdes*, in the elongated, procumbent stems, &c.

Fine-leaved Cat-mint Pl. procumbent.

3 N. lavandula'cea (Lin. fil. suppl. 272.) plant ascending, pubescent; leaves petiolate, deeply pinnatifid at the base, with oblong or ovate, obtuse segments; floral leaves ovate, acuminated; spikes cylindrical, interrupted at the base; calycine teeth very short, ovate; corolla about twice as long as the calyx. ♃. H. Native of Eastern Siberia, in the Altaic region, in dry mountain places frequent. N. multífida, Lin. spec. 799. Rchb. icon. bot. eur. 6. p. 22. t. 530. N. lobàta, Rudolph. ex Steud. nom. p. 552. Lophánthus multífidus, Benth. in bot. reg. vol. 15. under no. 1282. Saussùrea pinnatífida, Mœnch. meth. p. 388. Lavándula foliis ovatis, &c., Gmel. sib. 3. p. 242. t. 55. Stems many, simple. Leaves sometimes all cut into 5-7 segments, sometimes deeply pinnatifid, or nearly entire. Corolla blue, incurved. Mouth of calyx hardly oblique.

Lavender-like Cat-mint. Fl. July, Aug. Clt. 1796. Pl. 1 2 feet.

Sect. II. Pychnone'peta (from πυχνος, *pychnos*, dense; and *Népeta;* so called in allusion to the dense spikes of the species.) Benth. lab. p. 469. Whorls crowded: upper ones, or all, collected into terminal spikes; cymes all sessile. Outer bracteas alone imbricate, equalling the calyxes. Calyx tubular, straight or incurved, with an equal or oblique mouth.

4 N. linea'ris (Royle, ex Benth. in Hook. misc. 3. p. 377.) stems ascending, nearly glabrous; leaves sessile, linear, acutish, quite entire, narrowed at the base, green and glabrous on both surfaces; spikes ovate, few-flowered; bracteas lanceolate-subu-

late; calyx elongated, with lanceolate teeth, which are shorter than the tube. ♃. H. Native of the Himalaya. Stems procumbent at the base. Leaves 1-2 inches long. Spike short, rather interrupted. Teeth of calyx villous. Corolla blue? with a slender exserted tube.

Linear-leaved Cat-mint. Pl. humble.

5 N. CONNA'TA (Royle, l. c.) stems erect, villous; leaves sessile, lanceolate, acute, quite entire, cordately stem-clasping at the base, rather connate, green on both surfaces, glabrous; spike oblong, dense, or rather interrupted at the base; bracteas lanceolate-subulate, ciliated, equalling the calyxes; calycine teeth subulate, longer than the tube. ♃. H. Native of the valley of Cashmere, Royle. Stems simple. Leaves 2-3 inches long. Corolla incurved, exceeding the calycine teeth a little.

Connate-leaved Cat-mint. Pl. 1 to 2 feet. ?

6 N. NERVÒSA (Royle, l. c.) glabrous; stem humble, erect, branched; leaves on short petioles, lanceolate, acute, serrated, rounded at the base, green on both surfaces; spike oblong, dense; outer bracteas ovate, very acute, ciliated, longer than the calyxes; calycine teeth long-subulate, about equal in height to the tube. ♃.? H. Native of the valley of Cashmere, Royle. Herb branched at the base. Leaves 1-2 inches long. Mouth of calyx almost equal. Corolla incurved, twice as long as the calyx.

Nerved-leaved Cat-mint. Pl. ½ to 1 foot.

7 N. ERIO'STACHYS (Benth. lab. p. 734.) stem erect, nearly simple, pubescent; leaves almost sessile, ovate, obtuse, crenated, roundly subcordate at the base, green above, and glabrous, hoary beneath; spike oblong, dense; bracteas oblong-linear and subulate, equalling the calyxes; calycine teeth subulate, rather longer than the tube, and are, as well as the bracteas, villous. ♃.? H. Native of Cashmere, in the valleys of Baspa and Paber, in elevated grassy places on the margins of woods, &c., Jacquemont. Allied to *N. connàta* and *N. nervòsa*, but the leaves are very distinct. Leaves 1 to 1½ inch long. Bracteas entire.

Woolly-spiked Cat-mint. Pl. 1 to 2 feet.

8 N. CAMPE'STRIS (Benth. lab. p. 734.) pubescent, or nearly glabrous; stems ascending, almost simple; leaves almost sessile, lanceolate, acute, serrated, rounded at the base, green on both surfaces; spike elongated, somewhat interrupted at the base; outer bracteas lanceolate, very acute, ciliated, about equal in length to the calyxes; calycine teeth subulate, about equal in length to the tube. ♃. H. Native of Cashmere, in fields, frequent, Jacquemont. Allied in the form of the leaves to *N. nervòsa;* and in the flowers to *N. spicàta.* Spikes and bracteas altogether that of *N. spicàta.*

Field Cat-mint. Pl. 1 to 2 feet. ?

9 N. ELA'TA (Royle, ex Benth. in Hook. bot. misc. 3. p. 378. lab. p. 469.) stem erect, glabrous; leaves petiolate, oblong-ovate, or ovate-lanceolate, crenated, broadly cordate at the base, green and glabrous on both surfaces; spikes oblong-cylindrical, rather interrupted; bracteas lanceolate-subulate, rather shorter than the calyxes; calyx glabrous, with subulate teeth, which are about equal in length to the tube. ♃. H. Native of the Himalaya, at Simlah, and in the valley of Cashmere. Stem a little branched. Leaves 2-3 inches long. Corolla incurved, twice as long as the calyx, with an exserted tube. Plant glabrous in every part except the calycine teeth, which are pubescent; and the petioles and floral leaves, which are somewhat ciliated.

Tall Cat-mint. Pl. 2 to 3 feet.

10 N. SPICA'TA (Benth. in Wall. pl. asiat. rar. 1. p. 64. lab. p. 470.) plant erect, nearly glabrous; leaves petiolate, ovate, obtuse, crenated, cordate at the base, green on both surfaces; racemes spike-formed, short, dense; bracteas oblong or lanceolate-linear, subulate, acuminated, equalling the calyxes; calycine teeth long-subulate, about equal in length to the tube. ♃. H. Native of Himalaya, in the provinces of Kamaon and Bhuddrinah, Wall.; Valley of Cashmere, Royle, and at Simlah, Lady Dalhousie. Betónica lævigàta, D. Don. prod. fl. nep. p. 110. Stem a little branched, with pubescent angles. Leaves 1 to 1½ inch long: floral leaves broad-ovate, sessile. Calyxes sessile, incurved, with a nearly equal mouth. Corolla incurved, twice as long as the calyx, red.? Bentham has specimens of this gathered in Cashmere by Jacquemont, having the stems and leaves sometimes hispid, and the leaves scarcely cordate at the base.

Spiked Cat-mint. Pl. ½ to 1 foot.

11 N. RAPHANORHI'ZA (Benth. lab. p. 734.) stem ascending, pubescent at the base, rather clammy; leaves petiolate, ovate, bluntish, serrately crenated, truncate at the base, rather hispid, green on both surfaces; spike short, dense, somewhat interrupted at the base; outer bracteas oblong, narrowed at both ends, almost equalling the calyxes; teeth of calyx subulate, hispid, unequal, shorter than the tube, which is nearly glabrous. H. Native of Cashmere, in grassy places, Jacquemont. Root thick, like that of *N. tuberòsa.* Leaves like those of *N. spicàta,* but smaller.

Raddish-rooted Cat-mint. Pl. ?

12 N. DI'SCOLOR (Royle, ex Benth. in Hook. bot. misc. 3. p. 378. lab. p. 470.) stem ascending, villous at the base; leaves petiolate, ovate, obtuse, crenated, sub-cordate at the base, green above and hoary beneath; spike oblong, dense, or somewhat interrupted at the base; bracteas oblong-linear, very acute, equalling the calyxes; calyx nearly glabrous, with subulate teeth, which are about equal in length to the tube. ♃. H. Native of the Himalaya, Syen, and Mussooree, Royle. Leaves like those of *N. Mussìni,* but smaller. Bracteas and calycine teeth ciliated.

Discoloured-leaved Cat-mint. Pl. ascending.

13 N. MÓLLIS (Benth. lab. p. 734.) stems ascending, villous: leaves on short petioles, ovate, obtuse, a little crenated, cordate at the base, clothed with soft villi on both surfaces, rather canescent beneath; superior leaves small, remote; spikes slender, rather interrupted; bracteas oblong-linear, very acute, equalling the calyxes; calyx finely pubescent, having the teeth much shorter than the tube. ♃. H. Native of the valley of Cashmere, Jacquemont. Allied to *N. díscolor.* Whorls distinct, scarcely 6-flowered. Corolla pale red, the lower lip dotted with purple, not blue, as in the other species of the present section.

Soft Cat-mint. Pl. ascending.

14 N. ELLI'PTICA (Royle, ex Benth. in Hook. bot. misc. 3. p. 378. lab. p. 470.) stem erect, rather villous; leaves sessile, ovate, elliptic, obtuse, toothed, cordate at the base, green on both surfaces, glabrous; spike interrupted at the base; floral leaves and bracteas ovate-lanceolate, very acute, ciliated, rather longer than the calyxes; calycine teeth subulate, about equal in length to the tube. ♃. H. Native of the Himalaya, from Cashmere to Syen, Royle. N. polystàchya, Benth. in Hook. bot. misc. 3. p. 378. Leaves elegantly and regularly toothed, an inch long. Calyx and corolla of *N. spicàta.*

Var. β, parviflòra (Benth. lab. p. 470.) flowers smaller. ♃. H. Native of Simlah, Lady Dalhousie.

Elliptic-leaved Cat-mint. Pl. 1 to 2 feet.

15 N. GRA'TA (Benth. lab. p. 735.) stem erect, branched, clothed with fine pubescence; leaves nearly sessile, ovate, obtuse, crenated, rounded at the base or sub-cordate, wrinkled, pubescent on both surfaces, or nearly glabrous above, rather canescent beneath; spikes ovate-oblong, thick, interrupted at the base; mouth of calyx very oblique, sub-bilabiate; corolla scarcely twice as long as the calyx. ♃. H. Native of Cash-

mere, in stony, grassy, and humid places, Jacquemont. Very like *N. supìna;* odour of *Sálvia officinàlis.*

Grateful-scented Cat-mint. Pl. 1 to 1½ foot.

16 N. multibractea'ta (Desf. fl. atl. 2. p. 11. t. 123.) erect, pubescent; leaves on short petioles, ovate-oblong, crenated, cordate at the base, green on both surfaces; racemes spike-formed, dense, simple, somewhat interrupted at the base; bracteas linear-subulate, coloured, equalling the calyxes; tube of corolla equalling the calycine teeth. ♃. H. Native of Mount Atlas, near Tlemsen. Stems almost simple. Lower leaves 1-2 inches long, striped, purplish; whorls dense, many-flowered: lower ones distant. Corollas purple, similar to those of *N. reticulàta.*

Many-bractead Cat-mint. Fl. July, Aug. Clt. 1817. Pl. 3 feet.

17 N. Vailla'nti (Benth. lab. p. 471.) plant erect, nearly glabrous; leaves petiolate, broad-ovate, obtuse, cordate at the base: superior leaves almost sessile, green on both surfaces; raceme simple, interruptedly spike-formed; whorls few-flowered; outer bracteas oblong, bluntish, adpressed, striated, coloured a little, and are, as well as the calyxes, pubescent; tube of corolla shortly exserted. ♃. H. Native of the Levant. Stems many from the same root. Leaves an inch long, broadly crenated, rather pubescent on the veins beneath. Corolla glabrous, incurved, twice as long as the calyx. Calycine teeth linear-lanceolate; upper ones narrower.

Vaillant's Cat-mint. Pl. 1 foot.

18 N. Apu'lea (Ucria, ex Guss. prod. fl. sic. 2. p. 80.) plant erect, nearly glabrous; leaves sessile, ovate-lanceolate, crenated, cordate at the base, green on both surfaces; racemes spike-formed, dense, simple; bracteas oblong-lanceolate, coloured a little, about equal in length to the calyxes; calycine teeth lanceolate, longer than the tube; tube of corolla much exserted. ♃. H. Native of Sicily, on calcareous hills; and of the North of Africa, at Tangiers. N. tuberòsa, Desf. fl. atl. 2. p. 10. but not of Lin. N. ròsea, Salzm. pl. tang. exs. ex Benth. lab. p. 471. Stems generally simple, glabrous, or downy. Leaves smaller. shorter, and less wrinkled than in *N. tuberòsa.* Calyx 5-toothed, nearly equal. Corolla pubescent, violaceous, middle lobe of lower lip crenulated.

Apulean Cat-mint. Pl. 1 foot.

19 N. tuberòsa (Lin. spec. p. 798.) stem erect, simple, rather woolly; lower leaves petiolate; superior ones sessile, ovate-lanceolate, crenated, dilated at the base, cordate, green on both surfaces, or rather woolly beneath, wrinkled; racemes spike-formed, dense, simple, elongated; bracteas broad-ovate, reticulated, coloured, equalling the calyxes; tube of corolla equalling the calycine teeth. ♃. H. Native of the South of Spain, Portugal; Atlas, near Tlemsen, Sicily. N. tuberòsa, Rchb. icon. bot. eur. 5. p. 23. t. 439. N. lanàta, Jacq. obs. bot. 3. p. 21. t. 75. N. reticulàta, Desf. fl. atl. 2. p. 11. t. 124. Rchb. icon. bot. eur. 5. p. 23. t. 440. N. violàcea, Brot. N. scàbra, Tausch, in bot. zeit. 1831. 1. p. 218. N. foliòsa, Mor. elench. sard. ex Linnæa, 5. p. 69.—Barrel. icon. t. 602.—Ger. emac. t. 685. f. 7. Root fasciculately tuberous. Stems beset with rather clammy loose wool. Leaves 2-3 inches long. Calyx a little incurved, with narrow-lanceolate teeth. Corollas blue, or pale purple; middle lobe of lower lip crenulated.

Tuberous-rooted Cat-mint. Fl. June, Aug. Clt. 1683. Pl. 1 to 2 feet.

20 N. Scordòtis (Lin. spec. p. 798.) plant ascending, tomentose; leaves petiolate, ovate-roundish, obtuse, cordate at the base, villously woolly on both surfaces, wrinkled; raceme simple, rather spike-formed; whorls distinct, densely many-flowered; bracteas ovate, acute, adpressed, and are, as well as the calyxes, villously woolly. ♃. H. Native of Candia. Viv. fl. libyc. t. 6. f. 2. N. tomentòsa, Sieb. pl. exsic.—Alp. exot. p. 284. t. 283. Leaves scarcely an inch long: floral leaves sessile. Teeth of calyx nearly equal. Corolla glabrous, white?; tube incurved, a little exserted.

Var. β, víridis (Benth. lab. p. 473.) base of plant almost glabrous, and the top very villous; leaves green on both surfaces. ♃. H. Native of Sicily. S. hirsùta, Lin. spec. 798. but not of others. N. Scordòtis, Lin. spec. 798. N. procúmbens, Mill. dict. no. 10.—Bocc. sic. p. 48. t. 25. f. 2. Corollas white.

Scordotis Cat-mint. Fl. June, Aug. Clt. 1817. Pl. 1 to 1½ foot.

21 N. circinna'ta (Willd. enum. p. 602.) stem simple, erect; spikes ovate, solitary; leaves ovate-cordate, crenated, petiolate; bracteas ovate, acute. ♃. H. Native of Cappadocia. Leaves 3 inches long.

Circinnate Cat-mint. Pl. 1 foot.?

22 N. supi'na (Stev. in mem. soc. nat. car. mosq. 3. p. 165.) stems decumbent; leaves oval, sub-cordate, sessile, villous; bracteas subulate, about equal in length to the calyxes; whorls almost sessile, approximate. ♃. H. Native of Eastern Caucasus, in stony places at the falls of Choodgal, Steven; on Alp Tafandagh, among fragments of schistous. N. físsa, Meyer, verz. pflanz. p. 93. Meyer, in his verz. pflanz. p. 93, gives the following description of the plant: plant villous; root creeping; stem erectish, a little branched; leaves nearly sessile, ovate or oblong, bluntish, crenately toothed; cymes nearly sessile, collected into a terminal head; calyxes membranaceous, exceeding the subulate bracteas, but shorter than the tube of the corolla; lobes acuminated, mucronate. Corollas blue.

Trailing Cat-mint. Pl. decumbent.

23 N. glutinòsa (Benth. lab. p. 735.) stem erect, branched, clothed with clammy pubescence; leaves sessile, ovate or lanceolate, deeply toothed, green on both surfaces, clammy, finely pubescent; raceme simple; whorls distant, or the upper ones are sub-spicate; bracteas linear, very acute: outer ones a little shorter than the calyxes; calyx elongated, striated, with short acute teeth; tube of corolla much exserted. ♃. H. Native of the Himalaya, between Poyé and Rici, Jacquemont. Leaves rather bullate above, ½ to ¾ inch long, the nerves very prominent beneath; inflorescence almost of *N. Itálica,* and *N. distans,* but the lower cymes are, for the most part, solitary. Calyx clothed with clammy pubescence. Corolla violaceous; tube incurved, twice as long as the calyx; lips short.

Clammy Cat-mint. Pl. 1 to 1½ foot.

Sect. III. Stegione'peta (from στεγω, *stego,* to cover, and *Nepèta.*) Benth. lab. p. 474. Cymes condensed into many-flowered whorls, often pedunculate: superior ones sub-spicate. Racemes simple, rarely remote. Bracteas about equal in length to the calyxes, or exceeding them. Calyx sometimes elongated, incurved, with an oblique mouth, and lanceolate or subulate teeth, the upper teeth the largest; sometimes almost straight, with nearly equal teeth. Corolla having the tube hardly or a little exserted, and the throat inflated.

24 N. Sibthórpi (Benth. lab. p. 474.) plant ascending or erect, branched at the base, tomentose or woolly; leaves petiolate, ovate, obtuse, crenated, cordate, wrinkled, clothed with soft hoary tomentum or wool; whorls dense, many-flowered: lower ones distant: the superior ones crowded into a terminal-oblong spike; bracteas ovate or oblong, subulately awned, equalling the calyxes; calyx ovate, with nearly equal awned teeth, which are equal in length to the tube; corolla hardly twice as long as the calyx. ♃. H. Native on mountains about Athens, and near Zara in Dalmatia. N. Itálica, Sibth. et Smith, fl. græc. 6. t. 548. but not of Lin. Stems decumbent at the base, and woody;

branches erect or ascending. Leaves ½ to 1 inch long: floral leaves sessile. Corollas purplish.

Sibthorp's Cat-mint. Pl. 1 to 2 feet.

25 N. Ita'lica (Lin. spec. p. 798.) erect, tall, clothed with fine hoary pubescence; leaves petiolate, ovate, crenated, cordate, canescent on both surfaces; racemes almost simple; bracteas linear or lanceolate, stiff, rather longer than the calyxes; calyx elongated, a little incurved, with a scarcely oblique mouth, and lanceolate, acute teeth, the superior teeth the largest; corolla hardly twice as long as the calyx. ♃. H. Native of Spain, Pavon; Mogodor, Brouss.; Italy, Lin. but is now wanting in Italian, Neapolitan, and Sicilian floras. Jacq. hort. vind. 2. p. 51. t. 112.; a variety with broader, shorter bracteas. Rchb. icon. bot. eur. 5. p. 50. t. 483. N. teucrioïdes, Lam. dict. 1. p. 711. N. marrubioides, Willd. enum. 2. p. 603. N. imbricàta, Lag. ex Spreng, syst. 2. p. 729. O. orientàlis, Mill. dict. no. 9. N. calamíntha, Tausch, in bot. zeit. 1831. 1. p. 219.? Catària canéscens, Mœnch. meth. p. 388. N. macrostàchya, Jan. pl. exsic. Leaves hardly an inch long. Whorls all distinct. Corollas reddish white; tube almost inclosed.

Italian Cat-mint. Fl. June, Aug. Clt. 1640. Pl. 1½ to 2 feet.

26 N. di'stans (Royle, ex Benth. in Hook. bot. misc. 3. p. 379. lab. p. 475.) erect, tall; stem villous; leaves petiolate, ovate-lanceolate, obtuse, crenated, deeply cordate at the base, wrinkled, villous beneath; whorls dense: lower ones remote: upper ones approximate; bracteas linear-lanceolate, about equal in length to the calyxes; calyx elongated, incurved, with an oblique mouth: the superior teeth lanceolate: lower ones subulate; all setaceously acuminated; corolla about twice as long as the calyx. ♃. H. Native of the Himalaya, at Mussooree, and Syen, Royle. Allied to *N. Itálica*, but differs in the simple depauperate raceme, in the lower leaves being more wrinkled, densely villous beneath, and in the calycine teeth being all setaceous at top. Superior leaves few, remote, and smaller.

Distant-whorled Cat-mint. Pl. 2 to 3 feet.

27 N. cilia'ris (Benth. in Wall. pl. rar. asiat. 1. p. 64. lab. p. 475.) erect, clothed, with hoary pubescence; leaves petiolate, broadly-ovate, obtuse, crenated, cordate at the base, clothed with hoary tomentum beneath or on both surfaces; racemes almost simple; bracteas ovate or broadly lanceolate: outer ones almost equal in length to the calyxes; calyx elongated, pubescent, incurved, with an oblique mouth, and lanceolate-subulate rather spreading teeth; corolla about twice as long as the calyx. ♃. H. Native of Nipaul, and towards Cashmere. Habit and inflorescence of *N. ruderàlis*, from which it differs in the branches and leaves being usually canescent, &c.

Ciliated Cat-mint. Pl. 1 to 2 feet.

28 N. rudera'lis (Hamilt. ex Benth. in Wall. pl. asiat. rar. 1. p. 64.) erectish, clothed with fine pubescence; leaves petiolate, ovate, obtuse, crenated, cordate at the base, pubescent on both surfaces, rather greenish; racemes nearly sessile, secund; cymes dense: lower ones pedunculate; bracteas subulate: outer ones equalling the calyxes; calyx ovate, pubescent, with an oblique mouth and subulate teeth, the superior teeth the longest; corolla a half longer than the calyx. ♃. H. Native of Nipaul, at the foot of the mountains, Hamilt; Hurdwar and Rajemahl, Wall; Hindostan, Heyne?; Saharumpur and Deyra Dhoon, Jacquemont. Glechòma erécta, Roxb. fl. ind. 3. p. 7. Thymus nepetoïdes, D. Don. prod. fl. nep. p. 113. Glechòma Hindostàna, Roth. nov. pl. spec. p. 258. Glechòma I'ndica, Spreng. syst. 2. p. 727. Leaves 1½ inch long. Corollas small, purplish.

Rubbish Cat-mint. Pl. 1 to 2 feet.

29 N. clinopodioïdes (Royle, ex Benth. in Hook. bot. misc. p. 379. lab. p. 476.) plant ascending, clothed with fine pubescence; leaves petiolate, ovate, obtuse, crenated, broadly subcordate at the base, green on both surfaces, and finely pubescent; racemes almost simple; whorls rather loose, many-flowered, subsecund; bracteas subulate, rather shorter than the calyxes; calyx tubular, pubescent, with an oblique mouth; the superior teeth lanceolate; and the lower teeth subulate; corolla scarcely exceeding the calyx. ♃. H. Native of the banks of the river Jumna, Royle. Allied to *N. ruderàlis*, but differs in the calyxes being smaller and slenderer, in the corollas being small, scarcely exceeding the calyxes.

Clinopodium-like Cat-mint. Pl. 1 to 2 feet.?

30 N. leucophy'lla (Benth. lab. p. 476.) plant ascending or erectish; branches clothed with hoary tomentum; leaves petiolate, ovate or roundish, crenated, truncate at the base or cordate, green above, wrinkled, clothed with white tomentum beneath; racemes nearly simple, secund; cymes nearly sessile, dense, many-flowered; bracteas subulate, rather shorter than the calyxes; calyx tubular, clothed, with hoary pubescence, with an oblique mouth and lanceolate-subulate teeth: the superior teeth the longest; corollas a half longer than the calyx. ♃. H. Native of Himalaya, at Mussooree, Royle; Simlah, Jacquemont. This differs from *N. ruderàlis* in the leaves being small, wrinkled, and white beneath.

White-leaved Cat-mint. Pl. 1 to 2 feet.

31 N. floccòsa (Benth. lab. p. 736.) erect, divaricately branched, clothed with white floccose wool; leaves petiolate, roundish, cordate at the base; racemes very loose, a little branched; cymes head-formed, few, many-flowered, on long peduncles; bracteas linear-subulate, equalling the calyxes. ♃. H. Native of the North of India, between Nako and Chango, Jacquemont. This species is distinguished from *N. ruderàlis* in the wool, form of leaves, and inflorescence. Corolla small, hardly exceeding the calyx.

Floccose Cat-mint. Pl. 1 to 2 feet.?

Sect. IV. Cata'ria (from *catus*, a cat; so called because cats are fond of *N. catària*.) Benth. lab. p. 476. Cymes usually condensed into many-flowered whorls: lower cymes pedunculate. Racemes simple or panicled. Bracteas shorter than the calyxes, usually very short. Calyx elongated, incurved, with an oblique, rarely erectish mouth, and lanceolate teeth, the superior teeth generally the largest. Tube of corolla a little exserted, with an inflated throat.

32 N. graciliflòra (Benth. in Wall. pl. rar. asiat. 1. p. 65. lab. p. 476.) ascending, glabrous, or finely pubescent; leaves petiolate, ovate or lanceolate, obtuse, crenated, cordate at the base, finely pubescent on both surfaces, rather canescent beneath; racemes branched; cymes very loose, dichotomous; peduncles and branches elongated, filiform; bracteas subulate, shorter than the calyxes; calyx ovate-tubular, with an oblique mouth and subulate teeth; corolla scarcely twice as long as the calyx. ♃. H. Native of the East Indies, in the province of Hurdwar, Wall; Deyra Dhoon, Royle. Stem branched at the base; branches very slender. Leaves on long petioles, scarcely an inch long. Corollas small, blue. This is intermediate between Sect. *Catària* and Sect. *Stegionépeta*.

Slender-flowered Cat-mint. Pl. 1 to 2 feet.

33 N. micra'ntha (Bunge, in Ledeb. fl. alt. 2. p. 401.) plant ascending, humble, pubescent, or glabrous; leaves petiolate, ovate, obtuse, crenated, rounded at the base, pale on both surfaces; racemes loose, branched; bracteas scarcely longer than the pedicels; calyx tubular, incurved, pubescent, with an oblique mouth; corolla scarcely exceeding the calyx. ⊙. H. Native of Siberia in Altaia; on the mountains of Arkaul and Dolenkara. Ledeb. fl. ross. alt. ill. t. 412. Corollas blue.

Small-flowered Cat-mint. Pl. 1 foot.

34 N. Cata'ria (Lin. spec. p. 796.) plant erect, tall, clothed

with hoary pubescence; leaves petiolate, ovate, acute, deeply crenated, cordate at the base, green above, but clothed with hoary tomentum beneath; racemes a little branched; whorls dense, many-flowered; bracteas scarcely longer than the pedicels; calyx ovate, pubescent, a little incurved, with an oblique mouth and lanceolate-subulate rather spreading teeth; corolla one half longer than the calyx. ♃. H. Native almost throughout the whole of Europe, and Middle Asia, on walls, in hedges, and in waste places; plentiful in Britain. Smith, engl. bot. t. 137. Fl. dan. t. 580. Catària vulgàris, Mœnch. meth. p. 387. N. vulgàris, Lam. fl. fr. 2. p. 398. N. citriodòra, Becker, fl. francof. p. 218. N. mìnor, Mill. dict. no. 2. N. Americàna, Mœnch. ex Steud. nom. bot. p. 552. ?—Sabb. hort. rom. 3. t. 80.—Lob. icon. 511. f. 1. Pubescent or tomentosely canescent. Leaves 1½ inch long. Lower cymes on short peduncles. Corollas white, with a tinge of red, spotted with purple. The whole plant has a strong scent between mint and pennyroyal. It is called cat-mint, because cats are very fond of it, especially when it is withered, when they will roll themselves on it, tear it to pieces, and chew it with great pleasure. Ray observes, that plants, which he transplanted from the field into his garden, were always destroyed by cats, unless he protected them with thorns till they had taken root and came into flower, but that they never meddled with plants raised from seed; hence the old saying: "if you set it the cats will eat it; if you sow it the cats don't know it." Mr. Miller has confirmed this by his own experience, having frequently set a plant from another part of the garden within two feet of others which came up from seed, when the former was torn in pieces and destroyed by the cats, whilst the latter remained untouched. The true reason of this difference is assigned by Ray; that cats are fond of it in a withering state, or when the peculiar scent of the plant is excited by being handled or bruised in gathering or transplanting.

An infusion of Cat-mint is deemed a specific in chlorotic cases. Two ounces of the expressed juice may be given for a dose. Sheep are said to eat it; but all other domestic animals are said to refuse it.

Var. β, *cándida* (Benth. lab. p. 477.) leaves deeply crenated, pale above and white beneath. ♃. H.

Cat-mint, Common. Fl. July, Sept. Britain. Pl. 2 to 4 feet.

35 N. NEPETE'LLA (Lin. spec. p. 797.? Benth. lab. p. 477.) plant erect, pubescent, or clothed with hoary tomentum; leaves on short petioles, lanceolate, crenated, rounded or cordate at the base, clothed with hoary pubescence or tomentum on both surfaces; racemes many-flowered, nearly simple; bracteas scarcely longer than the pedicels; calyx tubular, incurved, with an oblique mouth; corolla twice as long as the calyx. ♃. H. Native of the South of Europe, especially on the mountains; as of Spain, Provence, Switzerland; Italy, from Piedmont and Liguria to Naples. This is a very variable plant, especially in gardens. Corollas usually twice the size of those of *N. Catària*, white, purplish, or blue.

Var. α, *màjor* (Benth. lab. p. 477.) raceme elongated, many-flowered; flowers white or purplish. ♃. H. Native of shady places. N. Nepetélla, All. ped. 1. p. 37. t. 2. f. 1. bad. Rchb. icon. bot. eur. 3. p. 35. t. 261. Catària Nepetélla, Mœnch. meth. p. 388. N. amethýstina, Desf. ex Poir. suppl. 3. p. 206. N. paniculàta, Mill. dict. no. 4. Stems 3-4 feet high. Whorls as in *N. Catària*, large and dense, many-flowered, disposed in a long raceme.

Var. β, *hùmilis* (Benth. lab. p. 478.) racemes short, dense; flowers white or purplish. ♃. H. Native in dry exposed places. N. lanceolàta, Lam. dict. 1. p. 710. Rchb. icon. bot. eur. 6. p. 20. t. 536. N. angustifòlia, Vahl, symb. 1. p. 41. N. gravèolens, Vill. dauph. 2. p. 366. N. Arragonénsis, Lam. dict. 1. p. 703. Plant humble. Racemes 2-3 inches long.

Var. γ, *incàna* (Benth. lab. p. 478.) leaves clothed with hoary tomentum, and more wrinkled. ♃. H. N. incàna, Ait. hort. kew. 2. p. 285.

Small-Nepeta Cat-mint. Fl. July, Sept. Clt. 1728. Pl. 1 to 4 feet.

36 N. CYA'NEA (Stev. in mem. soc. nat. cur. mosq. 3. p. 265. Benth. lab. p. 478.) ascending, humble, paniculately branched; branches clothed with hoary tomentum; leaves petiolate, small, ovate or oblong, crenated, wrinkled, clothed with hoary tomentum on both surfaces; racemes numerous, short, secund; bracteas very short; calyx tubular, incurved, clothed with hoary tomentum; corolla scarcely longer than the calyx: tube inclosed. ♃. H. Native of Eastern Caucasus, in gravelly places at the Falls of Chodgal, Steven; at the Falls of the Terek, and in stony places near Nartzana, C. A. Meyer. N. incàna, Bieb. fl. cauc. 2. p. 40. 3. p. 392. Rchb. icon. bot. eur. 4. t. 305. and numerous other authors, but not of Aiton. N. acinifòlia, Spreng. pug. 1. p. 41. syst. 2. p. 727. N. mollíssima, Tausch, in bot. zeit. 1831. 1. p. 219.? Stems trichotomously panicled, as in *N. Ucràn ica*, but the branches are terminated by short unilateral racemules, not corymbs. Corollas small, blue or white.

Blue-flowered Cat-mint. Pl. 1 foot.?

37 N. MEYE'RI (Benth. lab. p. 478.) plant humble, ascending; branches finely pubescent; leaves petiolate, ovate, obtuse, crenated, cordate at the base, greenish on both surfaces, pubescent beneath; racemes nearly simple, many-flowered; bracteas much shorter than the calyxes; calyx elongated, incurved, pubescent, with an oblique mouth; corollas scarcely half as long again as the calyx, with an inclosed tube. ♃. H. Native of Caucasus, in dry, stony places on the Talusch mountains near Swant. N. micrántha, Meyer, verz. pflanz. p. 91. but not of Bung. An intermediate plant between *N. Mussìni* and *N. Catària*. Cauline leaves an inch long; upper floral leaves minute. Corollas like those of *N. Catària*.

Meyer's Cat-mint. Pl. ½ to 1 foot.

38 N. AGRE'STIS (Lois. nouv. not. 25.? Benth. lab. p. 479.) erect, almost glabrous; leaves petiolate, ovate-lanceolate, deeply toothed, subcordate at the base, nervosely wrinkled, green on both surfaces; racemes elongated, nearly simple; bracteas scarcely longer than the pedicels; calyx elongated, incurved, villous, with an oblique mouth; corolla scarcely twice as long as the calyx, having the tube shortly exserted, ♃. M. Native of Corsica and Spain, on Mount Urchillo, near Orcelia. Stem a little branched, clammy. Leaves ½ to 1 inch long, rather clammy. Calyx clammy, villous. Corollas white, a little larger than those of *N. Catària*.

Field Cat-mint. Pl. 2 feet.

39 N. AZU'REA (R. Br. in append. to Salt. abyss. Benth. lab. p. 479.) plant erect; leaves sessile, ovate or ovate-oblong, crenated, subcordate at the base, wrinkled, canescent beneath; racemes simple; cymes nearly sessile; whorls dense, the upper ones subspicate; bracteas minute; calyx subovate, incurved, pubescent, with an oblique mouth; corolla twice as long as the calyx. ♃. H. Native of Abyssinia, Salt. Stems finely tomentose. Leaves green above. Corolla blue, with the tube a little exserted, and attenuated at the base.

Azure-flowered Cat-mint. Pl. 1 to 2 feet.

40 N. RACEMÒSA (Lin. spec. 1. p. 711.) plant erect, pubescent; leaves petiolate, ovate, obtuse, crenated, cordate at the base, green and wrinkled above, and canescent beneath; racemes loose, nearly simple; cymes almost sessile, or the lower ones are pedunculate, few-flowered; bracteas much shorter than the calyxes; calyx elongated, incurved, clothed with soft wool, with

an oblique mouth; corolla twice as long as the calyx, with a shortly exserted tube. ♃. H. Native of the Levant, Tournefort. Rchb. icon. bot. eur. 6. p. 19. t. 585. This species differs from *N. Mussìni* in the erect stem.

Racemose-flowered Cat-mint. Pl.

41 N. Mussi'ni (Henkel, adumb. pl. p. 15. Benth. lab. p. 480.) diffuse; branches ascending, clothed with hoary pubescence; leaves petiolate, ovate, obtuse, crenated, cordate at the base, green and wrinkled above, and canescent beneath; racemes loose, simple, secund; cymes nearly sessile, few-flowered; bracteas much shorter than the calyxes; calyx elongated, incurved, clothed with soft wool, with an oblique mouth; corolla twice as long as the calyx, with a shortly exserted tube. ♃. H. Native of Caucasus and Iberia, on stony hills. Rchb. icon. bot. eur. 6. p. 20. t. 587. N. longiflòra, Sims, bot. mag. t. 923.? bad, but not of Vent. N. salviæfòlia, Pers. ench. 2. p. 115. N. cyanótricha, Tausch, in bot. zeit. 1831. 1. p. 218.? N. argéntea, N. diffùsa, N. incàna, N. lamiifòlia, N. teucrioìdes, N. violàcea, N. Willdenoviàna, &c. &c. Hort. Corollas pale blue, a little smaller than those of *N. coloràta*. The leaves in the cultivated specimens are very like those of *N. coloràta*, but those of the wild specimens are much smaller, more wrinkled, and more woolly beneath.

Mussin's Cat-mint. Fl. May, Aug. Clt. 1804. Pl. diffuse, 2 feet.

42 N. grandiflòra (Bieb fl. cauc. 2. p. 42.) erect, almost glabrous; leaves on short petioles, ovate, obtuse, crenated, cordate at the base, green above, and pale and canescent beneath; racemes a little branched at the base; cymes pedunculate, many-flowered; bracteas much shorter than the calyxes; calyx elongated, incurved, nearly glabrous, with an oblique mouth; corolla twice as long as the calyx, with a shortly exserted tube. ♃. H. Native throughout Caucasus, in grassy mountain woods; island of Melos. Rchb. icon. bot. eur. 3. p. 68. t. 279. N. melissæfòlia, Pers. ench. 2. p. 115. and many other authors, but not of Lam. N. lamiifòlia, Hoffm. hort. mosc. ex Bieb. N. coloràta, Willd. enum. 2. p. 602. N. argéntea, N. grándis, N. incàna, N. teucrioìdes, N. violàcea, &c. Hortul. Stems many feet high, branched, glabrous or pubescent towards the tops. Corollas blue, 7 lines long, incurved. This with *N. Mussìni* have produced various hybrids in the gardens.

Great-flowered Cat-mint. Fl. June, Aug. Clt. 1806. Pl. 4 to 6 feet.

43 N. betonicæfòlia (Meyer, verz. pflanz. p. 92.) erect, almost simple, villously tomentose; lower leaves petiolate: superior ones sessile, ovate-lanceolate, crenated, cordate at the base, green on both surfaces, and clothed with soft pubescence; racemes short, simple; whorls all dense; bracteas much shorter than the calyxes; calyx elongated, villous, with a scarcely oblique dilated mouth; corolla twice as long as the calyx, with an exserted tube, which is attenuated at the base. ♃. H. Native of Caucasus, on the Talusch mountains. This differs from *N. grandiflòra*, in the superior part of the stem, leaves, calyxes, and corollas being clothed with soft tomentum; and in the racemes being short and spike-formed.

Betony-leaved Cat-mint. Pl. 2 to 4 feet.?

44. N. salviæfòlia (Royle, ex Benth. in Hook. bot. misc. 3. p. 379.) erect, clothed with hoary tomentum; leaves petiolate, ovate, or ovate-lanceolate, obtuse, crenated, wrinkled at the base, clothed with soft tomentum on both surfaces, canescent above and white beneath; racemes loose, almost simple; cymes pedunculate, elongated, many-flowered; bracteas very short; calyx oblong, erect, pubescent, with an oblique mouth; corolla more than twice as long as the calyx. ♃. H. Native of the Valley of Cashmere, Royle; on the mountains of Pyr-Pundjal and Hlamabad, Jacquemont. Leaves hardly an inch long. Corolla slender, 6-7 lines long.

Sage-leaved Cat-mint. Pl.

45 N. melissæfòlia (Lam. dict. 1. p. 711. but not of Bieb.) plant erect, pubescent; leaves petiolate, ovate, obtuse, crenated, cordate at the base, green on both surfaces, villous: the superior ones sessile, acute; racemes loose, nearly simple; bracteas shorter than the calyxes; calyx elongated, incurved, pubescent, with an oblique mouth; corolla scarcely twice as long as the calyx. ♃. H. Native of the Grecian Archipelago, on arid hills; as of Candia and Melos, &c. Desf. in ann. mus. 10. p. 301. t. 23. Allied to *N. grandiflòra*. Hairs on stem rather glandular. Leaves scarcely an inch long. Calyx coloured a little. Corollas blue or purple, a little smaller than those of *N. grandiflòra*. Perhaps this species is referrible to Sect. *Macronépeta*. Branches of root fusiform.

Balm-leaved Cat-mint. Fl, July, Aug. Clt. 1752. Pl. 1 to 2 feet.

Sect. V. Macrone'peta (from μακρος, *macros*, long, and Nepeta; in allusion to the long corollas.) Benth. lab. p. 482. Cymes pedunculate, few-flowered. Racemes terminal, very loose, a little branched. Superior floral leaves or all bractea-formed. Calyx elongated, with an oblique mouth and lanceolate or ovate teeth; the superior teeth rather the broadest. Corolla much exserted, with a slender exserted tube, and an inflated throat.

46 N. macra'ntha (Fisch. hort. gorenk. Benth. lab. p. 482.) erect, branched, nearly glabrous; leaves on short petioles, ovate-lanceolate, serrately crenated, truncate, or subcordate at the base, green on both surfaces: racemes elongated, rather loose; bracteas minute; calyx incurved, with lanceolate teeth; corolla 3 times as long as the calyx, having the tube much exserted and attenuated at the base. ♃. H. Native of Siberia, among the Altaian mountains. Dracocéphalum Sibíricum, Lin. spec. 830. Pall. fl: ross. 3. t. 13. Sims. bot. mag. 2185. Moldávica elàta, Mœnch. meth. p. 410. Moldávica Sibírica, Mœnch. ex Steud. nom. bot. p. 285. Dracocéphalum, &c. Gmel. sib. 3. p. 234. t. 51. Root creeping. Leaves 2-3 inches long. Corolla showy, 1 to 1½ inch long, blue.

Long-flowered Cat-mint. Fl. June, Aug. Clt. 1760. Pl. 1 to 2 feet.

47 N. Govania'na (Benth. lab. p. 482.) plant erect, branched, clothed with fine pubescence; leaves on short petioles, ample, oblong-elliptic, crenated, rounded at the base; racemes elongated, loose, a little branched, bracteas minute; calyx a little incurved, with lanceolate teeth; corolla 4 times as long as the calyx, with a very slender much exserted tube. ♃. H. Native of the Himalaya; as in Cashmere, Kidarkonta, and Kanaour, Royle; Sirmore and Kamaon, Wall. Dracocéphalum Govaniànum, Wall. pl. rar. asiat. 2. p. 65. Allied to the preceding. Corollas yellowish.

Gonan's Cat-mint. Pl. 2 to 3 feet.?

48 N. ere'cta (Benth. lab. p. 482.) stem erect, pubescent; leaves petiolate, ovate-lanceolate, obtuse, crenated, wrinkled, cordate at the base, rather canescent beneath; racemes elongated, rather loose; bracteas minute; calyx rather incurved; corolla more than twice as long as the calyx, having the tube much exserted and attenuated at the base. ♃. H. Native of Kanaour, on the mountains, Royle. Dracocéphalum eréctum, Royle, ex Benth. in Hook. bot. misc. 3. p. 380. Allied to *N. macrántha*, but differs in the leaves being wrinkled and canescent beneath, and in the flowers being a little smaller. Perhaps both this and the preceding are varieties of *N. macrántha*. Corolla violaceous.

Erect Cat-mint. Pl. 2 to 3 feet.?

49 N. fi'ssa (Meyer, verz. pflanz. p. 93.) erectish, quite glabrous; leaves petiolate, ovate-roundish, broadly subcordate at the base, deeply crenated, green on both surfaces; racemes very loose, few-flowered, a little branched; calyx incurved, with oblong teeth; corolla 3 times longer than the calyx, with a very slender much exserted tube. ♃. H. Native of Caucasus, in stony places on the Talusch mountains. N. láxa, Benth. lab. p. 483. Stems decumbent at the base. Leaves scarcely an inch long. Corollas blue, 10-12 lines long.

Cleft Cat-mint. Pl. 2 to 3 feet.

50 N. longiflòra (Vent. hort. cels. t. 66.) plant, ascending, rather canescent; leaves on short petioles, superior ones sessile, all ovate, crenated, cordate at the base, wrinkled, pale on both surfaces; racemes elongated, few-flowered; bracteas scarcely equalling the pedicels; calyx a little incurved, with lanceolate teeth; corolla about 3 times as long as the calyx, with a very slender much exserted tube. ♃. H. Native of Persia, between Teheran and Ispahan, and of Caucasus. Stems decumbent at the base. Calyx blue, as well as the corolla. (fig. 77.)

Fig. 77.

Long-flowered Cat-mint. Fl. June, Aug. Clt. 1802. Pl. 1 to 2 feet.

51 N. brevifòlia (Meyer, verz. pflanz. p. 93.) decumbent, pubescent; leaves on long petioles, roundish, crenated, broadly cordate, clothed with hoary pubescence on both surfaces, or only beneath; racemes few-flowered, loose; bracteas shorter than the calyxes; calyx incurved, pubescent, with lanceolate teeth; corolla more than twice as long as the calyx, with a slender much exserted tube. ♃. H. Native of Eastern Caucasus, on the Alps of Tafandagh. N. longiflòra, Fisch. ex Hortul. Habit of *N. longiflòra*, but more humble. Calyx coloured at top. Corollas blue, 8-9 lines long, form of those of *N. longiflòra*.

Short-leaved Cat-mint. Pl. decumbent.

52 N. cri'spa (Willd. spec. 3. p. 50.) erect, ? pubescent; leaves petiolate, ovate, obtuse, deeply crenated, cordate at the base, clothed with hoary pubescence on both surfaces: racemes nearly simple; bracteas scarcely longer than the pedicels; calyx elongated, incurved, villous, with an oblique mouth; corolla twice as long as the calyx, with a shortly exserted slender tube. ♃. H. Native of the Levant. Allied to *N. Catària*, but differs in the smaller stature, in the leaves being hoary on both surfaces, and in the flowers being twice as long; and from *N. Mussìni* in the racemes being scarcely secund, in the calyxes being villous, not woolly, and in the cymes being almost sessile. Corollas blue. Very nearly allied to *N. brevifòlia*, but the racemes are more dense.

Curled-leaved Cat-mint. Fl. July, Aug. Clt. 1800. Pl. 2 feet.?

53 N. septemcrena'ta (Ehrenb. mss. ex Benth. lab. p. 484.) erect, clothed with rather clammy villi; lower leaves petiolate, superior ones sessile, all roundish, obtuse, crenated, cordate at the base, green on both surfaces; racemes elongated, few-flowered; bracteas scarcely longer than the pedicels; calyx a little incurved, with lanceolate teeth; corolla more than twice as long as the calyx, with a very slender much exserted tube. ♃. H. Native of Egypt, Ehrenberg; in the desert of Sinai, Bové. Leaves like those of ground-ivy, but thinner. Corolla 7-8 lines long, blue, slender.

Septemcrenate Cat-mint. Pl. 1 foot.

54 N. teucriifòlia (Willd. enum. p. 602.) ascending; leaves ovate, cordate, obtuse, petiolate, toothed, pubescent; cymes pedunculate, few-flowered; corolla with a very long filiform tube. ♃. H. Native of Armenia. Leaves on long petioles not serrated, but furnished with 4-6 deep teeth on each side, half an inch long. Racemes composed of dense few-flowered cymes. Corollas blue or purple.

Germander-leaved Cat-mint. Fl. July, Aug. Clt. 1816. Pl. ascending, $1\frac{1}{2}$ foot.

55 N. lamiifòlia (Willd. enum. p. 602.) ascending, pubescent; leaves ovate, cordate, obtuse, petiolate, serrated; cymes pedunculate, many-flowered; tube of corolla filiform, curved. ♃. H. Native of Armenia. Habit of *Làmium amplexicaúle*. Flowers verticillately capitate at the tops of the branches.

Dead-nettle-leaved Cat-mint. Fl. July, Aug. Clt. 1806. Pl. $\frac{1}{2}$ foot.

Sect. VI. Glechòma (from γληχων, *glechon*, the Greek name of a kind of thyme.) Benth. lab. p. 484. Glechòma, Lin. and other authors. Chamæclèma, Mœnch, meth. 387. Whorls axillary, few-flowered. Floral leaves conforming to the cauline leaves. Calyx tubular, a little incurved, with an oblique mouth and lanceolate-awned teeth, the superior teeth drawn out. Corolla exserted, having the tube dilated beyond the calyx.—Creeping herbs.

56 N. Glechòma (Benth. lab. p. 485.) procumbent, creeping; leaves petiolate, roundish, crenated, cordate at the base, green on both surfaces; bracteas hardly equalling the pedicels; calyxes villous; corollas 3 times as long as the calyx. ♃. H. Native throughout Europe and the North of Asia, in hedges, ditches, in woods and waste places; plentiful in Britain. Glechòma hederàcea, Lin. spec. p. 802. Hook. fl. lond. vol. 2. with a figure. Woodv. med. bot. t. 28. Fl. dan. t. 789. Mart. fl. rust. t. 61. Smith, engl. bot. t. 853. Calamíntha hederàcea, Scop. carn. no. 730. Chamœclèma hederàcea, Mœnch. meth. p. 393. Chamœclèma vulgàre, Vaill. bot. par. t. 6. f. 4-5-6. Glechòma micrántha, Bonningh. ex Rchb. fl. germ. exc. p. 316. Stems more or less villous. Leaves about an inch long: superior ones smaller, but similar. Corollas blue, 6-7 lines long, varying to white. The leaves of ground ivy were formerly thrown into the vat with ale to clarify it and to give it a flavour. This was called gill-ale, ground ivy being named gill or gell, and creep by ground, in some places. From this use of the plant and the form of its leaves, it has also the names *ale-hoof* and *tun-hoof*, but it has gradually grown into disuse since the introduction of hops. The expressed juice, mixed with a little wine, and applied morning and evening, destroys the white specks upon horses' eyes. Ground ivy has a peculiar strong smell and a bitterish taste, somewhat aromatic. It was formerly in considerable credit for pectoral, detergent, aperient, diuretic, corroborant, and other qualities, and was recommended particularly in pulmonary and nephritic complaints. In obstinate coughs it is still a favourite remedy with the common people. It acts also as an errhine, and is consequently useful in headache. It is usually taken in the form of an infusion or tea; the expressed juice is also used with honey in coughs; a conserve or syrup is also made with it. A plant so common and so much esteemed by the multitude has, of course, many local names besides those mentioned.

Var. β, hirsùta, (Benth. lab. p. 485.) plant hairy in every part. ♃. H. Native of Germany and Hungary, in shady mountain places. Glechòma hirsùta, Waldst. et Kit. pl. rar. hung. 2. p. 124. t. 119. Glechòma mágna, Merat, fl. par. p. 225.

Var. γ, parviflòra (Benth. lab. p. 485.) all parts of the plant smaller and more glabrous than the species. ♃. H. Glechòma heterophýlla, Opiz, ex Rchb. fl. germ. exc. p. 316. Glechòma intermèdia, Schrader.

Ground Ivy, Common. Fl. April, June. Britain. Pl. creeping.

57 N. nivàlis (Benth. lab. p. 737.) root creeping; stems humble; leaves sessile, roundish, wrinkled, green on both surfaces; bracteas scarcely equalling the pedicels; corollas resupinate, with a twisted tube; superior stamens exserted. ♃. H. Native of the north-east of India, on high, gravelly mountains about Yurpo, Jacquemont. Glechòma nivàlis, Jacquem. mss. Habit, inflorescence, and scent, almost the same as that of *N. Glechòma*. Stems branched at the base; floriferous ones erectish, simple, pubescent. Superior cauline leaves and floral ones approximate, ½ to 1 inch long, hardly pubescent, cordately stem-clasping. Corollas pale blue.

Snowy Ground-ivy. Pl. ½ foot.

58 N. Thibe'tica (Benth. lab. p. 737.) stems diffuse, humble, much branched; leaves roundish, on short petioles, truncately cuneated at the base, rather coriaceous, pubescently woolly; bracteas longer than the pedicels; corollas straight, with a dilated throat; genitals shorter than the corolla. ♃. H. Native of the north-eastern parts of India, near Koo-Khio-ghang, and Lari, Jacquemont. Glechòma Thibética, Jacquem. mss. Very nearly allied to *N. nivàlis*, but differs in the corollas being larger, and in the calyxes and bracteas being clothed with soft villi.

Thibet Ground-ivy. Pl. diffuse.

59 N. longibractea'ta (Benth. lab. p. 737.) stems diffuse, humble, much branched; leaves petiolate, ovate-roundish, truncately cuneated at the base, clothed with soft villi; whorls dense, crowded at the tops of the branches; bracteas linear, equalling the corollas; calyx tubular, having the teeth equal in length to the tube; corolla straight, having the throat a little dilated; genitals inclosed. ♃. H. Native of the north-east of India, in stony places, near Kang-rang-ghan, Jacquemont. This is an intermediate plant between Sect. *Glechòma* of *Népeta*, and the genus *Marmorìtis*. Habit more loose than in *N. nivàlis* and *N. Thibética*. Corollas azure blue, pubescent outside.

Long-bractead Ground Ivy. Pl. diffuse.

Sect. VII. Orthone'peta (from *ορθος, orthos*, straight, and Népeta; in reference to the straight calyxes of the species.) Benth. lab. p. 485. Cymes of flowers dense, on short peduncles. Whorls distant, racemose. Racemes simple, but usually paniculately branched. Calyx ovate-tubular, erectish, with nearly equal, subulate, stiff, but not pungent, teeth. Corollas exserted. Tall herbs, with nearly sessile leaves.

60 N. latifòlia (D.C. fl. fr. 3. p. 528,) erect, tall, pubescent; leaves sessile, ovate, obtuse, crenated, rather cordate at the base, green on both surfaces; racemes elongated, many-flowered; bracteas lanceolate-subulate, shorter than the calyxes; calyx pubescent; corolla twice as long as the calyx. ♃. H. Native of Spain, the Eastern Pyrenees, and the Canary Islands. N. grandiflòra, Lapeyr, abr. p. 329. N. cærùlea, Ait. hort. kew. 2. p. 285. Allied to *N. nùda*. Plant pubescent, often clammy. Leaves twice the size and more wrinkled than those of *N. nùda*. Cymes dichotomous. Corollas blue, pubescent outside.

Broad-leaved Cat-mint. Fl. June, Aug. Clt. 1777. Pl. 2 to 4 feet.

61 N. nu'da (Lin. spec. p. 797.) erect tall, nearly glabrous; leaves sessile or scarcely petiolate, oblong, crenated, subcordate at the base, green on both surfaces; racemes panicled, many-flowered; bracteas scarcely longer than the pedicels; calyx pubescent; corolla half again as long as the calyx, or twice as long. ♃. H. Native of the South of Europe and Siberia, in woods; as of Spain, Provence, Piedmont, Naples, Mount Parnassus, South of Germany, Austria, Hungary, Podolia, Tauria, Caucasus, Altaian mountains, &c. Plant glabrous or pubescent. Leaves 1½ to 2 inches long, usually glabrous, but sometimes downy beneath. Corolla white or blueish, 4-6 lines long.

Var. α, grandiflòra (Benth. lab. p. 486.) corollas usually purplish or blueish. ♃. H. N. Pannónica, Jacq. fl. austr. 2. p. 18. t. 129. and other authors, and probably of Lin. spec. p. 797.? N. paniculàta, Crantz. stirp. p. 270. N. violàcea, Vill. fl. dauph. 2. p. 367. and many other authors, and probably of Lin. spec. 797.? Catària nùda, Mœnch, meth. p. 388. Catària violàcea, Mœnch, ex Steud. nom. p. 553.—Bocc. mus. 2. t. 636.

Var. β, parviflòra (Benth. lab. p. 486.) corollas usually white. ♃. H. N. Pannónica, Lin. spec. 797.? N. nùda, Jacq. austr. 1. p. 17. t. 24. N. Ucrànica, Bieb. fl. cauc. 2. p. 41. and of many other authors, but not of Lin. N. álba, Desf. ex Steud. nom. p. 552. Catària paniculàta, Mœnch, meth. ex Steud. nom. p. 553.

Naked Cat-mint. Fl. July, Oct. Clt. 1683. Pl. 2 to 4 feet.

Sect. VIII. Oxyne'peta (from *οξυς, oxys*, sharp, and Népeta; in reference to the pungent teeth of the calyx.) Benth. lab. p. 486. Flowers distinct, or collected at the tops of the branches, corymbosely panicled. Calyx tubular, erectish, with nearly equal, subulate, rather pungent teeth. Teeth of corolla equalling the calycine teeth, or scarcely exceeding them.—Humble herbs. Leaves usually petiolate. The plants contained in this section are very distinct in habit from the species of the other sections.

62 N. parviflòra (Bieb. fl. cauc. 2. p. 41.) plant erectish, panicled, villous; leaves petiolate, ovate or ovate-lanceolate, obtuse, serrately crenated, rounded at the base or cordate, green on both surfaces; cymes loose, trichotomously panicled; bracteas linear, equalling the calyxes; calyx pubescent, having the teeth exceeding the corolla. ♃. H. Native of Tauria and Caucasus; also of Iberia, on dry hills and fields, Bieb.; near Cherson, Besser. Odessa, Lang and Szovits. Lower leaves 1 to 1½ inch long, pubescent or nearly glabrous above, and villous beneath. Flowers 3-5 at the tops of the branches of the panicle. Corollas minute, blue, ? pubescent outside.

Small-flowered Cat-mint. Fl. June, Aug. Clt. 1820. Pl. 1 foot.

63 N. Ucra'nica (Lin. spec. p. 797. ex Benth. lab. p. 487. but not of other authors.) erect, panicled, nearly glabrous; cauline leaves nearly sessile, oblong-lanceolate, obtuse, a little toothed, roundly cuneated at the base, green on both surfaces; cymes loose, trichotomously panicled; bracteas linear; calyx elongated and hispid: teeth of calyx about equal in length to the corolla. ♃. H. Native of Siberia, about Orenburgh, Prescot; Kirghisean Steppe, Ledebour. Teùcrium Sibíricum, Lin. spec. p. 788. N. Sibírica, Bieb. fl. taur. 2. p. 41. in obs. Habit of *N. parviflòra*, but the leaves and stems are glabrous, or rather canescent from very fine tomentum. Corollas blue.

Ukraine Cat-mint. Fl. July, Aug. Clt. 1798. Pl. 1 to 2 feet.

64 N. heliotropifòlia (Lam. dict. 1. p. 711.) erect, panicled, canescent; leaves on very short petioles, oblong, almost quite entire, narrowed at the base, canescent on both surfaces; cymes loose, trichotomously panicled; bracteas linear; calyx elongated, hispid: the teeth about equal in length to the corolla. ♃. H. Native of the Levant, Lam.; Syria, near Aleppo, Russell. Saturèia stricta, Russ. nat. hist. alep. Very like *N. Ucrànica;* but differs in the nearly entire leaves, which are narrowed at the base; and in the whole plant being canescent from pubescence.

Turnsol-leaved Cat-mint. Pl. 1 to 2 feet.

65 N. pu'ngens (Benth. lab. p. 487.) erect, nearly glabrous; leaves petiolate, ovate, acute, narrowed at the base, rather fleshy, somewhat canescent on both surfaces; racemes nearly simple; bracteas foliaceous, rather spiny, longer than the calyxes; calyx elongated, with linear, stiff teeth; corolla scarcely exceeding the calyx. ♃. H. Native of Syria, between Bagdad and Kermancha, Olivier, and Bruguiere. Whorls 30-flowered, and more.

Pungent-bractead Cat-mint. Pl. $\frac{1}{2}$ to 1 foot.

66 N. pusi'lla (Benth. lab. p. 488.) dwarf, erect, finely pubescent; leaves small, ovate, acutely serrated; upper floral leaves and bracteas lanceolate-linear, very acute, pungent; flowers cymosely capitate, subcorymbose; calyx tubular, pubescent; teeth of calyx very acute, exceeding the corolla. ♄. H. Native of Altaia, on Mount Arkaul. Zizíphora púngens, Bunge, in Ledeb. fl. alt. 1. p. 23. fl. ross. alt. ill. t. 124. Stems filiform, almost simple. Leaves 3-4 lines long. Corollas minute, slender.

Least Cat-mint. Pl. $\frac{1}{4}$ to $\frac{1}{2}$ foot.

† *Doubtful species.*

67 N. Japónica (Willd. spec. 3. p. 52.) stems decumbent, and naked at the base, tomentose at top; leaves petiolate, ovate, acute, serrated, tomentose on both surfaces, white beneath; panicles of flowers axillary, trifid, fastigiate. ♃. H. Native of Japan, on the tops of the mountains called Kosido. N. incàna, Thunb. jap. p. 244. Leaves $\frac{1}{2}$ an inch long.

Japan Cat-mint. Pl. decumbent.

68 N. macrou'ra (Led. ex Spreng. syst. 2. p. 729.) cymes many-flowered, spreading, panicled, almost leafless; calyx hoary, striated; leaves subcordately triangular, on long petioles, serrated, canescent: upper ones quite entire. ♃. H. Native of Siberia. Corollas whitish. The plant in the gardens under this name appears to be hardly distinct from the common form of *N. Catària*.

Long-tailed Cat-mint. Fl. July, Aug. Clt. 1820. Pl. 2 to 4 feet.

69 N. Nepale'nsis (Spreng. syst. 2. p. 730.) spikes compound, subsecund; calyxes hoary; leaves lanceolate, serrated in the middle, petiolate, a little reflexed, attenuated at both ends, and quite entire. ♃. H. Native of Nipaul.

Nepaul Cat-mint. Pl. ?

†† *Species only known by name.*

1 N. cane'scens (Ræusch. ex Steud. nom. p. 552.) Perhaps nothing but *Hýptis canéscens*.

2 N. Patavi'na (Fisch. ex Steud. l. c.) Perhaps *Melissa Patavìna*.

3 N. pauciflòra (Spreng. ex Steud. l. c.)

4 N. sidæfòlia (Ræusch. ex Steud. l. c.) Perhaps *Hýptis polyántha*.

5 N. suave'olens (Rœm. ex Steud. l. c.) Perhaps *Hýptis suavèolens*.

Cult. Some of the species are rather pretty when in blossom, and are therefore well fitted for flower borders; and others are coarse plants, without beauty. They all grow in common garden soil, but prefer one light and dry. They are increased by dividing at the root in spring or autumn, or by seeds.

LXIX. MARMORI'TIS (probably from *μαρμαρος, marmoros*, white, in allusion to the plant being clothed with white tomentum.) Benth. in Hook. bot. misc. 3. p. 377. lab. p. 480.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx 13-15-nerved, tubularly campanulate, deeply 5-toothed: teeth equal, acute. Corolla shorter than the calyx; upper lip erect, bifid, flat; lateral lobes of lower lip erect: middle lobe spreading, broad, crenulated. Stamens 4, ascending, didynamous: lower ones the shortest; anthers 2-celled: cells parallel. Style shortly bifid at apex; lobes nearly equal, subulate, stigmatiferous at apex. Achenia dry, smooth, naked.—A small Himalayan plant, very nearly allied to *Népeta*, of which, like the other genera of this tribe, it might be considered a section.

1 M. rotundifòlia (Royle, ex Benth. in Hook. bot. misc. 3. p. 377. lab. p. 490.) ♃. H. Native of Himalaya, on mountains in the province of Kanaour, Royle. Stem thick at the base, branched. Branches procumbent, nearly simple, clothed with tomentose villi, densely leafy at top. Leaves like those of *Làmium amplexicaúle*, reniform, all petiolate, wrinkled, crenated, clothed with white loose tomentum on both surfaces, but especially beneath. Whorls few-flowered, secund in the axils of the superior leaves, shorter than the petioles.

Round-leaved Marmoritis. Pl. procumbent.

Cult. For culture and propagation see *Népeta* above.

LXX. DRACOCE'PHALUM (from *δρακων, dracon*, a dragon; and *κεφαλη, kephale*, a head; in reference to the ringent corollas.) Lin. gen. no. 729. Schreb. gen. no. 984. Juss. gen. p. 116. Gærtn. fruct. t. 66. Benth. lab. p. 490. Moldávica et Zórnia, Mœnch, meth. p. 410. Ruyschiàna, Mill. dict. Dracocéphalum and Moldávica, Tourn. inst. t. 83. and t. 85.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 13-15-nerved, straight, rarely incurved, with a straight or equal 5-toothed mouth; upper tooth the broadest, usually large, the 3 upper teeth sometimes joined into an upper lip. Corolla with the tube slender at the base, inclosed, or more often exserted, with a very wide throat, and a bilabiate limb; upper lip erect, rather concave, emarginate: lower lip spreading, trifid, the middle lobe large, and rather bifid. Stamens 4, didynamous: lower ones the shortest, ascending. Anthers approximating by pairs, 2-celled; cells divaricate. Style about equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia dry, smooth, naked.—Perennial herbs. Whorls many-flowered, axillary, or approximate into a terminal spike. Bracteas usually foliaceous, aristately toothed. Corollas generally large, blue or purplish, rarely white or yellowish. This genus is readily distinguished by the broad toothed bracteas.

Sect. I. Keimodra'con (from *κειμαι, keimai*, to lie down; and *δρακων, drakon*; in reference to the procumbent stems of the species.) Benth. lab. p. 492. Stems procumbent, much branched. Leaves nearly orbicular, deeply crenated, or somewhat palmately pinnatifid. Flowers capitate, or disposed in oblong spikes. Anthers glabrous.

1 D. palma'tum (Steph. in Willd. spec. 3. p. 151.) stems procumbent, villous; leaves petiolate, ovate-roundish, palmately pinnatifid, green on both surfaces, villous; whorls capitately spicate; bracteas small, cuneated, setaceously toothed; upper tooth of calyx broad, truncate; corolla about 3 times longer than the calyx: superior lip elongated, incurved. ♃. H. Native of Eastern Siberia, near Ishinginsk. Stems suffruticose at the base. Floriferous branches ascending. Whorls 2-6-flowered, approximate. Corollas showy, purplish, nearly glabrous.

Palmate-leaved Dragon's-head. Fl. June, Aug. Clt. 1815. Pl. procumbent.

2 D. botryoïdes (Stev. in mem. soc. nat. cur. mosq. 3. p. 266.) stems procumbent, villous; leaves petiolate, ovate-roundish, palmately pinnatifid, greenish on both surfaces, villous; whorls capitate, or in oblong spikes; bracteas cuneated, cut, villous; upper tooth of calyx ovate, acute; corolla a half again as long as the calyx: the upper lip short and straight. 4. H. Native of Eastern Caucasus. Népeta pinnatífida, Fisch. cat. hort. gorenk. 1812. p. 22. ex Bieb. This differs from *D. palmàtum*, in the larger leaves, and in the whorls being 6-10-flowered, and more densely spicate, &c. Corollas purple, villous outside.

Botrys-like Dragon's-head. Fl. July, Aug. Clt. 1822. Pl. procumbent.

3 D. di'scolor (Bunge, mss. ex Benth. lab. p. 492.) stem procumbent, branched; leaves petiolate, ovate, deeply pinnatifid, green, and nearly glabrous above, and white beneath: margins of segments revolute; whorls oblong-spicate; outer bracteas cuneated, setaceously toothed; upper tooth of calyx broad, truncate, awned; corolla twice as long as the calyx. 4. H. Native of Altaia, among chalky or schistous mountains in saltish rugged places from the river Tscharysch, to the mouth of the rivers Kerlyk and Kan, Ledebour. D. origanoïdes, Led. fl. alt. 2. p. 383. but not of Steph. Stems prostrate, rooting; floriferous branches ascending, pubescent or canescent. Leaves 3-4 lines long. Spikes 1 to 1½ inch long. Corollas blue.

Two-coloured-leaved Dragon's-head. Pl. creeping.

4 D. pinna'tum (Lin. spec. 829.) stems procumbent, branched; leaves petiolate, ovate-roundish, somewhat palmately pinnatifid, green on both surfaces, rather villous; whorls disposed in capitate spikes; outer bracteas cuneated, deeply toothed; upper tooth of calyx ovate, awned; corolla one half longer than the calyx, about equal in length to the bracteas. 4. H. Native of Siberia, in stony, rugged, alpine places of Altaia, at the river Tschuja; on Mount Tarbagutai, in the Kirghisean Steppe; and on the island called Olchon, in Lake Baical, Bunge. Ledeb. fl. ross. alt. ill. t. 445. D. pinnatífidum, Lam. dict. 2. p. 319. —Gmel. sib. 3. p. 234. t. 52. Stems prostrate, much branched. Leaves 3-4 lines long. Spikes dense, 1½ inch long, ovate. Corollas small, blue. Bracteas bluish.

Pinnate-leaved Dragon's-head. Pl. prostrate.

5 D. origanoï'des (Steph. in Willd. spec. 3. p. 151.) stems procumbent; branches villous; leaves petiolate, ovate-roundish, deeply crenated, green on both surfaces, pubescent; whorls disposed in capitate spikes; bracteas large, broad-cuneated, deeply toothed; teeth of calyx all lanceolate, membranous: the upper tooth scarcely broader than the rest; corolla scarcely exceeding the calyx. 4. H. Native of the tops of the Altaian alps, at the river Tschuja, Bunge. Leaves broader and less cut than in *D. pinnàtum*: floral leaves large. Spikes globose, nearly 1½ inch in diameter. Corollas blue, about equal in length to the bracteas.

Marjoram-like Dragon's-head. Fl. July. Clt. 1829. Pl. procumbent.

Sect. II. Calodra'con (from καλος, *kalos*, pretty; and δρακων, *dracon*; in reference to the beauty of the flowers of the species.) Benth. lab. p. 494. Stems thick at the base; floriferous branches erect, few-leaved. Leaves nearly all radical, on long petioles, crenated. Whorls disposed in capitate or oblong spikes. Anthers glabrous.

6 D. imbe'rbe (Bunge, enum. pl. alt. crit. mss. ex Benth. lab. p. 494.) nearly glabrous; stem erect, humble; radical leaves on long petioles: cauline ones few, on short petioles, all reniform, deeply crenated, green on both surfaces; whorls disposed in capitate spikes; bracteas cuneated, cut, glabrous; upper teeth of calyx oblong; corolla twice as long as the calyx. 4. H. Native of Siberia, on the tops of the Altaian mountains, at the river Tschuja, Bunge. Stems tufted. Floriferous branches erect, glabrous, or finely pubescent. Floral leaves, bracteas, and calyxes coloured. Corollas blue, an inch long: lips nearly equal. Radical leaves an inch long.

Beardless Dragon's-head. Pl. ½ foot.

7 D. grandiflòrum (Lin. spec. 830.) stems erect, pilose above; radical leaves on long petioles, oblong, obtuse, crenated, cordate at the base; cauline leaves few, on short petioles, ovate, all green, and nearly glabrous; floral leaves orbicular, pilose: the upper ones bractea-formed; whorls disposed in oblong spikes; bracteas large, orbicularly cuneated, deeply toothed; superior teeth of calyx oblong; corolla ample, 3 times as long as the calyx. 4. H. Native of Siberia, frequent, particularly in the Altaian range. Sims, bot. mag. t. 1009. D. Altaiénse, Laxm. in nov. comm. petrop. 15. p. 556. t. 29. f. 5. Rchb. icon. pl. cult. 1. t. 90. Sweet, fl. gard. n. s. 1. t. 57. Radical leaves 1-2 inches long. Petioles of the cauline leaves short, dilated, subconnate, ciliated. Spikes 2-3 inches long. Bracteas a little coloured. Corollas showy blue, nearly 2 inches long.

Great-flowered Dragon's-head. Fl. July, Aug. Clt. 1759. Pl. ½ to ¾ foot.

8 D. speciòsum (Benth. in Wall. pl. rar. asiat. 2. p. 65.) stems erect, pubescent; radical leaves on long petioles, broadly heart-shaped: cauline ones few, on short petioles, all wrinkled and green on both surfaces, and pubescent beneath; floral leaves orbicular, somewhat bractea-formed; whorls disposed in oblong spikes; bracteas orbicular, deeply crenated, much shorter than the calyxes; upper tooth of calyx ovate; corolla about twice as long as the calyx. 4. H. Native of the Himalaya, and Nipaul. Leaves scarcely an inch long, and 2 inches broad. Whorls 2-4, dense, subsecund. Corolla very villous outside, purple.

Showy Dragon's-head. Pl. 1 to 1½ foot.

9 D. fra'gile (Turcz. mss. ex Benth. lab. p. 495.) stems decumbent, articulated, rather pilose; leaves petiolate, oblong, obtuse, obscurely crenated, rounded at the base, green on both surfaces, pilose or glabrous; floral leaves and bracteas sessile, elliptic, quite entire, mucronate, membranous, pilose; whorls disposed in oblong spikes, equalling the calyxes; upper tooth of calyx large, ovate; corolla about twice as long as the calyx. 4. H. Native of Dauria, at Lake Nossogal, Turczaninow. Branches articulated at the nodi. Bracteas ciliated on the veins and edges. Calyxes purplish. Corolla yellowish? incurved.

Brittle Dragon's-head. Pl. procumbent.

10 D. lamiifòlium (Desf. pl. cor. Tourn. in ann. mus. 10. p. 305. t. 26.) stems simple, tufted; leaves petiolate, ovate, obtuse, crenated, rather pilose, as well as the stems; flowers capitate at the tops of the stems; upper lip of corolla bifid, with toothed segments. 4. F. Native of Candia, in the fissures of rocks. Calyx dilated, with 5 deep, nearly equal, acute segments. Corollas large, rose-coloured, 1½ inch long; lower lip emarginate, crenated, spotted with purple. Perhaps a species of *Népeta*.

Dead-Nettle-leaved Dragon's-head. Pl. ½ to 1 foot.

Sect. III. Cryptodra'con (from κρυπτος, *cryptos*, hidden; and δρακων, *dracon*, a dragon; so called in consequence of the corolla hardly exceeding the calyx.) Benth. lab. p. 495. Stems erect, branched, leafy. Whorls disposed in capitate spikes. Anthers glabrous.

11 D. parviflòrum (Nutt. gen. amer. 2. p. 35.) stems erect,

branched, pubescent; leaves petiolate, lanceolate, deeply crenated or serrated, green on both surfaces, pubescent beneath; whorls disposed in capitate spikes; bracteas ovate-cuneated, aristately toothed; upper tooth of calyx broad-ovate; corolla scarcely exceeding the calyx. ♃. H. Native of North America, at the river Missouri, near Fort Mandan, Nuttall; Red River, Douglas; and at Cumberland House Fort, on the Saskatschawan, Drummond. Leaves like those of *D. Moldávicum*. Spikes globose or oblong, dense. Corollas small, bluish.

Small-flowered Dragon's-head. Fl. July, Aug. Clt. 1825. Pl. ½ to 1 foot.

Sect. IV. Molda'vica (so called from the first species being originally found in Moldavia.) Benth. lab. p. 496. Stems erect or ascending, leafy. Whorls distant, subracemose. Anthers glabrous.

12 D. Molda'vicum (Lin. spec. p. 830.) stem erect, branched; leaves petiolate, lanceolate, deeply crenated; floral leaves narrower, aristately serrated at the base; whorls distinct, disposed in long racemes; bracteas lanceolate, aristately serrated; calyx bilabiate: upper lip semitrifid: lower one bipartite; corolla more than twice as long as the calyx. ⊙. H. Native of Eastern Siberia; and of the East Indies and South America, but probably escaped from gardens. Lam. ill. t. 513. f. 1.—Blackw. herb. t. 551. Moldávica punctàta, Mœnch, meth. p. 410. Herb glabrous, or finely downy. Leaves an inch long. Whorls 6-10-flowered. Corolla blue or white, with a very wide throat.

Moldavian Dragon's-head. Fl. July, Aug. Clt. 1596. Pl. 1 to 1½ foot.

13 D. heterophy'llum (Benth. lab. p. 738.) stem ascending; leaves petiolate, obtuse, crenated: lower ones rounded, rather reniform, cordate at the base: superior ones oblong; floral leaves narrowed at the base, and are, as well as the bracteas, oblong, and aristately toothed; calyx bilabiate: the upper lip broadly semitrifid, and the lower lip bipartite; raceme subspicate. ⊙.? H. Native of the North-east of India, on the mountains of Koo-khio-ghang, Jacquemont. This differs from *D. Moldávicum*, in its humble stature, nearly simple branches, dense spikes, and form of leaves. Upper leaves usually pubescent; cauline leaves never awned. Corollas pubescent, a little larger than those of *D. Moldávicum*.

Various-leaved Dragon's-head. Pl. humble.

14 D. fœ'tidum (Bunge, in Led. fl. alt. 2. p. 386.) stem humble, divaricate, much branched; leaves petiolate, ovate-oblong, obtuse, crenated; floral leaves narrower, aristately serrated at the base; whorls distinct, disposed on short racemes; bracteas oblong, aristately serrated; calyx bilabiate: upper lip broadly semitrifid: lower lip bipartite; corolla more than twice as long as the calyx. ⊙.? H. Native of Siberia, on sandy hills near the river Tschuja, Bunge. Leaves short, on long petioles. Branches and calyxes pubescent.

Fetid Dragon's-head. Pl. ⅓ foot.

15 D. pelta'tum (Lin. spec. p. 831.) stem erect; leaves petiolate, ovate, obtuse, crenated; floral leaves oblong-lanceolate, more entire; whorls distinct, many-flowered, disposed in long racemes; bracteas orbicular, aristately toothed; upper tooth of calyx ovate: lateral ones oblong: lower ones lanceolate; corollas scarcely exceeding the calyxes. ⊙. H. Native of Syria, between Bagdad and Kermancha. Lam. ill. t. 513. f. 2. D. ocymifòlium, Mill. dict. no. 4. Zórnia peltàta, Mœnch, meth. 411. Stem nearly simple, glabrous, or finely tomentose. Leaves 1½ inch long, green, glabrous, gradually becoming narrower to the top, all exceeding the flowers. Whorls 10-12-flowered. Corollas small, blue, nearly glabrous.

Peltate Dragon's-head. Pl. 1 foot.

16 D. Royle'anum (Wall. in pl. rar. asiat. 1. p. 65. Benth. lab. p. 497.) stem erect, strict; leaves petiolate, ovate, crenated; floral leaves narrower: superior ones aristately serrated at the base; whorls distinct, disposed in interrupted spikes; bracteas oblong, aristately toothed; calyx scarcely bilabiate: superior teeth the broadest; corolla hardly exceeding the calyx. ⊙.? H. Native of the East Indies, in the province of Kunawur, Royle. Stem glabrous at the base, and pubescent at top. Leaves distant, green, nearly glabrous: floral ones rather longer than the calyxes. Corolla very slender, yellowish.

Royle's Dragon's-head. Pl. ½ to 1 foot.

17 D. Ibe'ricum (Bieb. fl. cauc. 2. p. 64.) stem decumbent? leaves petiolate, ovate-oblong, narrowed a long way at the base, a little toothed; floral leaves lanceolate, nearly entire, all glabrous; whorls distinct, disposed in long racemes, about 6-flowered; bracteas linear-cuneated, aristately awned at top; calyx smoothish, having the upper tooth ovate, and the lower ones lanceolate; corollas hardly exceeding the calyxes. ⊙.? H. Native of Iberia, Steven; of Caucasus, on the Talusch mountains, near Swant, C. A. Meyer. Allied to *D. Royleànum* and *D. canéscens*; and differs from the first in the narrower, more entire, glabrous leaves, and in the calyxes being twice the size; and from the second in the smoothness, and minute corollas. Corollas blue, slender.

Iberian Dragon's-head. Fl. July, Aug. Clt. 1820. Pl. decumbent.?

18 D. cane'scens (Lin. spec. p. 831.) stem erectish, branched, clothed with fine hoary tomentum; leaves petiolate: lower ones ovate or oblong, rather deeply crenated: floral ones lanceolate, almost quite entire, all canescent from fine tomentum; whorls distinct, disposed in long racemes, usually 6-flowered; bracteas ovate-cuneated, aristately toothed; calyx hoary, having the upper tooth ovate, and the lower ones lanceolate; corolla twice as long as the calyx. ⊙. H. Native of Syria, near Aleppo, Russell. Sweet. fl. gard. 1. t. 38. Zórnia canéscens, Mœnch, meth. p. 411.—Mill. fig. t. 129.—Commel. rar. t. 28.—Volk. norib. t. 353. Bracteas shorter than the calyxes. Corollas blue.

Canescent Dragon's-head. Fl. July, Aug. Clt. 1711. Pl. 1 to 1½ foot.

19 D. peregri'num (Lin. spec. p. 829.) decumbent; branches ascending, nearly glabrous; leaves quite glabrous, on short petioles, lanceolate, for the most part few-toothed, the teeth awned; floral leaves, and sometimes all, are quite entire; whorls distinct, few-flowered, secund, disposed in short racemes; bracteas oblong or lanceolate, awned, a little toothed; calyx bilabiate: upper lip broadly tridentate: lower lip narrowly bifid; corolla ample, about 3 times as long as the calyx. ♃. H. Native throughout Siberia, Pallas. Sims, bot. mag. t. 1084. Lher. stirp. nov. 2. t. 28. Ruyschiàna verticillàta, Mill. dict. no. 3.?—Mor. hist. 364. no. 9. sect. 11. t. 5. f. 9. Stems loosely branched at the base, procumbent. Leaves an inch long. Corollas 15-18 lines long, blue: upper lip broad, emarginate.

Foreign Dragon's-head. Fl. July, Aug. Clt. 1759. Pl. ascending, a foot long.

20 D. thymiflòrum (Lin. spec. p. 498.) stem erect; leaves on short petioles, ovate-lanceolate or lanceolate, crenated; floral leaves narrower, more entire; whorls distinct, many-flowered, disposed in long racemes; bracteas ovate-oblong, almost quite entire; upper tooth of calyx broad-ovate: lower ones lanceolate; corolla scarcely exceeding the calyx. ⊙. H. Native of the East of Europe; about Upsal, Wahl; about Moscow, Klustine; South of Podolia, Besser. Gærtn. fruct. 1. p. 319. t. 66. Zórnia parviflòra, Mœnch, meth. p. 411.—Gmel. sib. 3. p. 233. t. 50.

Stems a little branched, pubescent. Floral leaves twice the size of the cauline leaves, green, scarcely pubescent. Whorls usually 10-12-flowered. Calyx a little coloured. Corollas very slender, purplish.

Thyme-flowered Dragon's-head. Fl. June, Sept. Clt. 1752. Pl. 1 to 1½ foot.

21 D. nu'tans (Lin. spec. p. 831.) stem erect; leaves petiolate, ovate, crenated; floral leaves oblong-lanceolate, more entire; whorls distinct, many-flowered, disposed in long racemes; bracteas ovate or oblong, almost quite entire; upper tooth of calyx broad-ovate: lower ones lanceolate; corolla more than twice as long as the calyx. ⊙. H. Native throughout Siberia. Ker. bot. reg. t. 841. Zórnia nùtans, Mœnch, meth. p. 411.—Gmel. sib. 3. p. 231. t. 49. Habit, leaves, and calyxes of *D. thymiflòrum*, but differs in the longer corollas, &c.

Nutant-racemed Dragon's-head. Fl. July, Aug. Clt. 1731. Pl. 1 foot.

22 D. fruticulòsum (Steph. in Willd. spec. 3. p. 152.) suffruticose, glabrous; leaves nearly sessile, elliptic, mucronate, quite entire, or the superior and floral ones are aristately toothed; whorls few-flowered, the superior ones subspicate; bracteas ovate, aristately toothed; teeth of calyx all lanceolate: the upper one the broadest; corolla scarcely twice as long as the calyx. ♄. F. Native of Siberia, Steven; about Kiachta, Sievers. Stem branched. Leaves 4 lines long. Calyx coloured. Corollas like those of *D. integrifòlium*.

Shrubby Dragon's-head. Shrub dwarf.

23 D. integrifòlium (Bunge, in Ledeb. fl. alt. 2. p. 387.) suffruticose, glabrous; branches erectish; leaves nearly sessile, lanceolate, obtuse, quite entire; floral leaves bractea-formed; whorls racemose, secund; bracteas ovate, aristately toothed; upper tooth of calyx broad-ovate: lower ones lanceolate; corolla about twice as long as the calyx. ♄. F. Native of the Altaia, on the Kurtschum mountains, near Baty, and on rocks near the ruins of Ablakit; also of Dahuria. Habit of *D. nùtans*, but the leaves are very different. Calyx purple. Corollas purplish blue.

Entire-leaved Dragon's-head. Shrub 1 foot.

Sect. V. Ruyschia'na (so named in honour of Dr. Ruysch, who was professor of anatomy and botany at Amsterdam.) Benth. lab. p. 499. Stems erect, leafy. Whorls somewhat interruptedly spicate. Anthers villous.

24 D. Argune'nse (Fisch, ex Link, enum. 2. p. 118.) glabrous; stems erect; leaves linear-lanceolate, quite entire, glabrous; whorls subspicate; bracteas cuneate-elliptic, acute; calyx quite glabrous, bilabiate: upper lip semitrifid: lower one narrowly bipartite; corolla ample, about 3 times as long as the calyx. 4. H. Native of Dahuria. Rchb. icon. pl. cult. 1. t. 1. Lodd. bot. cab. 797. Nearly allied to the following; but differs in the glabrous calyxes and larger flowers. Leaves nearly sessile, 2-3 inches long, with fascicles of small ones in the axils. Corollas pubescent, blue, showy.

Argun Dragon's-head. Fl. July, Aug. Clt. 1822. Pl. 1 to 1½ foot.

25 D. Ruyschia'num (Lin. spec. p. 830.) stems erect, finely pubescent: leaves linear-lanceolate, quite entire, glabrous; whorls subspicate; bracteas ovate-lanceolate, quite entire; calyx pubescent; upper tooth of calyx ovate: lower ones lanceolate; corollas more than twice as long as the calyxes. 4. H. Native of Europe and Asiatic Russia, on the mountains; as of Norway, Provence, Dauphiny, Switzerland, Galicia, Caucasus, Altaia, &c. Oed. fl. dan. t. 121. D. hyssopifòlium, Mart. ex Steud. nom. p. 285. Ruyschiàna spicàta, Mill. dict. no. 1. Zórnia linearifòlia, Mœnch, ex Steud. nom. p. 285.—Zanon. nov. t. 146. Ruyschiàna glàbra, Amm. ruth. p. 50. Branched from the base. Leaves 1 to 1½ inch long, nearly sessile, with revolute edges, having young ones in the axils. Whorls approximate, generally 6-flowered. Corolla purplish, an inch long.

Ruysch's Dragon's-head. Fl. June, July. Clt. 1699. Pl. 2 feet.

26 D. Austri'acum (Lin. spec. p. 829.) stems erect, rather pilose; leaves 3-5-cleft, or the rameal ones are almost entire; segments of leaves linear, with revolute edges; whorls somewhat interruptedly spicate; bracteas 3-7-cleft, awned; upper tooth of calyx ovate: lower ones lanceolate; corolla about 3 times as long as the calyx. 4. H. Native of Europe and Asiatic Russia, on the mountains; as of the Pyrenees, Dauphiny, Switzerland, South of Germany, Galicia, Transylvania, Podolia, Caucasus, &c. Jacq. icon. rar. 1. t. 112. Zórnia partìta, Mœnch, ex Steud. nom. p. 285. Ruyschiàna laciniàta, Mill. dict. no. 2. Ruyschiàna hirsùta, Amm. ruth. p. 50. Habit of *D. Ruyschiàna*, but differs in the leaves being divided. Stem hairy, nearly pinnatifid. Whorls 6-10-flowered, all usually distinct. Floral leaves and bracteas hispid. Corolla showy blue, more than 1½ inch long.

Austrian Dragon's-head. Fl. June, July. Clt. 1597. Pl. 1½ foot.

† *Doubtful species.*

27 D. odorati'ssimum (Poir. suppl. 2. p. 521.) stems slender; branches divaricate; leaves petiolate, small, ovate-oblong, quite entire, narrowed at the base, glabrous; bracteas narrow-lanceolate, ciliated, longer than the flowers; flowers sessile, approximating into a short imbricate spike; calyx striated, ciliated, with 5 very short straight teeth. 4. H. Native of the Crimea. Branches reddish-grey, with pubescent angles. Leaves 4-5 lines long. Corolla white or purplish, hairy outside; tube slender, scarcely longer than the calyx; throat wide.

Very sweet-scented Dragon's-head. Pl. ¼ to ½ foot.

28 D. Cochinchine'nse (Lour. coch. p. 371.) stem erect, villous; leaves ovate-lanceolate, quite entire, villous, few; bracteas roundish, acute, many-flowered; flowers disposed in a terminal spike. ⊙. ? H. Native of Cochinchina. Flowers violaceous; upper lip of corolla concave. Filaments pilose.

Cochinchina Dragon's-head. Pl. 1 foot.

Cult. The greater part of the species of *Dracocéphalum*, being showy when in blossom, are favourites with all lovers of flowers. They are all hardy, and will grow in any common garden soil; they are, therefore, well adapted for decorating flower borders and rockwork. The perennial species are readily increased by divisions of the root and top in spring. The seeds of annual kinds only require to be sown in the open ground in spring. The two shrubby species, *D. fruticulòsum* and *D. integrifòlium*, and all the species belonging to sect. I. *Keimodracon*, will require protection in severe weather in winter; these are all readily propagated by cuttings, under a hand-glass.

LXXI. CEDRONE'LLA (probably a dim. of κεδρος, *cedros*, the cedar; from the sweet odour of *C. triphýlla*.) Mœnch, meth. p. 411. Benth. lab. p. 501.—Dracocéphalum species, Lin. and other authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular or campanulate, about 15-nerved, with an equal or oblique 5-toothed mouth. Corolla with an exserted tube, naked inside, a dilated throat, and a bilabiate limb; upper lip straight, flattish, emarginately bifid; lower lip trifid: middle lobe large. Stamens 4, ascending, didynamous: lower ones the shortest. Anthers 2-

celled; cells parallel. Style about equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia dry, smooth.—Herbs. Whorls approximate into terminal spikes or racemes. Floral leaves bractea-formed. Bracteas small, setaceous.

1 C. corda'ta (Benth. lab. p. 502.) herbaceous, stoloniferous; leaves cordate-ovate, crenated; whorls few-flowered, secund, approximating into short spikes or racemes. 4. H. Native of North America, at the river Ohio, below Pittsburgh, Nuttall. Dracocéphalum cordàtum, Nutt. gen. amer. 2. p. 35. Stems creeping, and rooting at the base. Floriferous branches erect, simple, villous. Leaves 1 to 1½ inch long, form of those of *Làmium*, quite entire, obtuse, pubescent, or nearly glabrous. Cymes on short peduncles, 1-3-flowered. Corolla showy, pale blue, 1½ inch long.

Cordate-leaved Cedronella. Fl. July, Aug. Clt. 1824. Pl. ½ foot.

2 C. Mexica'na (Benth. lab. p. 502.) tall; leaves ovate-lanceolate, cordate at the base, toothed; whorls many-flowered, approximating into a terete, interrupted spike or raceme. 4. H. Native of Mexico, among corn and in meadows, in the woody region near Valladolid, Pazcuaro, Chalco, and Tlalpuxahua. Dracocéphalum Mexicànum, H. B. et Kunth, nov. gen. amer. 2. p. 502.—Herb glabrous, or finely pubescent. Leaves on short petioles, 1½ to 2 inches long, acuminated, acute, glandular beneath. Whorls loose, 20-40-flowered. Corolla purplish, 3 times as long as the calyx. Genitals exserted.

Mexican Cedronella. Pl. 2 to 3 feet.

3 C. triphy'lla (Mœnch, meth. 411.) shrubby, tall; leaves ternate: leaflets oblong-lanceolate; whorls loose, collected into terete oblong spikes. ♄. F. Native of America, and probably of the Canary Islands. Dracocéphalum Canariénse, Lin. spec. p. 829. C. Canariénsis, &c., Comm. hort. amst. 2. p. 81. t. 41.—Volk. norib. t. 145. Lateral leaflets sessile, terminal one petiolate, larger, all nearly glabrous, or pubescent beneath. Whorls 10-12-flowered. Corolla white or pale purple, scarcely twice as long as the calyx. The plant was first brought to Europe under the name of *Permenta de Tana*. It is now known under the name of Balm of Gilead, which it has obtained from its rich odour on being gently rubbed.

Three-leaved Cedronella, or Balm of Gilead. Fl. July, Sept. Clt. 1697. Shrub 3 to 4 feet.

Cult. For culture and propagation see *Dracocéphalum*, p. 814, for the herbaceous species, and *Prostanthèra*, p. 800, for the shrubby kind.

Tribe IX.

STACHY'DEÆ (this tribe contains genera agreeing with *Stàchys*, in the characters given below.) Benth. lab. p. 503. Calyx irregularly veined or 5-10-nerved, equal, oblique, rarely sub-bilabiate, 3-10-toothed. Tube of corolla inclosed or exserted, often annulate inside; limb bilabiate: upper lip galeate or flat, entire or emarginate: lower lip variously trifid. Stamens 4, ascending, didynamous, all fertile, or the anthers of the lower ones are empty or dimidiate; superior ones short.

LXXII. MELI'TTIS (from *μελιττα, melitta*, a bee; a name used by Pliny as synonymous with Melíssa.) Lin. gen. no. 731. Schreb. gen. 985. Juss. gen. p. 116. Benth. lab. p. 503.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, membranaceous, irregularly veined, subbilabiate; upper lip broad, roundish, obscurely 2-lobed or shortly 2-3-toothed; lower lip bifid, with rounded lobes. Corolla, with an ample exserted tube, which is not annulate inside, and a bilabiate limb; superior lip orbicular, entire, rather concave, spreading: lower lip 3-lobed, spreading. Stamens 4, ascending, didynamous, lower ones the longest; filaments without any appendages; anthers approximating by pairs, 2-celled: cells distinct, diverging. Style shortly bifid at apex; lobes ovate, stigmatiferous at apex. Achenia dry, smooth, or finely reticulated.

1 M. melissophy'llum (Lin. spec. p. 832.) 4. H. Native of Europe, in shady places; as of France, Germany, Portugal, Spain, Sicily, Italy, Greece: in England; as in Devonshire, about Totness, Barnstable, &c.; Hampshire, in the New Forest; Pembrokeshire, about Haverford West, in woods and other shady places. Stems erect, simple, more or less hairy. Leaves on short petioles, 1½ to 2 inches long, ovate, crenated, cordate at the base, or the upper ones are rounded, wrinkled, villous, green on both surfaces; floral leaves narrower; all exceeding the flowers. Whorls about 6-flowered, axillary. Corolla 1½ inch long, red, or red and white. Pedicels rather shorter than the calyxes. Much honey is secreted by a gland that encircles the base of the germ; hence it is a favourite plant with bees.

Var. α, grandiflòra; plant pale green; corolla cream-coloured, with the middle of the lower lip violaceous. 4. H. M. grandiflòra, Smith, fl. brit. 2. p. 644. engl. bot. t. 636. Hook. fl. lond. vol. 2. icone. Rchb. icon. bot. eur. 3. p. 41. t. 242. M. melissophýllum, Curt. lond. no. 64. Mill. fig. t. 32.—Riv. mon. irr. t. 21. f. 1. M. álbida, Guss. prod. fl. sic. 2. p. 140. M. sylvéstris, Lam. fl. fr. 2. p. 401.

Var. β, melissophýllum; stems purplish; leaves deep green; flowers altogether purple, and sometimes white. 4. H. M. melissophýllum, Jacq. fl. austr. 1. t. 26. Smith, engl. bot. t. 577. Rchb. icon. bot. eur. 3. p. 41. t. 241.

Balm-leaved Bastard Balm. Fl. May, June. England. Pl. 1 to 1½ foot.

Cult. Both varieties are very showy when in blossom, and are, therefore, well fitted for decorating flower borders, woods, and shrubberies. They are readily increased by dividing the root in spring or autumn.

LXXIII. PHYSOSTE'GIA (from *φυσα, physa*, a bladder; and *στεγω, stego*, to cover; in allusion to the inflated calyx.) Benth. in bot. reg. vol. 15. lab. p. 504. Dracocéphalum species, Lin. and other authors.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubularly campanulate at the time of florescence, but afterwards becoming inflated and campanulate, with about 10 obscure veins, almost equally 5-toothed, or truncate and scarcely toothed at top. Corolla with a long exserted tube, which is exannulate inside, an inflated throat, and a bilabiate limb; upper lip erectish, rather concave, entire, or emarginate; lower lip spreading, trifid, with roundish lobes, the middle lobe large and emarginate. Stamens 4, ascending under the upper lip, somewhat didynamous; lower ones eminent; anthers approximate, 2-celled: cells parallel, distinct, naked. Style about equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia dry, smooth. Habit peculiar.

1 P. Virginia'na (Benth. lab. p. 504.) calyx acutely 5-toothed. 4. H. Native of North America, from Canada to Texas, in rather humid places: and on the North-west coast at the Columbia river. Dracocéphalum Virginiànum, Lin. spec. 828. Curt. bot. mag. t. 467. D. lancifòlium, Mœnch. meth. p. 410. D. variegàtum, Vent. cels. t. 44. D. denticulàtum, Ait. hort. kew. 2. p. 317. Curt. bot. mag. 214. D. speciòsum, Sweet, fl. gard. 1. t. 93. D. obovàtum, Elliott, bot. car. 2. p. 86. D. intermèdium, Nutt, in amer. phil. trans. n. s. 5. p. 187. Pràsium purpùreum, Walt. fl. car. p. 166. Pràsium coccíneum, Walt. fl. car.

p. 116. Herb usually glabrous, rarely pubescent in the upper part. Stems erect. Leaves sessile, usually lanceolate, sometimes oblong-ovate or obovate, usually acute, irregularly and acutely serrated, narrowed at base, green on both surfaces; upper floral leaves bractea-formed, shorter than the calyxes. Racemes terminal, simple, or paniculately branched. Flowers nearly sessile, approximate, or distant. Corolla flesh coloured or purple, showy, 10-11 lines long, and sometimes more than an inch.

Virginian Physostegia. Fl. July, Sept. Clt. 1683. Pl. 1½ to 3 feet.

2 P. imbrica'ta (Hook. bot. mag. 3386.) tall; leaves elliptic-lanceolate, coarsely serrated; spikes panicled, tetragonal; flowers erect, densely imbricate; upper lip of corolla concave: tube scarcely inflated. ♃. H. Native of Texas. Corollas reddish purple above, pale and almost white below.

Imbricate-flowered Physostegia. Fl. July, Sept. Clt. 1834. Pl. 2 to 3 feet.

3 P. trunca'ta (Benth. lab. p. 505.) calyx truncate, obscurely 3-5-lobed; lobes very broad, denticulated. ♃. H. Native of Mexico, in the province of Texas. Stems erect, nearly simple, pubescent. Leaves and inflorescence similar to those of *P. Virginiàna*. Floral leaves broad-ovate at the base, equalling the calyxes. Corollas red.

Truncate-calyxed Physostegia. Fl. July, Sept. Pl. 1½ foot.

Cult. Elegant plants of easy culture, well fitted for decorating flower borders. Any common garden soil suits them, and they are readily propagated by dividing at the root.

LXXIV. MACBRI'DEA (named in memory of James Macbride, M.D. of South Carolina.) Elliott, bot. car. 2. p. 86. Benth. lab. p. 505.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, membranaceous, irregularly veined, 3-lobed; superior lobe oblong, lower ones roundish. Corolla with a long exserted tube, which is exannulate inside, an inflated throat, and a bilabiate limb; upper lip erect, entire, rather concave; lower lip shorter and spreading, with roundish lobes, middle lobe the broadest. Stamens 4, didynamous, ascending under the upper lip, lower ones the longest; anthers approximate by pairs, 2-celled: cells divaricate. Style shortly bifid at apex. A genus closely allied to *Physostègia*.

1 M. pulche'lla (Elliott, l. c.) ♃. H. Native of Carolina, in bogs, Elliott; near Augusta, Wray. Thýmbra Caroliniàna, Walt. fl. car. p. 162. Melíttis Caroliniàna, Spreng. syst. 2. p. 700. Pràsium incarnàtum, Walt. fl. car. p. 165. Stems erect, glabrous. Leaves petiolate, oblong-elliptic, bluntish, obscurely serrated or sinuated, rounded or cuneated at the base, thin, quite glabrous, or furnished with a few scattered hairs above. Whorls 1 or 2 at the top of the stem, about 6-flowered. Corolla 1½ inch long, glabrous, pale red. ? Filaments villous.

Neat Macbridea. Pl. 1 foot.

Cult. For culture and propagation, see *Physostègia* above.

LXXV. SYNA'NDRA (from *συν, syn*, together; and *ανηρ ανδρος, aner andros*, a male; in reference to the anthers approximating by pairs.) Nutt. gen. amer. 2. p. 29. Benth. lab. p. 506. Làmium species, Michx.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx inflately campanulate, membranaceous, irregularly veined, with 4 nearly equal teeth. Corolla with a much exserted tube, which is dilated above as well as the throat, and exannulate inside; limb bilabiate: upper lip erect, rather concave, entire: lower lip spreading, 3-lobed: lobes ovate, middle one broader and emarginate. Stamens 4, ascending, didynamous: lower pair the longest; filaments exappendiculate, hairy; anthers approximating by pairs, glabrous, 2-celled: cells distinct, divaricate; upper cells of the superior anthers connate, obtuse, empty; the rest all acute and fertile. Upper lobe of style very short; lower one longer, stigmatiferous almost from the base. Achenia dry, large, somewhat inflatedly compressed, smooth. The want of the upper lobe of the calyx is peculiar to this genus.

1 S. grandiflòra (Nutt, l. c.) ♃. ? H. Native of North America; in Kentucky, Torrey; Tenessee, in woods, Michx; in shady places, near Cincinnati, on the Ohio, Nutt. Habit of *Làmium*. Stem nearly simple, beset with long hairs. Leaves few; lower ones on long petioles, broad-ovate, subacuminated, crenated, cordate at the base, thin, green on both surfaces, furnished with a few hairs; superior leaves ovate-lanceolate, quite entire; uppermost ones hardly longer than the calyxes. Whorls few, distant, few-flowered. Corolla showy, cream-coloured, 1½ inch long.

Great-flowered Synandra. Pl. 1 foot.

Cult. For culture and propagation, see *Làmium*, below.

LXXVI. LA'MIUM (from λαιμος, *laimos*, the throat; so called from the ringent flowers.) Lin. gen. no. 716. Schreb. gen. 971. Tourn. inst. t. 85. Juss. gen. p. 113. Benth. lab. p. 507. Orvàla, Lin. gen. 715. Pàpia, Michell, gen. p. 17. Galeóbdolon, Huds. and other authors. Pollíchia, Roth, fl. germ. Erianthèra, Benth. in Hook. bot. misc. 3. p. 380. but not of Nees.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubularly campanulate, about 5-nerved, with an equal or often oblique mouth; teeth 5, nearly equal, or the upper ones are longer, subulate at apex. Corolla with an inclosed or exserted tube, naked or with a hairy ring inside; limb bilabiate; upper lip ovate or oblong, somewhat arched or galeate, for the most part narrowed at the base; throat dilated; lateral lobes truncate at the margins of the throat, rarely oblong, furnished with a tooth-formed appendage or mutic; middle lobe broad, emarginate, contracted at the base, substipitate. Stamens 4, didynamous, lower pair the longest; anthers approximate by pairs, 2-celled: cells at length divaricate, oblong, hairy outside or naked. Style about equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia dry, triquetrous, with acute angles, truncate at apex, smooth or wrinkled from minute tubercles.—Herbs decumbent at the base. Lower leaves on long petioles, small; middle cauline leaves large, usually cordate at the base, wrinkled, for the most part doubly or deeply toothed; floral leaves almost similar to the rest: upper ones smaller and more sessile; all exceeding the calyxes. Whorls dense, axillary; lower ones or all remote, but the superior ones are usually approximate. Bracteas few, shorter than the calyxes, subulate, rarely lanceolate. Corollas red, purplish, white, or yellow.

Sect. I. Orva'la (Orvala is a name applied to *sálvia sclàrea* by old botanists, which is probably derived from Orval in France.) Benth. lab. p. 508. Orvàla, Lin. gen. no. 715. Tube of corolla straight, transversely annulate inside; throat very wide. Galea ovate. Anthers glabrous.

1 L. Orva'la (Lin. spec. p. 808.) stems erect; leaves large, broad-ovate, truncate or cordate at the base, rugose, rather villous; tube of corolla straight, exserted, furnished with a ring of hairs inside: throat very wide: galea ovate, entire: lateral lobes very short, mutic. ♃. H. Native of Italy, Pannonia, and Istria, Willd.; Piedmont, Allioni; France, near Nannete, Ronamy. Curt. bot. mag. t. 172. Mill. fig. t. 158. L. Pannónicum, Scop. fl. carn. t. 27. Orvàla lamioìdes, D.C. fl. fr. 3.

p. 539. L. melissæfòlium, Mill. dict. no. 5.—Mor. hist. sect. 11. t. 11. f. 7.—Till. pis. 92. t. 34. f. 1.—Clus. hist. 2. p. 35. t. 36.—Park. par. p. 387. f. 7. Stem red, hispid, or nearly glabrous. Whorls about 10-flowered. Calyx coloured, nearly glabrous. Corollas red or purple, nearly $1\frac{1}{2}$ inch long. Galea downy outside, with ciliated edges.

Var. β, leaves deeply toothed. ♃. H. Orvàla Gargánica. Lin. spec. p. 807. Pàpia Gargánica, Micheli, gen. 20. t. 17.

Orvala, or Balm-leaved Archangel. Fl. May, July. Clt. 1596. Pl. 1 to 3 feet.

Sect. II. Lamiópsis (so named by Dumort, who considers it a distinct genus, from its resemblance to the true species of Làmium.) Benth. lab. p. 509. Lamiópsis, Dumort, florul. belg. p. 45. Tube of corolla straight, naked inside, or furnished with a transverse ring of hairs; throat very wide. Anthers hairy, outside.

2 L. multi'fidum (Lin. spec. p. 809.) superior leaves deeply lobed, glabrous on both surfaces; tube of corolla straight, exserted, annulate inside?: galea oblong: throat very wide: lateral lobes very short, mutic. ♃. H. Native of the Levant. L. orientale foliis eleganter laciniatis, Tourn. cor. 11. Commel. rar. t. 26. Stems erect, pubescent. Lower leaves oval, very blunt, quite entire at top; middle leaves crenated, cuneated at the base; superior ones $1\frac{1}{2}$ inch long, obtuse, deeply and bluntly lobed; floral leaves more acute, narrower: all cut and rather shorter than the flowers. Whorls many-flowered, distant. Calyxes villous. Corolla an inch long; galea narrowed at the base, woolly outside. Anthers villous on the back.

Multifid-leaved Archangel. Fl. April, May. Clt. 1782. Pl. $\frac{1}{2}$ to 1 foot.

3 L. rhomboi'deum (Benth. lab. p. 509.) humble, simple; leaves rhomboid, wrinkled, clothed with velvety wool on both surfaces, as well as the calyxes; corolla ample, 3 times as long as the calyx: tube straight, naked inside: throat wide: galea broad: lateral lobes ovate, entire. ♃.? H. Native of the East Indies, in the province of Kamaon, Royle. Erianthèra rhomboídea, Benth. in Hook. bot. misc. 3. p. 880. Plant tomentosely villous. Leaves small; lower floral ones nearly entire; upper ones deeply crenated; all obtuse. Whorls about 2-flowered. Corollas nearly $1\frac{1}{2}$ inch long, downy outside. Very nearly allied to *L. Gargánicum*.

Rhomboid-leaved Archangel. Pl. $\frac{1}{2}$ foot.

4 L. Garga'nicum (Lin. spec. p. 808.) leaves cordate, wrinkled, clothed with soft villi on both surfaces; calyx villous; corolla 4 times as long as the calyx, with an erect tube, which is naked inside, a wide throat, a broad helmet, and the lateral lobes angular or furnished with a very short tooth. ♃. H. Native of Piedmont, on Mount Gargano; Greece, on Mount Hametto; Mountains of Laconia and Candia. Smith, exot. bot. 1. t. 48. L. Michelìanum, Tausch, in bot. zeit. 1831. 1. p. 215.—Till. pis. 93. t. 34. f. 2. act. par. 1717. p. 272. t. 9. Plant canescent or hoary. Leaves form of those of *L. vulgàtum*. Floral leaves for the most part shorter than the flowers. Whorls 10-20-flowered. Corolla 15 lines long, villous outside, red.

Gargano Archangel. Fl. June, Aug. Clt. 1729. Pl. ascending, 1 foot.

5 L. longiflòrum (Tenore, fl. nap. prod. p. 34. syll. 285.) stems nearly glabrous; leaves cordate, wrinkled a little, glabrous, or somewhat villous; whorls many-flowered; calyxes glabrous; corolla about 4 times longer than the calyx: tube straight, naked inside: throat very wide: galea broad: lateral lobes angular, or furnished with a short tooth. ♃. H. Native of the South of Europe, on the mountains; as of the Pyrenees, Provence on Mount Ventoso, Piedmont, Apennines, Naples, Sicily, Greece. L. lævigàtum, D. C. fl. fr. 3. p. 541. and many other authors, but not of Lin. L. Pedemontànum, Rchb. fl. germ. exc. p. 322.? Hardly to be distinguished from *L. Gargánicum*, unless in being glabrous, or nearly so.

Long-flowered Archangel. Pl. ascending.

6 L. glechomoi'des (Smith, in Rees' cycl. vol. 20. Benth. lab. p. 738.) plant nearly glabrous; leaves small, on long petioles, cordate, crenated, or the superior ones are a little cut; whorls 6-10-flowered; calyx nearly glabrous, with short acute teeth; corolla about 4 times longer than the calyx: tube straight, naked inside: throat very wide: galea oblong: lateral lobes angular, appendiculate by a short tooth. ♃.? H. Native of the Levant, Tournefort. This differs from *L. longiflòrum*, in the small leaves and short calycine teeth, which are broad, not elongated and subulate.

Ground-Ivy-like. Pl. ascending.

7 L. veronicæfòlium (Benth. lab. p. 510.) glabrous; leaves small, on long petioles, reniform, deeply crenated, broadly subcordate at the base; upper leaves approximate, exceeding the flowers, or hardly shorter; corolla 3 times as long as the calyx, which is glabrous: tube straight, slender: throat dilated: galea very long, bifid at apex: lateral lobes angular, furnished with a short obtuse tooth. ♃. H. Native of Greece.—A very distinct species, having the lower leaves like those of *L. amplexicaúle*, and the corolla like that of *L. longiflòrum*. Leaves almost like those of *Verónica hederàcea*. Corolla $\frac{1}{2}$ an inch long, red or purple.?

Speedwell-like Archangel. Pl. ascending.

8 L. stria'tum (Sibth. et Smith, fl. græc. 6. p. 46. t. 557.) leaves ovate, deeply crenated, broadly subcordate at the base: upper ones approximate, exceeding the flowers, or scarcely shorter; corolla 3 times as long as the calyx, which is glabrous: tube straight, slender: throat dilated: galea very long, bifid at apex: lateral lobes angular, appendiculate, by a short blunt tooth. ♃. H. Native of Greece, in waste places plentiful. Habit of *L. vulgàtum;* but the leaves are thinner, smaller, and less cordate at the base; petioles of the floral leaves shorter than the calyxes. Corollas $1\frac{1}{2}$ inch long.

Striated Archangel. Pl. ascending.

9 L. bi'fidum (Cyr. pl. rar. fasc. 1. p. 22. t. 7.) leaves ovate: superior ones acuminated, all deeply lobed, crenately toothed: upper ones approximate, exceeding the flowers, or hardly shorter; tube of corolla straight, naked inside: throat dilated: galea elongated, and divaricately bifid at apex: lateral lobes appendiculate by a short linear tooth. ⊙.? H. Native of the region of the Mediterranean; as in Corsica, Sicily, Naples. Tenore, fl. nap. t. 153. f. 2. Habit of *L. purpùreum*. Leaves green on both surfaces, or more or less lined with white, and more or less villous. Upper whorls subcapitate: lower ones remote. Corolla white, a little longer than those of *L. purpùreum*.

Var. β, clandestìnum (Benth. lab. p. 511.) corollas minute from abortion. ⊙. H. L. cryptánthum, Guss. prod. fl. sic. 2. p. 97. Rchb. icon. bot. eur. 8. p. 3. t. 707.

Bifid-helmeted Archangel. Fl. June, July. Clt.? Pl. $\frac{1}{2}$ foot.

10 L. amplexicau'le (Lin. spec. 809.) leaves orbicular: cauline ones petiolate; floral leaves stem-clasping, all deeply crenated; tube of corolla straight, slender, naked inside: throat dilated: galea oblong, entire: lateral lobes mutic. ⊙. H. Native of Europe, North of Africa, and Middle Asia, in cultivated fields and waste grounds; plentiful in Britain. Smith, engl. bot. t. 770. Hook. fl. lond. vol. 2. icone. Rchb. icon.

bot. eur. 3. p. 22. t. 224. f. 373. Curt. lond. 2. t. 109. Fl. dan. 752. L. palmàtum, Smith, in Rees' cycl. vol. 20. Galeóbdolon amplexicaúle, Mœnch, meth. p. 393. Pollíchia amplexicaúlis, Willd. fl. berol. 198. Roth, fl. germ. 1. p. 254.—Mor. hist. sect. 11. t. 11. f. 12.—Petiv. brit. t. 33. f. 4.—Rivin. mon. t. 63. Herb decumbent, branched at the base. Leaves glabrous, or rather hispid. Whorls densely many-flowered. Corolla purple or red, pubescent.

Var. β, clandestìnum (Rchb. icon. bot. eur. 8. p. 3. t. 708.) corollas minute by abortion. ⊙. H.

Stem-clasping-leaved Archangel, or Great Henbit. Fl. March, July. Britain. Pl. ½ to 1 foot.

11 L. intermedium (Fries, nov. fl. suec. ed. 1st. p. 105. and 2d. p. 192.) leaves orbicular; cauline leaves petiolate: floral ones stem-clasping, all deeply crenated; calycine teeth subulate, longer than the tube; tube of corolla straight, slender, naked inside; throat dilated: galea oblong, entire: lateral lobes appendiculate by a short tooth. ⊙. H. Native of Sweden, North of Germany, and North of Scotland. Rchb. icon. bot. eur. 3. p. 22. t. 224. f. 372. and 8, 9. t. 721. L. molucellæfòlium, Fries, nov. fl. suec. 72. ex Rchb. l. c. Habit and leaves like *L. amplexicaúle;* and scarcely differs from it, unless in the elongated calycine teeth, and lateral lobes of corolla.

Intermediate Archangel. Fl. March, July. Scotland. Pl. ½ to 1 foot.

12 L. purpureum (Lin. spec. p. 809.) lower leaves orbicular; floral leaves ovate, all crenated: uppermost ones approximate, exceeding the flowers; tube of corolla straight, slender, furnished with a pilose ring inside at the base: throat dilated: galea oblong, entire: lateral lobes appendiculate by a short linear tooth. ⊙. H. Native throughout Europe and Asia, in waste and uncultivated grounds, in a light soil; plentiful in Britain. Hook. fl. lond. 2. icone. Smith, engl. bot. t. 769. Curt. lond. 1. t. 42. Fl. dan. t. 523. Martyn, fl. rust. t. 25. L. ocymifòlium, Smith, in Rees' cycl. vol. 20. L. nùdum, Mœnch, meth. p. 393. Crantz, stirp. austr. p. 259.—Riv. mon. t. 62. f. 2. Herb decumbent at the base. Leaves on long petioles, villous on both surfaces. Whorls densely many-flowered: upper ones approximate. Corolla ½ an inch long, red. The floral leaves are usually coloured. According to Linnæus, it is boiled in Upland, a province of Sweden, as a pot-herb. The plant was formerly used medicinally, but is now disregarded.

Var. β, mólle (Benth. lab. p. 512.) leaves less wrinkled, blunter, and with fewer crenatures. ⊙.? H. Native of England, in fields; as on road sides about Croydon. Flowers white.

Purple Archangel. Fl. May, Sept. Britain. Pl. ½ to 1 foot.

13 L. incisum (Willd. spec. 3. p. 89.) lower leaves orbicular; floral leaves broad-ovate, all deeply toothed, or lobed; the uppermost leaves approximate, exceeding the flowers; tube of corolla straight, furnished with a ring of hairs inside at the base: throat dilated: galea oblong, entire: lateral lobes appendiculate by a short linear tooth. ⊙. H. Native of Europe, especially of the North, in corn-fields; France, Germany, Sweden; Britain, in many places. Smith, engl. bot. t. 1933. Rchb. icon. bot. eur. 3. p. 21. t. 223. L. hýbridum, Vill. fl. dauph. 1. p. 251. L. disséctum, With. brit. pl. p. 527. L. urticæfòlium, Weihe, ex Rchb. fl. germ. exc. p. 321. L. Westphaliànum, Weihe, ex Rchb. l. c. L. Coesféldiæ, Weihe, ex Rchb. l. c. L. purpùreum, β, Huds. angl. p. 255.—Pet. brit. t. 33. f. 3. Leaves cut, as in *L. bífidum.* Flowers similar to those of *L. purpùreum.* Whorls sometimes all approximate, and sometimes the lower ones are remote.

Cut-leaved Archangel. Fl. May, Sept. Britain. Pl. ½ to 1 foot.

Sect. III. Lamiotyˋpus (so named because the species contained in this section are the type of the genus.) Benth. lab. p. 513. Lamiotỳpus, Dumort, florul. belg. p. 45. Tube of corolla transversely annulate inside, contracted under the ring, and dilated above it, rather ventricose, and somewhat recurvedly drawn out; throat a little dilated. Anthers hairy outside.

14 L. moschatum (Mill. dict. no. 4.) leaves ovate, cordate, nearly glabrous; calycine teeth long, lanceolate-subulate; tube of corolla ample, short, furnished with a pilose ring inside: throat very wide: galea longer than the tube: lateral lobes bluntly acuminated, scarcely appendiculate. ⊙. H. Native of the Levant. Leaves blotched with white, and in dry weather have a musky scent, but in wet weather are fetid. Corollas white; galea villous.

Musky-scented Archangel. Fl. April, July. Clt. 1739. Pl. ½ foot.

15 L. calycinum (D'Urv. pl. arch. in mem. soc. Lin. par. p 323.) stem erectish, branched, quite glabrous, fistular; leaves cordate, wrinkled, woolly, pubescent: the upper ones also subpetiolate; calyxes smooth, reticulated, about equal in height to the corollas; calycine teeth very long, arched, subulate, scarcely ciliated; flowers crowded, sessile; whorls numerous: lower ones remote. ⊙. H. Native of the Grecian Islands. Corolla villous outside, white.

Large-calyxed Archangel. Pl. ½ to 1 foot.

16 L. petiolatum (Royle, ex Benth. in Hook. bot. misc. 3. p. 381. lab. p. 513.) leaves ovate-lanceolate, acuminated, scarcely cordate at the base; calycine teeth long-subulate; tube of corolla ample, furnished with a pilose ring inside: throat scarcely dilated; galea elongated: lateral lobes mutic, or with a short setaceous appendage: lip very short. ♃.? H. Native of the Himalaya, plentiful, Royle; Kamaon, Wall. Allied to *L. vulgàtum*, but the leaves and corollas are different. Hairs of stem reflexed. Lower leaves petiolate: floral ones sessile, coarsely and somewhat doubly serrated, green and hispid on both surfaces. Whorls usually many-flowered. Corolla white; galea villous outside.

Petiolate-leaved Archangel. Pl. ascending.

17 L. vulgatum (Benth. lab. p. 514.) leaves ovate, cordate, or truncate at the base, wrinkled, usually villous; calycine teeth long-subulate, glabrous or villous; tube of corolla ample, furnished with a ring of hairs inside: throat dilated a little: galea oblong: lateral lobes appendiculate by a long subulate tooth. ♃. H. Native of Europe, North of Africa, and Middle Asia, in shady mountain places, &c.; in some parts of Scotland. This is a very variable plant, but is readily distinguished from others by the form of the corolla. Leaves petiolate, crenated, doubly toothed, or a little cut, usually green, but often lined and blotched with white, more or less wrinkled, and villous. Whorls 10-20-flowered.

Var. α, rùbrum (Benth. lab. p. 514.) corollas purple or red; leaves green or blotched with white. ♃. H. This is more common in the southern regions of Europe than in the northern. L. maculàtum, Lin. spec. p. 809. Rchb. icon. bot. eur. 3. p. 12. t. 215. Sibth. et Smith, fl. græc. 6. p. 46. t. 556. with spotted leaves. Smith, engl. bot. t. 2550. with spotless leaves. L. rugòsum, Ait. hort. kew. 2. p. 296. Rchb. icon. bot. eur. 3. p. 14. t. 217. but not of Sibth. et Smith, nor Guss. nor. Tenore. L. rùbrum, Blackw. t. 183. Wallr. sched. crit. p. 300. L. mutábile, Dumort, florul. belg. p. 45.? L. hirsùtum, Lam. dict. 3. p. 410. with spotless leaves. L. stoloníferum, Lap. abr. pyr. p. 333. with spotless leaves, and many large flowers. L. grandiflòrum, Pourr. act. acad. tolos. 3. p. 322. L. lævigàtum, Lin. spec. p. 808. Rchb. icon. bot. eur. 3. p. 14. t. 216. but not of all authors—(this is a more glabrous variety.) L. melis-

sæfòlium, Mill. dict. no. 5.?—Sabb. hort. rom. 3. t. 34.—Bocc. muss. t. 23.—Colum. ecphr. 1. p. 190. t. 192.

Var. β, álbum (Benth. lab. p. 514.) flowers white; leaves spotless, villous. ♃. H. More common in the northern regions of Europe than the southern. L. álbum, Lin. spec. p. 809. Hook. fl. lond. 2. icone. Smith, engl. bot. t. 768. Curt. lond. 2. p. 45. t. 115. Fl. dan. 594. Mart. fl. rust. t. 25.—Riv. mon. t. 62. f. 1. L. níveum, Hort. L. capitàtum, Smith, in Rees' cycl. vol. 20. L. foliòsum, Crantz, stirp. austr. p. 258. This is certainly a distinct species from *L. maculàtum;* the roots of this creep like couch under ground, while the root of *L. maculàtum* is composed of fibres. Linnæus says that the leaves are eaten as a pot-herb in spring. The plant was formerly considered medicinal.

Common Archangel, or Dead-Nettle. Fl. April, Sept. Britain. Pl. 1 to 2 feet.

18 L. mólle (Ait. hort. kew. 2. p. 297.) lower leaves ovate: superior ones ovate-lanceolate, acute, truncate at the base, very rarely cordate; calycine teeth long-subulate; tube of corolla ample, furnished with a hairy ring inside, subrecurved: throat a little dilated: galea oblong: lateral lobes appendiculate by a subulate tooth; anthers hairy. ♃. H. Native country unknown, but common in gardens. L. parietariæfòlium, Benth. lab. p. 739. L. parietariæfòlio, Mor. klœs. 278. Very nearly allied to *L. vulgàtum;* but the lower leaves are rarely cordate: the upper ones much narrower, and often quite entire; and the corollas are smaller, and white.

Soft Archangel. Fl. April, June. Clt. 1683. Pl. ½ to 1 foot.

19 L. tomentòsum (Willd. spec. 3. p. 90.) leaves ovate, cordate, wrinkled, very villous; calycine teeth subulate, plumosely ciliated; tube of corolla ample, furnished with a ring of hairs inside: throat dilated a little: galea oblong: lateral lobes appendiculate by a long subulate tooth. ♃.? H. Native of the South-east of Europe, and Middle Asia; as of the South of Italy, Armenia, Caucasus. L. Colúmnæ, Tenore, ind. sem. hort. nap. 1827. syll. fl. nap. p. 286. Hardly differing from *L. vulgàtum;* except in the smaller, more villous leaves, and in the very villous calycine teeth. Flowers white.

Tomentose Archangel. Fl. May, July. Clt.? Pl. ½ to 1 foot.

Sect. IV. Galeóbdolon (from γαλη, *gale*, a weasel; and βδολος, *bdolos*, fetid smell; in allusion to the fetid smell of *L. Galeobdolon.*) Benth. lab. p. 515. Tube of corolla obliquely annulate inside, contracted under the ring, but dilated and rather ventricose above the ring, somewhat recurvedly stretched out: throat a little dilated; galea oblong, narrowed a long way at the base. Anthers glabrous.

20 L. pube'scens (Sibth. in herb. Banks, ex Benth. lab. p. 515.) leaves ovate, truncate or subcordate at the base: superior leaves acuminated, all wrinkled and villous; corolla reddish purple: galea elongated, entire: lateral lobes angular, having the angle mutic, or with a setaceous appendage. ♃. H. Native of Sicily and Naples. L. rugòsum, Sibth. et Smith, fl. græc. 6. p. 45. t. 555. Guss. fl. sic. prod. 2. p. 94. Tenore, fl. nap. 2. p. 19.? but not of Ait. This species differs from *L. flexuòsum*, in the corollas being one half larger, more villous, and purplish red; and in the leaves being more villous; and the bracteas are usually broader.

Pubescent Dead-Nettle. Pl. ascending.

21 L. flexuòsum (Tenore, fl. nap. 2. p. 19. t. 52. syll. p. 287.) leaves ovate, acuminated, truncate, or subcordate at the base, nearly glabrous, or scarcely villous; corolla white: galea elongated, entire: lateral lobes angular, having the angle mutic, or furnished with a setaceous point. ♃. H. Native of the region of the Mediterranean; as of France, Sicily, Naples, and Barbary. Rchb. icon. bot. eur. 8. p. 3. t. 706. L. Petitìnum, Gay, ined. Stems procumbent, often rooting at the base; branches ascending. Leaves coarsely and doubly toothed, green, or marked by a white line. Whorls 6-20-flowered.

Flexuous Dead-Nettle. Fl. April, July. Clt. 1824. Pl. ascending.

22 L. Galeóbdolon (Crantz, austr. p. 262. Benth. lab. p. 516.) leaves ovate, acuminated, truncate or subcordate at the base, nearly glabrous, or pilose; corolla yellow: galea elongated, entire: lateral lobes oblong, mutic, or with a very short appendage, hardly shorter than the lip. ♃. H. Native of the North of Europe, in shady places, woods, and under hedges; plentiful in some parts of Britain. Galeópsis Galeóbdolon, Lin. spec. 810. Pollíchia Galeóbdolon, Roth, fl. germ. 1. p. 254. Leonùrus Galeóbdolon, Scop. carn. no. 705. Galeóbdolon lùteum, Huds. angl. p. 258. Hook. fl. lond. 2. icone. Smith, engl. bot. t. 787. Galeóbdolon Galeópsis, Relh. cat. p. 436. Curt. fl. lond. 4. t. 40. Cardìaca sylvàtica, Lam. fl. fr. 2. p. 384. Pollíchia vulgàris et montàna, Pers. ann. bot. 14. p. 39. Galeóbdolon vulgàre, Pers. ench. 2. p. 122.—Riv. mon. irr. t. 20. f. 2.—Mor. hist. sect. 11. t. 11. f. 5, 6. Herb nearly glabrous, but sometimes, especially on the lower leaves and stems, beset with long hairs. Whorls numerous, 6-15-flowered. Leaves deeply toothed. Corolla yellow: middle segment of the lower lip tawny, marked with 3 lines, the whole lower lip beautifully spotted with tawny or deep orange dots.

Galeobdolon, or Yellow-flowered Dead-Nettle. Fl. May, July. Britain. Pl. 1 to 1½ foot.

Doubtful species.

23 L. hi'rtum (Poir. suppl. p. 296.) leaves ovate-cordate, pubescently hairy, rather hoary; stem and calyxes very hairy; corolla small, nearly glabrous. ♃.? H. Native country unknown, but cultivated in Parisian gardens. Flowers of *L. álbum*, but much smaller. Stems hairy. Leaves soft, with nearly regular, obtuse crenatures, canescent: lower ones on long petioles. Whorls few-flowered. Calycine teeth 5, very short. Corolla white.

Hairy Archangel. Pl. ascending.

24 L. micra'nthum (Weinm. in syll. pl. soc. ratisb. 1. p. 68.) lower leaves petiolate: upper ones sessile, cordate-ovate, obtuse, serrated; whorls 6-flowered. ⊙. H. Native of Brazil. Leaves beset in all parts with reflexed or spreading hairs. Calycine teeth equal, ciliated, terminated by a bristle. Corolla small, pale red, about equal in length to the calycine teeth; galea entire. Perhaps *L. purpùreum* or *Stàchys arvénsis.*

Small-flowered Archangel. Pl. 1 foot.

Cult. None of the species are worth cultivating for ornament, except *L. Orvàla* and *L. vulgàtum*, var. *maculàtum.* They are of the most easy culture, and will grow in any soil or situation, even under the drip of trees. The herbaceous perennial kinds are increased by division. The seeds of annual kinds only require to be sown in the open ground in spring.

LXXVII. LAGOCHI'LUS (from λαγος, *lagos*, a hare; and χειλος, *cheilos*, a lip; in reference to the bifid lower lip, like that of a hare's.) Bunge, mon. gen. molucc. ined. Benth. lab. p. 640.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubularly campanulate, somewhat 5-nerved, with an equal or oblique

mouth: teeth 5, nearly equal, or the superior ones are the longest, rather spinose at top. Corolla having the tube a little exserted, annulate inside, and the limb bilabiate; upper lip oblong, bifid at apex; lower lip erectish, with short, erect, acute, lateral lobes, and a spreading, broadly bifid middle lobe. Stamens 4, ascending: lower ones the longest. Filaments naked at the base; anthers approximate by pairs, 2-celled: cells parallel or diverging, and with the margins of the valvules ciliated. Style about equally bifid at apex: lobes subulate, stigmatiferous at apex. Achenia dry, triquetrous, with acute angles, and a truncate apex.—Herbs? quite glabrous, stiff. Leaves deeply lobed: lobes somewhat spinescent. Whorls axillary, few-flowered. Bracteas subulate, rather spinose.

1 L. diacanthophy'llus (Benth. lab. p. 641.) leaves tripartite, cut; calyxes erectish, with oblong, mucronulate teeth, which are longer than the tube. ♃. F. Native of the desert of Bucharia, Pallas. Molucélla diacanthophýlla, Pall. nov. act. petrop. 10. p. 380. t. 11. Molucélla grandiflòra, Steph. in Willd. spec. 3. p. 131. Stems numerous, erect, rising from a perennial base. Lobes of lower leaves broad, short, obtuse, mutic, those of the superior ones narrow, ending each in a spiny mucrone; middle lobe of floral leaves sometimes tridentate. Whorls 2-flowered.? Corolla villous, pale red.

Two-spined-leaved Logochilus. Pl. ½ foot.

2 L. Bu'ngei (Benth. lab. p. 641.) leaves petiolate, 3-5-parted, cut; calyx elongated, incurved, with lanceolate, spinose teeth, which are one half shorter than the tube. ♃. F. Native of Siberia, among rocks in Soongaria, at the Irtish, Bunge. L. diacanthophýlla, Bunge, mon. molucc. ined. exclusive of the syn. of Pallas. Stems woody at the base, ascending. Leaves an inch long, cuneated at the base, with spiny or mutic lobes. Corolla pale red, almost 1½ inch long. Whorls remote.

Bunge's Lagochilus. Pl. 1 foot.

3 L. ilicifòlius (Bunge, mon. molucc. ined. ex Benth. lab. p. 641.) leaves sessile, cuneiform, deeply 3-5-toothed at apex; calyxes short, erectish, with oblong, very shortly mucronulate teeth. ♃. F. Native of Mongholia, in stony saltish places, Bunge.—A dwarf, stiff herb, or under-shrub. Stem rather villous under the axils, the rest glabrous. Whorls few-flowered. Corolla 7-8 lines long, pilose outside.

Holly-leaved Lagochilus. Shrub ½ foot.

Cult. For culture and propagation see *Làmium*, p. 819.

LXXVIII. LEONU'RUS (from λεων, *leon*, a lion; and ουρα, *oura*, a tail; lion's tail.) Lin. gen. no. 722. Schreb. gen. no. 977. Juss. gen. p. 114. Benth. lab. p. 517.—Cardìaca, Tourn. inst. t. 87.—Cardìaca, Chaitùrus, et Panzèria, Mœnch. meth.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx 5-nerved, turbinate, nearly equal, with a truncate mouth, and 5 teeth, which are subulate, and rather spiny at apex, and at length spreading. Corolla with an inclosed, rarely exserted tube, which is naked, or obliquely annulate inside, and a bilabiate limb: superior lip oblong, quite entire, sometimes flattish, with a narrowed base, and sometimes arched: lower lip spreading, trifid, the lateral lobes oblong, and the middle lobe obcordate. Stamens 4, ascending, didynamous: lower 2 the longest; anthers approximate by pairs, 2-celled: cells parallel, transverse, rarely diverging, with naked valvules. Style about equally bifid at top; lobes subulate, rarely short, and obtuse, stigmatiferous at top. Achenia dry, smooth, triquetrous, truncate at apex, with acute angles.—Erect herbs. Leaves generally deeply lobed: lower ones roundish: floral ones narrower, all exceeding the flowers much. Whorls dense, axillary, distinct. Bracteas subulate. The section *Cardìaca* comes very near to the section *Galeóbdolon* of *Làmium*, and the section *Chaitùrus* to the genus *Marrùbium*, ex Benth.

Sect. I. Cardi'aca (the Latin name of motherwort, from *cardia*, the heart; in allusion to its supposed efficacy in the cure of cardialgia.) Benth. lab. p. 518. Cardìaca, Mœnch, meth. p. 401. Tube of corolla obliquely annulate inside, rather ventricose above the ring; upper lip flattish, narrowed at the base: lower lip spreading, with the middle lobe entire.

1 L. pube'scens (Benth. in Wall. pl. asiat. rar. 1. p. 63. lab. p. 518.) finely pubescent; leaves all ovate, acuminated, rather deeply toothed; corolla about 3 times as long as the calyx. ♃. or ♂. H. Native of the mountains of Kamaon, Wall.; Choor and Kanaour, Royle. Leaves more toothed than lobed. Whorls 20-30-flowered, remote. Corollas larger than those of *L. Cardìaca.*

Pubescent Motherwort. Pl.?

2 L. Royle'anus (Benth. l. c.) stem erect, finely tomentose; leaves ovate, acuminated, deeply serrated, or 3-5-lobed, villous above, and clothed with hoary tomentum beneath, as well as the calyxes. ♃. or ♂. H. Native of Mount Choor, Royle. Stem branched, with pilose axils. Whorls many-flowered: lower ones remote: upper ones spicate.

Royle's Motherwort. Pl.?

3 L. Cardi'aca (Lin. spec. p. 817.) pubescent; lower cauline leaves palmatifid: superior leaves ovate, lobate: floral leaves oblong, subtrifid, narrowed a long way at the base: lobes all ovate or lanceolate; calyxes glabrous or villous. ♃. or ♂. H. Native throughout Europe and Middle Asia, on banks or under hedges, in a gravelly or calcareous soil. In several places both in Scotland and England, in like situations. Smith, engl. bot. t. 286. Fl. dan. t. 727. L. campéstris, Andrz. ex Besser, pl. exs. with the segments of the leaves a little narrower. L. Illýricus, Hort. Cardìaca vulgàris, Mœnch, meth. p. 401. Cardìaca trilobàta, Lam. fl. fr. 2. p. 383.—Blackw. t. 171.—Mor. hist. sect. 11. t. 9. f. 18. Stems branched at the base. Whorls 6-15-flowered, distant. Corolla villous outside, pale red or white, and striped with purple veins. The herb is bitter and tonic, with no very pleasant, but pungent smell. It was formerly used in Cardialgia, whence its old name; but it has now become wholly obsolete, except, perhaps, among cowleeches and farriers. Bees are fond of the flowers. In German, Motherwort is called *Herzgeshaun* or *Herzkraut.* In Swedish, *Bonassla.* In French, *Agripaine, Cardiaque, La Cordiale.* In Italian, Spanish, and Portuguese, *Agripalma, Cardiaca,* &c.

Var. β, *villòsus* (Benth. lab. p. 518.) leaves more wrinkled, and are, as well as the stems, villous; calyxes rather villous. ♃. or ♂. L. villòsus, Desf. cat. hort. par. p. 73. D'Urv. enum. pl. arch. in mem. soc. Lin. par. p. 325. L. condensàtus, Horn. hort. hafn. L. làcerus, Lindl. hort. trans. 6. p. 296. L. canéscens, Dumort, florul. belg. p. 46. L. negléctus, Schranck, in syll. pl. soc. ratisb. 2. p. 61. Corollas red or purple.

Var. γ, *crìspus* (Benth. lab. p. 519.) margins of leaves undulately curled, and lacerately toothed. ♂. H. L. crìspus, Murr. comm. gœtt. 8. t. 4. Cardìaca crìspa, Mœnch, meth. p. 401.—Sabb. hort. rom. 3. t. 43. Mill. dict. ed. 7th. Corollas pale red or white.

Cardiac or Common Motherwort. Fl. July, Aug. Britain. Pl. 2 to 4 feet.

4 L. glauce'scens (Bunge, in Led. fl. alt. 2. p. 409.) canescent from glaucescent pubescence above; cauline leaves palmately parted, cut, with oblong-lanceolate lobes; floral leaves subtrifid, the segments and upper leaves lanceolate-linear, almost quite entire; calyxes clothed with hoary pubescence. ♂. H.

Native of the Altaia, plentiful. Ledeb. fl. ross. atl. ill. t. 179. Habit of *L. Sibíricus*, with the flowers of *L. Cardìaca*. Leaves ample, deeply toothed; floral leaves much narrower, and more deeply cut than in *L. Cardìaca*.

Glaucescent Motherwort. Pl.

5 L. Tata'ricus (Lin. spec. p. 818.) glabrous or pubescent at top; cauline leaves palmately parted, cut; floral leaves subtrifid: lobes of all, as well as the upper leaves, lanceolate-linear or linear; calyxes glabrous or villous. ♂. H. Native of Tartary, Lin.; Siberia, about the Kolyvan, Patrin; Altaia, frequent, Ledeb. Rchb. icon. bot. eur. 4. p. 31. t. 338. L. Altàicus, Spreng. syst. 2. p. 738. L. multífidus, Desf. hort. par.—Mill. fig. 53. t. 80. Nearly allied to *L. glaucéscens*, but more slender, more humble, and the leaves more finely cut, and the flowers smaller.

Tartarian Motherwort. Fl. Aug. Oct. Clt. 1756. Pl. 2 to 3 feet.

Sect. II. Chaitu'rus (from χαιτη, *chaite*, a head of hair, and ουρα, *oura*, a tail; in reference to the close whorls of flowers.) Benth. lab. p. 520. Chaitùrus, Mœnch. meth. p. 401. Tube of corolla straight, naked inside: upper lip a little arched: lower lip erectish, with nearly equal lobes, the middle lobe almost entire. Stamens scarcely longer than the tube; cells of anthers diverging. Flowers minute.

6 L. marrubia'strum (Lin. spec. 817.) branches elongated, pubescent; leaves oblong-ovate, somewhat deeply toothed, narrowed at both ends; calyxes nearly glabrous; corollas shorter than the calycine teeth. ☉. H. Native of Europe, especially in the East, and Asiatic Russia, among bushes, and in waste places; as of France, Germany, Piedmont, Hungary, Caucasus, Siberia. Jacq. fl. austr. 5. p. 3. t. 405. Chaitùrus leonuroìdes, Willd. fl. berol. p. 201. Chaitùrus marrubiástrum, Ehrh. Cardìaca marrubiástrum, Schreb.—Bocc. mus. 2. t. 98. Leaves petiolate, 1 to 1½ inch long, glabrous and green above, pale and canescent beneath, and tomentosely pubescent. Whorls dense, many-flowered, numerous, distant. Calycine teeth subulate, spiny, diverging. Corollas small, white, or pale red, smoothish.

Horehound-like Motherwort. Fl. June, Aug. Clt. 1710. Pl. 1 to 3 feet.

Sect. III. Panze'ria (named after G. Wolf. Fr. Panzer, of Nuremberg, author of several botanical works.) Benth. lab. p. 520. Panzèria, Mœnch. meth. p. 402. Tube of corolla straight, naked inside. Upper lip arched; lower lip straightish, or with the middle lobe spreading a little, obcordate or bifid. Stamens exserted from the tube.

7 L. Sibi'ricus (Lin. spec. p. 818.) erect, tall, glabrous or finely pubescent; leaves pinnately or palmately parted, a little cut: upper floral leaves almost quite entire; calyxes glabrous or clothed with fine tomentum. ♂. H. Native of Asia, Africa, and America, as of India, China, and Japan, Timor, Senegambia, Cuba, Demerara, St. Thomas, Trinidad, Brazil, &c. Rchb. icon. bot. eur. 4. p. 30. t. 337. Smith, exot. bot. 2. p. 67. t. 94. Sweet, fl. gard. 3. t. 204. L. Tatáricus, Burm. fl. ind. 127. but not of Lin. L. occidentàlis, Hortul. L. heterophýllus, Sweet, brit. fl. gard. 2. t. 197. L. occidentàlis, Colla, in mem. acad. taur. vol. 33. p. 154. L. altíssimus, Bunge, nov. gen. et spec. chin. bot. ined. L. multífidus, Desf. Panzèria multífida, Mœnch. meth. suppl. p. 137. Panzèria tripartìta, Mœnch. meth. p. 402.? Stàchys Artemísiæ, Lour. coch. p. 363.—Amm. ruth. no. 60. t. 8.? Branches usually canescent, at length glabrous and green. Leaves cut to the middle of the limb; cauline leaves usually tripartite; all green and glabrous above, but pale beneath, and pubescent while young. Lower whorls remote; upper ones approximate. Corollas red.

Siberian Motherwort. Fl. June, Aug. Clt. 1759. Pl. 2 to 6 feet.

8 L. lana'tus (Spreng. syst. 2. p. 738.) plant humble, clothed with white wool or villi; leaves all palmate-parted or palmatifid; corolla elongated. ♃. or ♂. H. Native of Siberia, in dry, sterile places, between the river Kan and Jebegan; and at the rivers Katunga and Tschuja, and near Slimon, Ledeb.; Dahuria, Patrin. Rchb. icon. bot. eur. 8. p. 15. t. 736. Ballòta lanàta, Lin. spec. 816. Panzèria lanàta, Pers. ench. 2. p. 126. Panzèria tomentòsa, Mœnch. meth. 402.—Gmel. sib. 3. t. 54. Stems rising from a thick rather woody base. Whorls dense, many-flowered, approximate. Corolla more than an inch long, yellowish.

Woolly Motherwort. Fl. June, Aug. Clt. 1752. Pl. 1 to 2 feet.

† *Species not sufficiently known.*

9 L. Java'nicus (Blum. bijdr. p. 828.) leaves ovate-oblong, unequally toothed; calyxes strigosely pubescent; calycine teeth acuminated, spreading; upper lip of corolla concave, emarginate: middle segment of the lower lip roundish, crenulated: lateral ones acutish. ♂. H. Native of the west of Java, in shady mountain places.

Java Motherwort. Pl.?

10 L. oblongifòlius (Blum. bijdr. p. 828.) leaves oblong, acuminated, unequally denticulated; calyxes very pilose; calycine teeth subulate; middle segment of the lower lip of the corolla roundish. crenulated: lateral ones acute. ♄.? H. Native of Java, on the Salak mountains, on the banks of the river Tjapus.

Oblong-leaved Motherwort. Pl.?

Cult. None of the species are very ornamental; and being generally biennial plants, the seeds of them only require to be sown in the open ground. *L. lanàta* should be grown in a dry sandy soil, or on rockwork.

LXXIX. ANISO'MELES (from ανισος, *anisos*, unequal, and μελος, *melos*, a member; in reference to the anthers of the longer stamens being dimidiate or halved.) R. Br. prod. p. 503. Benth. lab. p. 701. A'juga species, Roxb. Népeta and Ballòta species, Lin.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, tubular, erectish, 5-toothed. Corolla having the tube equalling the calyx, and furnished with a pilose ring inside, and a bilabiate limb; upper lip erect, oblong, entire; lower lip larger, spreading: lateral lobes ovate, obtuse, the middle lobe emarginately sub-bifid. Stamens 4, ascending, exserted, the lower 2 the longest; anthers approximating by pairs, those of the longer stamens dimidiate, and those of the shorter ones 2-celled: the cells parallel and transverse. Style almost equally bifid at top. Achenia dry, smooth.—Herbs and sub-shrubs, with the habit of *Stàchys*, sect. *Erióstachys*. Whorls sometimes densely many-flowered, racemose; sometimes very loose; constantly composed of cymes on long peduncles; sometimes axillary and few-flowered. Flowers purplish.

1 A. moscha'ta (R. Br. prod. p. 503.) leaves elliptic, and are, as well as the stem, clothed with cinereous pubescence; whorls few-flowered; calyx greyish-green, glanduliferous. ♄. S. Native of tropical New Holland. Corollas red or purplish.

Musky Anisomeles. Fl. July, Aug. Clt. 1824. Shrub 2 to 3 feet.

2 A. inodòra (R. Br. prod. p. 503.) leaves elliptic, nearly glabrous, dotted beneath; whorls remote; calyxes green, glanduliferous. ♄.? S. Native of tropical New Holland.

Scentless Anisomeles. Shrub.

3 A. Heynea'na (Benth. in Wall. pl. rar. asiat. 1. p. 59. lab. p. 702.) glabrous or finely pubescent; leaves remote, oblong-lanceolate, narrowed at the base; cymes of flowers on long peduncles, secund, few-flowered; calycine teeth lanceolate, acute. ♄.? S. Native of the Indian Peninsula, Heyne; Island of Salcette, on the higher mountains, in shady woods, at the temple of Kennerg, Jacquemont. Leaves serrately crenated, smaller and thinner than the rest, pale green, and usually finely pubescent.

Heyne's Anisomeles. Shrub.?

4 A. salviæfòlia (R. Br. prod. p. 503.? Benth. lab. p. 702.) villous; leaves oblong-elliptic or lanceolate; whorls dense, many-flowered; calycine teeth short, broad-lanceolate, acute. ♄.? S. Native of tropical New Holland; Island of Timor. Very nearly allied to *A. intermèdia*, and *A. ovàta*, var. *mollissima*, but differs in the smaller stature, slenderer branches, smaller calyxes, and in the teeth being 4 times shorter than the tube.

Sage-leaved Anisomeles. Shrub.?

5 A. ova'ta (R. Br. in Ait. hort. kew. ed. 2. vol. 2. p. 364.) hairy, rarely almost glabrous; leaves ovate, acuminated or roundish or truncately subcordate; whorls dense, many-flowered; calycine teeth lanceolate, acute. ⊙.? S. Native of the hotter parts of Asia, in waste and humid places in most parts. Jacq. fil. ecl. 1. t. 86. Hook. bot. misc. 2. p. 358. t. 19. A. dísticha, Heyne, ex Roth. nov. spec. p. 254. Népeta Amboínica, Lin. suppl. p. 273. Ballòta dísticha, Lin. mant. 83. A'juga dísticha, Roxb. fl. ind. 3. p. 2. Népeta dísticha, Blume, bijdr. p. 823. Marrùbium I'ndicum, Burm. fl. ind. p. 127. et thes. zeyl. t. 71. Monárda Zeylánica, Burm. fl. ind. p. 12. Ballòta Mauritiàna, Pers. ench. 2. p. 126.—Rheed. mal. 10. p. 175. t. 88. Leaves obtuse, broadly crenated. Whorls 10-40-flowered, secund, or nearly equal; lower ones distant; upper ones interruptedly spicate. Corollas purple; lower lip of a deeper colour.

Ovate-leaved Anisomeles. Fl. July, Aug. Clt. 1823. Pl. 2 to 3 feet.

6 A. ca'ndicans (Benth. in Wall. pl. rar. asiat. 1. p. 59. lab. p. 703.) canescent from pubescence; leaves ovate-oblong or lanceolate, narrowed at the base; whorls many-flowered, rather loose; calycine teeth lanceolate, acute. ♄.? S. Native of the Birman Empire, on the banks of the Irrawaddi, near Yenanghuen, Wallich. Habit of *A. Malabárica*, but the leaves are a little broader, pubescent on both surfaces, as well as the stems and calyxes. Cymes usually elongated as in *A. Malabárica*, but the flowers are fewer. Calyx elongated, having the teeth as in *A. ovàta*.

Whitish Anisomeles. Shrub.?

7 A. interme'dia (Wight, mss. ex Benth. lab. p. 703.) clothed with tomentose pubescence or subvillous; leaves ovate-lanceolate, cuneated at the base; whorls many-flowered, dense, or the cymes are at length ample and elongated; bracteas subulate; calyx hairy, having the teeth lanceolate at the base, and subulate at apex, very soft. ♄.? S. Native of the Indian Peninsula, on the mountains of Madura; and of Ceylon, at Peradenia. Habit intermediate, between *A. ovàta*, and *A. Malabárica*, but is more nearly allied to the latter, from which it differs in the broader less tomentose leaves, and broader calycine teeth.

Intermediate Anisomeles. Shrub.

8 A. Malaba'rica (R. Br. in. bot. mag. t. 2071.) tomentosely villous; leaves oblong-lanceolate, narrowed at the base; whorls many-flowered, dense, or the cymes are ample, and at length elongated: floral leaves, bracteas, and subulate calycine teeth, very soft. ♄. S. Native of the hotter parts of Asia, in humid places by the sides of rivulets; as of the Indian Peninsula, Burman Empire, Mauritius, Penang, Java, Malabar, &c. Hook. journ. bot. 1. p. 225. t. 127. Népeta Malabárica, Lin. mant. 566. A'juga fruticòsa, Roxb. fl. ind. 3. p. 1. Stàchys Malabárica, Sieb. fl. maur. exc.—Rheed. mal. 10. p. 185. t. 93.? Branches canescent from short tomentum. Leaves 2-4 inches long, obtuse, serrately crenated in the upper part, quite entire at the base. Whorls distant, disposed in simple racemes. Corolla rose-coloured or purplish: throat of corolla and filaments pilose. Odour of *Stàchys sylvàtica*.

Malabar Anisomeles. Fl. July, Aug. Clt. 1817. Shrub 2 to 5 feet.

Cult. The species are of the most easy culture and propagation. A light rich soil answers them well; and cuttings strike root readily in the same kind of soil.

LXXX. GALEO'PSIS (from γαλη, *gale*, a weasel; and οψις, *opsis*, resemblance; the mouth of the corolla gaping like that of an animal.) Lin. gen. no. 717. Schreb. gen. no. 972. Juss. gen. p. 114. Benth. lab. p. 523. Tetràhit. Dill. gen. 3-4. Mœnch. meth.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubularly campanulate, somewhat 5-nerved, with a nearly equal mouth and 5 nearly equal teeth, or the superior teeth are the longest, somewhat spinescent at apex. Corolla with an exserted tube, which is naked inside, a dilated throat, and a bilabiate limb; upper lip ovate, entire, arched; lower lip spreading, trifid: the lateral lobes ovate, and the middle lobe obcordate or somewhat bifid; palate furnished with an elevated tooth above, at the recess of the lobes. Stamens 4, ascending, the lower two the longest; anthers 2-celled: cells opposite, transversely and bivalvately dehiscent; inner valve roundish, with ciliated edges: outer one larger and naked. Style about equally bifid at top; lobes subulate, stigmatiferous at apex.—Annual divaricately branched erect herbs, rarely decumbent at the base. Floral leaves almost similar to the cauline leaves. Whorls numerous, many-flowered, distinct. Flowers red or cream-coloured, or variegated with both these colours. This genus is readily distinguished from all other labiate genera in the structure of the anthers.

1 G. ochroleu'ca (Lam. dict. 2. p. 600.) stem pubescent; leaves oblong or oblong-lanceolate, clothed with soft villi on both surfaces; calyx clothed with glandular villi. ⊙. H. Native of Middle Europe; as of Britain, France, and Germany, in sandy corn-fields; in England, as in Cambridgeshire, Nottinghamshire, Yorkshire, Lancashire, and about Bangor in Wales, Rchb. icon. bot. eur. 1. p. 40. t. 46. G. villòsa, Smith, fl. brit. 2. p. 629. engl. bot. t. 2353. G. grandiflòra, Gmel. syst. p. 905. G. prostràta, Vill. dauph. 2. p. 388. G. dùbia, Leers herb. no. 453. Tetràhit longiflòrum, Mœnch, meth. p. 395. G. ségetum, Rchb. ex Steud. nom. p. 351. G. Ládanum, màjus Krok. fl. siles, no. 932. Stems often decumbent at the base. The whole plant generally clothed with glandular hairs. Corollas large, cream-coloured.

Cream-coloured flowered Hemp Nettle. Fl. July, Aug. Britain. Pl. 1 foot.

2 G. La'danum (Lin. spec. p. 810.) stem glabrous or pubescent; leaves oblong-lanceolate, clothed with short tomentose pubescence on both surfaces; calyxes clothed with adpressed pubescence and glandless pili. ⊙. H. Native throughout Europe, from Sweden and Scotland to Spain, Italy, South of Russia and the Caucasus; a common weed in corn fields, plentiful in Britain, Smith, engl. bot. t. 884. G. canéscens, Schultes, obs. p. 108.? G. angustifòlia, Ehrh. Tetràhit Ládanum, Mœnch, meth. 394. —Petiv. brit. t. 33. f. 11.—Mor. hist. 3. p. 386. sect. 11. t. 12. f. 18. Plant erect. Branches purplish. Leaves remotely serrate-crenated. Whorls few at the tops of the branches, 6-10-flowered. Corolla red, having the tube and throat generally spotted with yellow: sometimes not above half again as long as the calyx, and sometimes 2 or 3 times as long, pubescent outside.

Var. β, parviflòra, (Benth. lab. p. 523.) corolla about half again as long as the calyx. ⊙. H. G. parviflòra, Lam. dict. 2. p. 600. G. intermèdia, Vill. fl. dauph. 2. p. 387. t. 9. Rchb. icon. bot. eur. 1. p. 40. t. 46. G. latifòlia, Hoffm. fl. germ. 4-8. ex D. C. fl. fr. 3. p. 544.

Var. γ, spinòsa (Benth. lab. p. 523.) calycine teeth longer and spinose. ⊙. H. G. angustifòlia, Hoffm. fl. germ. 4-8. ex D. C. fl. fr. 3. p. 543.

Ladanum Hemp Nettle. Fl. July, Sept. Britain. Pl. 1 foot.

3 G. Tetra'hit (Lin. spec. p. 810.) stem usually hairy, from stiff bristles or pili, and tumid at the nodi; leaves ovate, and are, as well as the calyxes, glabrous or hairy. ⊙. H. Native throughout Europe and Middle Asia, by way-sides, in coppice-woods; in corn-fields and on their margins; plentiful in some parts of Britain. Tetràhit nodòsum, Mœnch, meth. p. 395. Leaves 1-3 inches long, pilose. Whorls 6-30-flowered, distinct, or the upper ones approximate. Corolla sometimes shorter than the calycine teeth; sometimes 4 times as long, purplish, yellowish, or spotted with both colours.

Var. α, parviflòra, (Benth. lab. p. 524.) corolla 2-3 times as long as the calyx. ⊙. H. G. Tetràhit, Curt. fl. lond. 5. t. 191. Rchb. icon. bot. eur. 9. p. 28. t. 877. Smith, engl. bot. t. 207. G. bífida, Bonning. ex Lej. fl. belg. p. 241. Rchb. fl. germ. exc. p. 323. G. acuminàta, Rchb. fl. germ. exc. p. 323.—Riv. mon. irr. t. 31.—Petiv. herb. brit. t. 33. f. 8.—Mor. hist. t. 12. f. 13. Corolla purple or white, with a spot on the lower lip, variegated with purple and yellow.

Var. β, pubéscens (Benth. lab. p. 524.) stems scarcely hairy. ⊙. H. G. pubéscens, Besser. prim. fl. gal. 2. p. 27. Rchb. icon. bot. eur. 1. p. 40. and 41. t. 47-48. G. Walteriàna, Schlecht. fl. berol.

Var. γ, grandiflòra (Benth. lab. p. 524.) corollas 3-4 times as long as the calyxes. ⊙. H. G. versícolor, Lin. spec. p. 810. Curt. fl. lond. 6. t. 38. Rchb. icon. bot. eur. 1. p. 47. t. 57. G. cannábina, Poll. pal. no. 560. Fl. dan. 929. Willd. spec. 3. p. 393. G. speciòsa, Mill. dict. no. 3. Corolla cream-coloured; lower lip spotted with purple.

Tetrahit or Common Hemp Nettle. Fl. July, Aug. Britain. Pl. 1 to 3 feet.

Cult. All the species are common weeds in corn-fields; and are therefore only cultivated in botanical gardens.

LXXXI. STA'CHYS (from *σταχυς, stachys,* a spike, in reference to the spiked inflorescence.) Benth. lab. p. 525.—Stàchys and Betónica, Lin. and other authors.—Zietènia, Gleditsch, Pers. and other authors.—Erióstomum, Tetrahìtum and Trixàgo, Hoffm. et Link.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubularly campanulate, 5 or 10-nerved, with an equal or oblique 5-toothed mouth; teeth equal, or the superior ones are larger, or the 3 superior ones are combined into an upper lip. Corolla with an equal, inclosed or exserted tube, furnished with a transverse ring of hairs inside or naked, often incurved above; throat not dilated; limb balabiate; upper lip erect or spreading a little, usually arched a little, entire or scarcely emarginate, rarely elongated and flattish, emarginately bifid; lower lip usually longer, spreading, and 3-lobed; the middle segment large, entire, or emarginate. Stamens 4, ascending, exserted; lower 2 the longest; filaments naked; anthers approximate, 2-celled: cells distinct, parallel, diverging or divaricate. Style about equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia dry, obtuse, not truncate.—Herbs or subshrubs. Whorls 2 or many-flowered, usually disposed in terminal, nearly simple racemes.

Sect. I. Alopecu'ros (from *αλωπηξ, alopex,* a fox, and *ουρα, oura,* a tail; resemblance in spikes of flowers.) Benth. lab. p. 531.—Betónica species, Lin. and other authors. A perennial villous green herb. Whorls fasciculately many-flowered, approximating into somewhat interrupted spikes. Outer bracteas about equal in length to the calyxes. Corollas yellowish; tube inclosed. Cells of anthers parallel.

1 S. alopecu'ros (Benth. lab. p. 531.) plant ascending, villous; leaves petiolate, broad-ovate, obtuse, crenated, broad-cordate at the base: lower floral leaves sessile, similar to the upper ones, but broader: upper ones and bracteas broad-ovate, acute; corolla one half longer than the calyx, which is amply campanulate. ♃. H. Native of South and Middle Europe, on the mountains; as of the Pyrenees, Cevennes, Switzerland, Austria, Provence, Piedmont, Naples, Mount Parnassus. Betónica alopecùros, Lin. spec. p. 811. Jacq. fl. austr. 1. p. 50. t. 78. Rchb. icon. bot. eur. 8. 4. t. 719. Betónica lùtea, Mill. dict. no. 7. Sideritis alopecùros, Scop. carn. no. 711. t. 28. Spikes an inch in diameter. Whorls 20-30-flowered. Corollas cream-coloured, downy outside.

Fox-tail-spiked Betony. Fl. July. Clt. 1759. Pl. 1 to 1½ foot.

Sect. II. Betónica (betonic is the Celtic name of common betony.) Benth. lab. p. 532. Betónica species of Lin. and other authors. Pilose, pubescent, or villous perennial herbs. Whorls fasciculately many-flowered, approximating into subinterrupted spikes. Outer bracteas equalling the calyxes. Corollas purplish, rarely cream-coloured; tube usually exserted; cells of anthers subparallel.

2 S. densiflòra (Benth. lab. p. 532.) erect, hairy; leaves petiolate, ovate-oblong, obtuse, crenated, cordate at the base: lower floral leaves cordate-ovate, on short petioles: superior ones bractea-formed, and are, as well as the bracteas, ovate-lanceolate, mucronate, equalling the calyxes; whorls approximating into a dense oblong spike: the lower whorls remote; corolla twice as long as the calyx. ♃. H. Native of the South of Europe in subalpine places; as of Spain, Pyrenees, Switzerland, Appennines, Naples, Hungary, Caucasus. Betónica Monnièri, Osb. p. 146. Gouan, ill. p. 36. Betónica hirsùta, Lin. mant. 248. Murr. comm. gœtt. 1779. vol. 2. p. 13. t. 3. Rchb. icon. bot. eur. 8-5. t. 714. Betónica Dánica, Mill. dict. no. 2. Betónica incàna, Ait. hort. kew. 2. p. 293. Sims. bot. mag. 2125. Rchb. icon. bot. eur. 8. p. 5. t. 713.—Barrel. icon. t. 340. Stems nearly simple. Leaves 2-3 inches long, and 1 to 1½ broad. Spikes thick, dense. Corollas villous outside, purplish, tube exannulate inside. Calycine teeth spinose; superior ones rather the largest.

Dense-flowered Betony. Fl. June, July. Clt. 1710. Pl. 1½ foot.

3 S. Betónica (Benth. lab. p. 532.) erect, rather pilose; lower leaves on long petioles, ovate-oblong, obtuse, crenated, cordate at the base: superior leaves remote, and are, as well as the lower floral leaves, sessile, oblong-lanceolate, acute, toothed: uppermost ones linear, quite entire, equalling the calyxes; whorls many-flowered, all approximate into an oblong subinterrupted spike, or the lower whorls are distinct; bracteas ovate, mucronate, equalling the calyxes; corolla twice as long as the calyx. ♃. H. Native throughout Europe and Russian Asia, in woods, heaths, and pastures, among bushes; plentiful in Britain, in like situations. Betónica officinàlis, Lin. spec. p. 810. Hook. fl. lond. vol. 2. with a figure. Smith, engl. bot. t. 1142. Fl. dan. 726. Rchb. icon. bot. eur. 8. p. 54. t. 710. Betónica hírta, Leyss. Rchb. icon. bot. eur. 8. p. 4. t. 711. Betónica legítima, Link, handb. p. 476. Betónica stricta, Ait. hort. kew. 2. p.

299. Rchb. icon. bot. eur. 8. p. 5. t. 712. Betónica alpìna, Mill. dict. no. 3. Betónica foliòsa, Presl. fl. sic. 37. ? Betónica affìnis, Wender. in bot. zeit. 1826. 1. p. 353. Betónica serótina, Host, fl. austr. vol. 2. Betónica divúlsa, Tenore, syll. fl. nap. append. p. 641. ?—Sabb. hort. rom. t. 82.—Riv. mon. irr. t. 28. —Mor. hist. sect. 11. t. 5. f. 1.—Petiv. herb. brit. t. 32. f. 6. Very like *S. densiflòra*, but differs in the more slender stems, longer petioles, remote smaller leaves, the more starved spike, &c. Corolla purple or white. Betony was formerly much used in medicine, but it is discarded from present practice. When fresh it intoxicates. The leaves and flowers, according to Lewis, have a herbaceous, roughish, and somewhat bitterish taste, with a weak aromatic flavour. An infusion of them or light decoction may be drunk as tea. The roots are bitter and very nauseous ; in small doses they act as an emetic and aperient. The plant dyes wool of a fine dark yellow colour.

Var. β, màjor (Benth. lab. p. 532.) spike elongated and thicker, and the habit more like that of *S. densiflòra*, but the superior leaves are lanceolate, not ovate. ♃. H. This is the garden variety.

Betony, Common. Fl. July, Sept. Britain. Pl. 1 to 1½ foot.

4 S. longifòlia (Benth. lab. p. 533.) erect, villous ; leaves petiolate, oblong-lanceolate, obtuse, crenated, deeply cordate at the base : lower floral leaves similar to the rest, sessile : upper floral ones bractea-formed, and are, as well as the bracteas, ovate-lanceolate, acuminated, shorter than the calyxes ; whorls many-flowered : lower ones remote : upper ones approximate into a cylindrical spike ; corolla twice as long as the calyx, which is tubular. ♃. H. Native of Caucasus. Betónica orientàlis, Lin. spec. p. 811. Lam. ill. t. 507. f. 2. ? Leaves 4-6 inches long, and ½ but scarcely 1 inch broad, deeply and hastately cordate at the base. Spike loosish, ½ foot long, interrupted at the base. Corollas reddish, purple ; tube exannulate inside.

Long-leaved Betony. Fl. June, July. Clt. 1737. Pl. 1 to 2 feet.

5 S. grandiflòra (Benth. lab. p. 533.) erect, villous ; leaves petiolate, broad-ovate, obtuse, crenated, broadly cordate at the base : floral leaves sessile, stem-clasping, almost similar to the rest, gradually becoming smaller as they ascend, till the upper ones become almost bractea-formed ; whorls many-flowered, distinct : the lower ones remote ; bracteas ovate-lanceolate, acute, longer than the calyxes ; corolla about 3 times as long as the calyx, which is tubularly campanulate : throat dilated. ♃. H. Native of Siberia, at the river Terek ; also of Caucasus. Betónica grandiflòra, Willd. spec. 3. p. 96. Curt. bot. mag. t. 700. Rchb. icon. bot. eur. 8. p. 6. t. 715. Betónica orientàlis, Thuil. fl. par. p. 293. but not of Lin. Whorls 10-20-flowered. Corolla violaceous, 12-14 lines long, glabrous ; tube exannulate inside.

Great-flowered Betony. Fl. June, July. Clt. 1803. Pl. 1 foot.

6 S. di'scolor (Benth. lab. p. 533.) ascending, villous ; leaves petiolate, oblong-lanceolate, deeply crenated, wrinkled above and hairy, but clothed with white wool beneath : lower floral leaves similar to the rest, sessile : upper floral leaves bractea-formed, lanceolate, equalling the calyxes ; whorls many-flowered, rather distinct, few ; corolla more than twice as long as the calyx, which is tubularly campanulate : throat dilated. ♃. H. Native of Eastern Caucasus, in stony places. Betónica nívea, Stev. in mem. soc. mat. car. mosq. 3. p. 266. Betónica macroùra, Otto. ? This is a very elegant species, of the size, and with the flowers of *S. grandiflòra*. Leaves form of those of *S. hirsùta*, green above. Calyx woolly. Corollas large.

Var. α, ròsea ; flowers rose-coloured. ♃. H.

Var. β, ochroleùca ; flowers cream-coloured. ♃. H.

Two-coloured-leaved Betony. Fl. June, July. Clt. 1820. Pl. 1 to 1½ foot.

Sect. II. Eriósтachys (from *ερτον, erion*, wool, and *σταχυς, stachys*, a spike ; spikes woolly.) Benth. lab. p. 534. Erióstachys species. Rchb. fl. germ. exc. p. 319. Erióstomum, Hoffm. et Link, fl. port. Perennial or biennial herbs, clothed with soft villi or wool. Whorls many-flowered. Outer bracteas alone equalling the calyxes or hardly shorter than them.

7 S. Hera'clea (All. ped. 1. p. 31. t. 84. f. 1.) erect, woolly from very long hairs ; leaves petiolate, oblong, obtuse, crenated, subcordate at the base : floral leaves very broadly ovate, quite entire, and broadly cordate at the base, scarcely exceeding the calyxes ; whorls many-flowered, distinct ; bracteas ovate or oblong : outer ones equalling the calyxes ; calyx woolly, with ovate, very acute subspinose teeth. ♃. H. Native of Europe, in the region of the Mediterranean, in dry uncultivated places ; as of Spain, Eastern Pyrenees, France about Rhodes, Provence, Piedmont, Italy, Sicily, &c. Sideritis Heráclea, Col. ecphr. 1. t. 131. ex Allion. S. intermèdia, Tenore, fl. nap. p. 34. ex. D. C. but not of Ait. S. barbàta, Lapeyr, abr. p. 336. S. phlomoìdes, Willd. enum. suppl. p. 41. Betónica Heráclea, Lin. syst. 535. mant. p. 83. Stems many, from a thick perennial base. Cauline leaves 2-5 inches long, and hardly 1 inch broad. Racemes simple. Corolla twice as long as the calyx, purple, form of that of *S. Germánica*.

Var. β, lùtea (Benth. lab. p. 534.) flowers yellow. ♃. H. Native of Croatia, Dalmatia, and near Constantinople. S. obliqua, Waldst. et Kit. hung. 2. p. 142. t. 134. S. Crética, Forsk. fl. const. p. 28. but not of Lin. S. orientàlis, Vahl. symb. 2. p. 64. Sibth. et Smith, fl. græc. 6. p. 48. t. 134. This only differs from the species in the colour of the flowers.

Heraclean Hedge Nettle. Fl. June, July. Clt. 1816. Pl. 1 foot.

8 S. molli'ssima (Willd. hort. berol. 60. t. 60.) humble, erect, clothed with soft villi ; leaves petiolate, broad-ovate, crenated. cordate at the base, wrinkled, greenish on both surfaces, very villous ; whorls many-flowered ; bracteas linear, equalling the calyxes ; calyx campanulate, villous, with acute, rather spinose teeth ; corolla pubescent outside, half again as long as the calyx. ♃. H. Native of Spain, and of the Island of Corfu. Leaves like those of *S. alpìna*, but smaller. Corollas pale purple. ?

Very soft Hedge Nettle. Fl. July, Aug. Clt. 1806. Pl. ½ to ¾ foot.

9 S. pu'mila (Russ. nat. hist. alep. 2. p. 255. t. 10.) perennial or suffruticose, humble ; leaves almost radical, petiolate, ovate, obtuse, cordate at the base, wrinkled, clothed with hoary tomentum on both surfaces ; whorls few, many-flowered ; outer bracteas about equal in length to the calyxes ; calyx nearly glabrous, with lanceolate-subulate teeth, which are about equal in length to the tube. ♃. or ♄. F. Native of Syria, near Aleppo, Russell. Stems rising from a short woody base. Radical leaves almost like those of *Sálvia pomífera*. Floriferous branches 2-4 inches high, bearing 2-4 whorls. Floral leaves roundish, wrinkled. Whorls 15-20-flowered.

Dwarf Hedge Nettle. Pl. ¼ to ½ foot.

10 S. Swainsònii (Benth. lab. p. 535.) herbaceous, ? pilosely woolly, procumbent at the base, much branched ; leaves petiolate, ovate, obtuse, crenated, rounded at the base, wrinkled, very soft ; whorls 2-10-flowered ; bracteas one half shorter than the calyxes, rarely minute ; calyx campanulate, villous, with lanceolate, very acute, rather spinose teeth ; corolla twice as long as the calyx. ♃. ? H. Native of Greece, on Mount Parnassus, Swainson ; Ithaca, P. B. Webb. Pràsium hirsùtum, Poir. dict. 5. p. 611. This species is allied to sect. *Zietènia*. Leaves about ½ an inch long. Racemes dense. Corolla villous outside. Ring of tube rather oblique.

Swainson's Hedge Nettle. Pl. ½ foot.

11 S. Zuccari'nii (Benth. lab. p. 535.) herbaceous, silky and woolly from adpressed pili; branches elongated, erect, a little branched; leaves few, linear, quite entire; whorls 2-flowered; bracteas shorter than the calyxes; calyx tubularly campanulate, with spinose teeth, which exceed the tube of the corolla. ♃.? H. Native of Greece, Zuccarini. Branches almost naked. Leaves scarcely an inch long, acutish: floral leaves small, sessile, lanceolate. Calyxes sessile.

Zuccarini's Woundwort. Pl. 2 to 3 feet.

12 S. lana'ta (Jacq. icon. rar. 1. p. 11. t. 107.) clothed with dense silky wool; leaves oblong-elliptic, narrowed at both ends, scarcely crenulated, wrinkled: floral leaves smaller: upper floral leaves shorter than the whorls; whorls many-flowered, the uppermost ones approximating into a spike; bracteas linear-lanceolate, about equal in length to the calyxes; calyx incurved, with scarcely unequal acute mutic teeth which are woolly inside; corolla woolly outside, with an inclosed tube. ♃. H. Native of Tauria, in dry exposed fields, plentiful, and throughout Caucasus. Erióstomum lanàtum, Hoffm. nachtr. 1. p. 60. Leaves thick. Whorls above, 30-flowered. Corollas purple, smaller than in *S. Germánica*.

Woolly Woundwort. Fl. June, Sept. Clt. 1782. Pl. 1 to 1½ foot.

13 S. Ita'lica (Mill. dict. no. 3.) erect, clothed with hoary tomentum; leaves nearly sessile or on short petioles, oblong-lanceolate, narrow, obtuse, crenulated, narrowed at the base, rarely subcordate, wrinkled: floral leaves ovate-lanceolate, quite entire, rather longer than the whorls; whorls many-flowered, distinct: upper ones approximate; bracteas linear-lanceolate, equalling the calyxes; calyx a little incurved, with acute spinose teeth, which are densely woolly inside; corolla woolly outside, with an inclosed tube. ♃. H. Native of Europe, in the region of the Mediterranean; as of Italy, Etruria, and near Parma. S. salviæfòlia, Tenore, fl. nap. 2. p. 23. t. 53. syll. p. 291. Erióstomum salviæfòlium, Presl. fl. sic. p. 37. This species differs from *S. Germánica* in the more humble stature, narrower leaves, which are rarely cordate at the base, and more tomentose than woolly. Corollas purplish.

Var. β, *púngens* (Benth. lab. p. 537.) plant more humble; leaves fewer; whorls few, spicate at the tops of the stems. ♃. H. Native of Dalmatia, at Zara; Syria, near Aleppo. S. púngens, Russel, nat. hist. alep. S. salviæfòlia, Vis. pl. dalm. Sideritis hirsùta, Sieb. pl. cret. exs.

Italian Woundwort. Fl. June, July. Clt.? Pl. 1 to 1½ foot.

14 S. Germa'nica (Lin. spec. 812.) herbaceous, tall, clothed with loose white wool; cauline leaves petiolate, ovate or ovate-lanceolate, obtuse, usually cordate at the base, crenated; lower floral leaves sessile, half stem-clasping, crenated, the uppermost ones lanceolate, acute, and quite entire, rather longer than the whorls; whorls many-flowered, distinct, racemose: upper whorls approximate; bracteas linear-lanceolate, equalling the calyxes; calyx a little incurved, with acute, rather spinose teeth, woolly inside, upper teeth the largest; corolla woolly outside, with an inclosed tube. ♃. H. Native of Europe, Middle Asia, and North Africa, in dry, arid, and stony places; in several parts of England, but hardly indigenous. Jacq. fl. austr. 4. p. 10. t. 319. Smith, engl. bot. t. 829. Bot. reg. t. 1289. Rchb. icon. bot. eur. 10. p. 18. t. 950. Oed. fl. dan. t. 684. S. lanàta, Crantz, austr. 267, but not of Jacq. Erióstomum Germánicum, Hoffm. et Link, fl. port. S. tomentòsa, Gat. fl. mont. p. 107. S. Crética, Lin. syst. 812.? Sibth. et Smith, fl. græc. 6. p. 47. t. 558. Walth. hort. p. 108. t. 19. S. spectábilis, Choisy, in D. C. pl. rar. hort. gen. 1. p. 27. S. dasyántha, Rafin. prec. des. decouv. p. 39. S. biénnis, Roth, Rchb. icon. bot. eur. 10. p. 17. t. 949. S. polystàchya, Tenore. fl. nap. 2. p. 23. t. 53. syll. p. 297. Erióstomum polystàchyum, Presl. fl. sic. p. 37. Erióstomum Lusitánicum, Hoffm. et Link, fl. port. S. Lusitánica, Steud. nom. p. 806. S. Pannónica, Lang. pl. exs. S. argéntea, Tausch, in bot. zeit. 1831. 1. p. 217. S. álba, Mill. dict. no. 4.? S. heterophýlla, Mœnch. ex Steud. nom. p. 806. S. cinèrea, S. elongàta, S. excélsa, S. intermèdia, S. orientàlis, S. Sibírica, S. verbascifòlia, &c. Hortul. S. montàna, Riv. mon. irr. t. 27. f. 1.—Barrel. icon. t. 297. This species is very variable in wooliness and size of flowers. Whorls 15-20-flowered. Corollas reddish purple.

German Woundwort or Hedge Nettle. Fl. July. Britain. Pl. 1 to 4 feet.

15 S. floccòsa (Benth. lab. p. 739.) herbaceous; stem tall, clothed with dense floccose wool; cauline leaves petiolate, ovate-lanceolate, obtuse, crenated, cordate at the base, clothed with soft villi above, and dense white floccose wool beneath: lower floral leaves crenulated: superior ones lanceolate, quite entire, pungent, rather shorter than the calyxes; whorls many-flowered, distinct, racemose: upper ones approximate; bracteas lanceolate, equalling the calyxes; calyx a little incurved, with acute pungent teeth, which are rather woolly inside, the upper teeth the largest; tube of corolla inclosed. ♃. H. Native of the North of India, on the mountains near Hirpur, Jacquemont. This species differs from its nearest allies, *S. Germánica* and *S. lanàta*, in the leaves being deeply cordate at the base, and in the wool of the stem and lower surfaces of the leaves being dense and floccose, not long and silky.

Floccose Woundwort. Pl. 1 to 3 feet.

16 S. alpi'na (Lin. spec. p. 812.) herbaceous, tall; stem erect, pilose, rather woolly; leaves petiolate, ovate, serrately crenated, cordate at the base, green on both surfaces, villous: floral leaves narrower, gradually becoming smaller as they ascend, acute, serrated; whorls all remote, many-flowered; bracteas linear, about equal in length to the calyxes; calyx rather pilose, with lanceolate-ovate acute spinose teeth; corolla woolly outside, about twice as long as the calyx. ♃. H. Native of the mountainous parts of Europe; as of the Pyrenees, France, Switzerland, Upper Italy, Germany, &c. Lapeyr. fl. pyr. 1. p. 14. t. 8. Erióstonum alpìnum, Hoffm. et Link, fl. port.—Sabb. hort. rom. 3. t. 41. This plant varies much in gardens, but is at all times readily distinguished from *S. Germánica* in the leaves being green on both surfaces, in the whorls being fewer and more remote, and in the raceme being much less woolly. Corollas, like those of *S. Germánica*, obscure purple, or reddish brown.

Var. β, *intermèdia* (Benth. lab. p. 537.) larger; leaves more wrinkled, rather woolly beneath. ♃. H. Native of Caucasus and Siberia. S. intermèdia, Ait. hort. kew. 2. p. 209. S. Crética, Lin. spec. p. 812. from the description. S. orientàlis, Lin. spec. p. 813. S. Sibírica, Link, enum. 2. p. 109. Sweet, fl. gard. t. 100. S. curviflòra, Tausch, in bot. zeit. 1831. 1. p. 216. S. urticæfòlia, Tausch, l. c. S. fúsca, Mœnch.?

Alpine Woundwort. Fl. July, Aug. Clt. 1597. Pl. 1 to 3 feet.

17 S. seri'cea (Wall. pl. rar. asiat. 1. p. 64. Benth. lab. p. 537.) herbaceous, tall; stem erect, very pilose; leaves petiolate, ovate or ovate-oblong, bluntish, crenated, cordate at the base, villous on both surfaces, green above, pale or hoary beneath, clothed with silky wool while young; whorls all distant, 10-15-flowered; bracteas linear, about equal in length to the calyxes; calyx woolly, with ovate-lanceolate very acute spinose teeth. ♃. H. Native of Central Asia, on the mountains; Caucasus, on the Talusch mountains, in woods; Persia, on the mountains of Gilan; Nipaul, Kamaoon, and Himalaya. S. Pérsica, Gmel. jun. ex Meyer, verz. pflanz. p. 94. Hardly distinct from *S. alpìna*, unless in being more villous, and in there being fewer flowers in

each whorl. Racemes many-flowered, woolly from long loose hairs. Leaves white from wool beneath, or green on both surfaces.

Silky Woundwort. Pl. 1 to 2 feet.?

18 S. setífera (Meyer, verz. pflanz. p. 94.) herbaceous, tall; stem erect, pilose, rather woolly; leaves on short petioles, oblong or oblong-lanceolate, rounded at the base: floral leaves gradually smaller as they ascend, all green on both surfaces, wrinkled, clothed with soft villi, aristately mucronate at apex; whorls many-flowered, distant; bracteas lanceolate, awned; calyx villous, with lanceolate, acute, spinose teeth; corolla downy outside, exceeding the calyx a little. ♃. H. Native of Caucasus, on the Talusch mountains, in rather humid places near Swant. Allied to *S. sericea*, but differs in the leaves being nearly sessile, narrow, awned, and in the corollas being more glabrous.

Bristle-bearing Woundwort. Pl. 1 to 2 feet.?

19 S. vestíta (Benth. lab. p. 538.) herbaceous, erect, clothed with soft white villi; leaves nearly sessile, ovate-lanceolate, obtuse, crenulated, cordate at the base, thick, wrinkled, densely clothed with white wool beneath: floral leaves lanceolate, acute, reflexed: upper ones scarcely exceeding the calyxes; whorls about 10-flowered, all distant; bracteas linear, one-half shorter than the calyxes; calyx villous, with lanceolate-acute rather spinose teeth; corolla pubescent outside, about twice as long as the calyx. ♃.? H. Native of Nipaul. Nearly allied to *S. oblongifòlia*, but differs from it in the thick woolly leaves and shorter bracteas. Leaves 1 to 1½ inch long, green above. Tube of corolla scarcely exserted.

Clothed Woundwort. Pl. 1 to 1½ foot.

20 S. melissæfòlia (Benth. lab. p. 538.) herbaceous; branches divaricate, pubescent from soft hairs; leaves petiolate, broad-ovate, obtuse, crenated, wrinkled, green on both surfaces, nearly glabrous or pubescent: upper floral leaves shorter than the calyxes; whorls about 10-flowered, rather remote, or the upper ones are approximate; bracteas linear, one half shorter than the calyxes; calyx ovate-campanulate, pubescent, with acute, but not spinose teeth; corolla pubescent outside, about twice as long as the calyx. ♃.? H. Native of Nipaul. Allied to *S. splèndens*, but more glabrous, and the flowers fewer, and about half the size. Leaves 1½ to 2 inches long, and about 1 inch broad, thin. Racemes branched a little. Corolla purplish: tube slender, incurved.

Balm-leaved Woundwort. Pl.

21 S. splé'ndens (Wall. pl. rar. asiat. 1. p. 64.) herbaceous, tall; stem erect, pilose; leaves petiolate, ovate, serrately crenated, cordate at the base, wrinkled, villous, green on both surfaces: floral leaves similar to the rest, sessile, gradually becoming smaller as they ascend; whorls about 10-flowered, remote; bracteas linear, shorter than the calyxes; calyx pubescent, with bluntish mutic unequal teeth; corolla more than twice as long as the calyx: tube exserted, incurved. ♃.? H. Native of Gosaingsthan, on the mountains, Wall; mountains of Mussooree, and throughout the Himalaya range, Royle. Allied to *S. alpìna*, but less villous; flowers fewer in the whorls, and the bracteas shorter.

Shining Woundwort. Pl. tall.

Sect. III. Calo'stachys (from καλος, *kalos*, beautiful; and σταχυς, *stachys*, a spike; in reference to the beauty of the flowers.) Benth. lab. p. 539.—Perennial glabrous or villous herbs. Stems often furnished with obverse pili or prickles on the angles. Whorls about 6-flowered. Bracteas minute. Calycine teeth very acute or rather spinescent. Corolla scarlet or purple, with a much exserted tube. Cells of anthers diverging or divaricate.

22 S. cocci'nea (Jacq. hort. schœnbr. 3. p. 18. t. 284.) herbaceous, erect, clothed with soft villi; leaves petiolate, ovate-lanceolate, bluntish, crenated, cordate at the base; racemes elongated; whorls 6-flowered, all distant; bracteas almost wanting; corolla pubescent, about 3 times as long as the tube. ♃. G. Native of Mexico. Curt. bot. mag. t. 666. Andr. bot. rep. t. 310. Leaves 2 inches long: floral leaves sessile, with submucronate crenatures; upper ones longer than the calyxes, ending in spinose mucrones. Corolla beautiful scarlet, pubescent, an inch long.

Scarlet-flowered Hedge Nettle. Fl. June, Aug. Clt. 1798. Pl. 2 to 3 feet.

23 S. cilia'ta (Dougl. mss. ex Benth. lab. p. 539.) herbaceous, erect, nearly glabrous; angles of stems obversely ciliated; leaves petiolate, ovate, shortly acuminated, crenated, cordate at the base, glabrous or rather hispid from a few hairs above; whorls 6-flowered, upper ones approximate; bracteas almost absent; corolla almost glabrous, 3 or 4 times longer than the calyx. ♃. H. Native of North-west America, along the banks of the Columbia, Douglas and Scouler. Leaves 2-3 inches long; petioles ciliated. Corolla smoothish, purple, nearly an inch long.

Ciliated-stemmed Hedge Nettle. Pl. 3 to 4 feet.

24 S. Thunbe'rgii (Benth. lab. p. 540.) herbaceous, erect?; angles of stem beset with obverse prickles; leaves petiolate, ovate, acuminated, crenated, cordate at the base, coriaceous, prickly on the nerves beneath, glabrous on both surfaces or hispid from long hairs; whorls 6-flowered, distant; bracteas almost wanting; corolla more than twice as long as the calyx, which is quite glabrous. ♃. G. Native of the Cape of Good Hope. Galeópsis híspida, Thunb. prod. fl. cap. p. 96. Habit of *S. boraginoìdes*. Stems procumbent or erect. Corolla glabrous, red, similar to those of *S. ciliàta*.

Thunberg's Hedge Nettle. Pl. procumbent.?

25 S. boraginoìdes (Schiede et Deppe, in Linnæa, 5. p. 100.) herbaceous, erect; angles of stem beset with obverse prickles; leaves petiolate, ovate, acute, crenated, cordate at the base, green on both surfaces, hairy and prickly on the nerves beneath; whorls 6-flowered, distant; bracteas almost wanting; calyx pilosely pubescent; corolla 4 times as long as the tube. ♃.? G. Native of Mexico, in shady places; on Mount Macultepec, and towards San Andres. Habit of *S. ciliàta*. Leaves 1-2 inches long. Corollas and calyxes form and size of those of *S. coccinea*.

Borago-like Hedge Nettle. Pl. 2 to 3 feet.

26 S. Chamissònis (Benth. in Linnæa, 6. p. 80.) herbaceous, erect; angles of stem obversely ciliated; leaves petiolate, ovate, obtuse, crenated, cordate at the base, clothed with velvety wool on both surfaces; whorls 6-flowered, distant; bracteas almost wanting; corolla villous outside, 3 times as long as the calyx. ♃.? H. Native of California, Chamisso. Allied to *S. ciliàta*, but differs from it in the leaves, and very villous corollas, and in the calyxes being longer and hispidly pilose.

Chamisso's Hedge Nettle. Pl. 2 to 3 feet.?

27 S. Riede'ri (Cham. in Linnæa. 6. p. 570.) erect, simple; angles of stem obversely ciliated; leaves on short petioles, ovate-oblong: floral leaves ovate, subcordate, nearly sessile, all acute, serrately crenated, with scabrous margins; whorls 6-flowered: flowers sessile; calyx hispid, with the nerves prickly; corolla 3 times longer than the calyx. ♃.? H. Native of Kamtschatka, Rieder. Lower leaves 2 to 2½ inches long: middle cauline leaves 4-5 inches long. Corollas red. Habit and hispidity of *S. boraginoìdes*.

Rieder's Hedge Nettle. Pl. 2½ feet.

28 S. hirsu'ta (H. B. et Kunth, nov. gen. amer. p. 541.) stems ascending, hispid; leaves petiolate, ovate-oblong, acute, cordate, hairy on both surfaces, crenated; whorls about 6-flow-

ered, distant; tube of corolla twice as long as the calyx. ♃.? G. Native of Mexico, in bushy places on the mountains between Actopan and Totonilco. Leaves nearly an inch long; petioles hispid. Calyx pilose, with subulately acuminated segments. Corolla scarlet, downy outside.

Hairy Hedge Nettle. Pl. ½ foot.

Sect. IV. Stachyoty'pus (from *σταχυς*, *stachys*, a spike; and *τυπος*, *typos*, type; because this section is supposed to be the representative type of the genus; or in other words the true species of the genus.) Benth. lab. p. 541. Stachyotỳpus, Dumort, florul. belg. p. 45.—Campanístrum and Erióstachys species, Rchb. fl. germ. exc. p. 318.—Trixàgo et Stàchys, Hoffm. et Link, fl. port.—Annual or perennial, pilosely hispid or glabrous, rarely woolly herbs. Whorls usually about 6-flowered, rarely 2-4 or 10-15-flowered. Bracteas minute. Calycine segments usually subspinescent. Corolla purplish, red, or rosy-white, never cream-coloured; tube inclosed, or very shortly exserted.

§ 1. Genui'na (this section is supposed to contain the genuine or true species of the genus.) Benth. lab. p. 541. *Stems tall, erect, having the angles usually ciliated with long spreading or obverse pili, rarely glabrous. Leaves ovate or oblong-lanceolate, rarely amply ovate. Whorls* 6-10-*flowered. Corollas rather large; tube sometimes exserted.*

29 S. Mexica'na (Benth. lab. p. 541.) herbaceous, erect, tall; stems hairy from stiff pili; leaves ample, petiolate, ovate-oblong, crenated, cordate at the base, hispid on both surfaces: floral leaves sessile, exceeding the flowers; whorls 6-8-flowered, distant; calyx campanulate, hispid, with lanceolate acute rather spinose teeth; corolla nearly glabrous, twice as long as the calyx: tube exserted. ♃. H. Native of New Spain, Moçino et Sessé. Allied to *S. sylvàtica*, but the leaves are on shorter petioles, narrower and longer. Corolla larger, and the tube more ample; upper lip emarginate.

Mexican Hedge Nettle. Pl. tall.

30 S. sylva'tica (Lin. spec. p. 811.) herbaceous, erect, hispid; leaves on long petioles, ovate, acuminated, serrated, cordate at the base: floral leaves bractea-formed, scarcely longer than the calyxes; whorls about 6-8-flowered, distant; calyx campanulate, hispid, with lanceolate acute rather spinose teeth; corolla nearly glabrous, twice as long as the calyx, with an exserted tube. ♃. H. Native of Europe and Middle Asia, in shady places and woods; from Sweden to Spain and Italy; also of Tauria and Caucasus; in Britain frequent in hedges and other shady places. Smith, engl. bot. t. 416. Curt. lond. 3. t. 34. S. Canariénsis, Jacq. icon. rar. 1. p. 11. t. 108.—Sabb. hort. rom. 3. t. 38.—Riv. mon. irr. t. 26. f. 2. Roots creeping, but not extensively. Herb branched, hispid from long spreading hairs. Leaves large, coarsely and acutely toothed, green. Corolla purple, marbled about the orifice, 6 lines long, with a pilose ring near the base of the tube inside. The herb is pungent, with a fetid smell, approaching to that of black horehound. Being one of those plants which powerfully affect the nerves it might prove no contemptible stimulant if judiciously used, ex Smith. The herb will dye yellow.

Wild Hedge Nettle. Fl. July, Aug. Britain. Pl. 2 to 3 feet.

31 S. palu'stris (Lin. spec. p. 811.) herbaceous, erect; stems pubescent or beset with retrograde hairs; leaves nearly sessile, oblong, or ovate-lanceolate, serrately crenated, rounded at the base or cordate, wrinkled, hispid, or the lower ones are nearly glabrous; whorls 6 to 10-flowered, distinct, the upper ones subapproximate; calyx campanulate, hispid, with lanceolate acute rather spinose teeth; corolla twice as long as the calyx. ♃. H. Native throughout Europe, as well as of Asia and North America, in humid places; plentiful in Britain in marshes, on the banks of rivers, in watery places, by road-sides, and in corn-fields, especially if they are moist. Smith, engl. bot. t. 1675. Hook. fl. lond. vol. 2. icone. Curt. lond. 3. t. 35. S. ségetum, Hagen ex Rchb. fl. germ. exc. 319. S. affìnis, Bunge, enum. pl. chin. bot.—Riv. mon. t. 26. f. 1.—Blackw. herb. t. 273.—Petiv. herb. brit. t. 33. f. 9. Angles of stem ciliated with spreading hairs, the rest pubescent. Leaves 2-3 and sometimes 4-6 inches long, pubescent or hispid on both surfaces; lower ones sometimes glabrous. Corollas pale purple; lower lip variegated; tube about equal in length to the calyx. It behoves many farmers to know this plant, says Mr. Curtis, as a very noxious plant in many cornfields, increasing extensively by the roots, and also by seed. Linnæus says that swine are fond of the roots.

Var. β, *angustifòlia* (Benth. lab. p. 542.) flowers smaller; calyxes rather mutic. ♃. H.

Var. γ, *hýbrida* (Benth. lab. p. 542.) leaves on long petioles; corolla subexserted. ♃. H. Native of Britain in moist places. S. ambígua, Smith, engl. bot. t. 2089. Rchb. icon. bot. eur. 3. p. 20. t. 222. Plant 1-2 feet high.

Marsh Hedge Nettle, or Clown's All-Heal. Fl. July, Aug. Britain. Pl. 2 to 4 feet.

32 S. Baicale'nsis (Fisch. ex Benth. lab. p. 543.) erect; stem beset with retrograde stiff hairs; leaves nearly sessile, oblong-linear, acutish, serrated, rounded at the base, hispid: floral leaves scarcely longer than the calyxes; whorls 6-flowered; lower ones remote: upper ones approximate into a dense thick oblong spike; calyx campanulate, hispid, with lanceolate very acute rather spinose teeth; corolla twice as long as the calyx. ♃. H. Native of Dahuria, Fischer; Eastern Siberia, Pallas. S. angustifòlia, Pall. herb. Stems nearly simple, with the sides glabrous, and the angles pilose. Leaves 2 inches long. Spikes densely hispid. Corollas like those of *S. palústris*.

Baical Hedge Nettle. Pl. 1 to 1½ foot.

33 S. a'spera (Michx. fl. bor. amer. 2. p. 5.? Benth. lab. p. 543.) erect; stem retrorsely hispid, rarely naked; leaves on short petioles, ovate-oblong or ovate-lanceolate, acute, serrated, rounded at the base, glabrous, or furnished with a few stiff hairs above: floral leaves lanceolate, acute, longer than the calyxes; whorls 6-10-flowered, distant; calyx tubularly campanulate, glabrous, ciliated, with lanceolate acute subspinose divaricate teeth; corolla about twice as long as the calyx. ♃.? H. Native of North America, in pastures by river-sides; from Canada to Carolina. S. arvénsis, Walt. fl. car. p. 162, but not of Lin. S. híspida, Pursh, fl. amer. sept. 2. p. 407. Habit of *S. palústris*. Stems glabrous on the sides, but having the angles, nerves of leaves, and petioles beset with retrograde stiff hairs. Leaves 3-4 inches long and 1½ broad. Corollas violaceous, glabrous, with a pilose ring inside.

Var. β *glabràta* (Benth. lab. p. 543.) angles of stem almost naked, or altogether glabrous. ♃. H. Native of Carolina and of China in the province of Tokeen, Reeves. *S. áspera*, Nutt. gen. amer. 2. p. 30.?

Rough Hedge Nettle. Fl. July, Aug. Clt. 1821. Pl. 2 to 3 feet.

34 S. hyssopifòlia (Michx. fl. bor. amer. 2. p. 4.? Benth. lab. p. 543.) plant ascending, quite glabrous, or the stems are beset with retrograde hairs on the angles; leaves nearly sessile, oblong-lanceolate, acutish, subserrated, narrowed a little at the base: floral leaves very acute, rather longer than the calyxes; whorls about 6-flowered, distinct, approximate into short racemes; calyx broadly campanulate, quite glabrous, with lanceolate very acute subspinose divaricate teeth; corolla glabrous, 2-3

times longer than the calyx. ♃. H. Native of North America, in humid meadows near Saint Louis, Drummond; Carolina, Walter. S. tenuifòlia, Willd. spec. p. 100.? S. palústris, Walt. fl. car. p. 162, but not of Lin. Stems procumbent at the base; branches ascending. Leaves 1-2 inches long, quite glabrous. Corolla violaceous; tube shortly exserted, with a pilose ring inside.

Hyssop-leaved Hedge Nettle. Pl. 1 to 1½ foot.

35 S. Chine'nsis (Bunge, pl. chin. bor. in mem. soc. peterb. vol. 2. p. 241.) tall, erect, nearly glabrous; angles of stem obversely pilose; leaves nearly sessile, oblong-lanceolate, subserrated, hispid above and glabrous beneath; whorls few, 6-flowered; bracteas minute; calyx elongated, campanulate, pilose, with lanceolate very acute rather spinose teeth; corolla hardly twice as long as the calyx. ♃. H. Native of the North of China, Bunge. Allied to *S. palústris*, *S. áspera*, *S. hyssopifòlia*. Leaves 3-4 inches long. Corolla red, pilose outside, with a pilose ring inside.

China Hedge Nettle. Pl. 2 to 3 feet.?

§ 2. Rudera'les (from *ruderalis*, of or belonging to rubbish; the species are generally found in waste places.) Benth. lab. p. 544. *Herbs usually perennial, erect, or ascending, rarely procumbent, hispid, villous or woolly, rarely glabrous. Whorls* 6, *rarely with so many as* 10 *flowers. Corolla rather large, with the lower lip half an inch long; having the tube always inclosed.*

36 S. albicau'lis (Lindl. in bot. reg. t. 1558.) erect, clothed with white wool at the base and viscid pubescence above; lower leaves petiolate: upper ones sessile, all lanceolate and coarsely toothed, roundly cuneated at the base or narrowed: floral leaves shorter than the calyxes; whorls 6-flowered, remote; calyx ovate-campanulate, clothed with viscid pubescence: teeth broad-lanceolate, acute, rather spinose; corolla glabrous, twice as long as the calyx. ♃. G. Native of the Andes of Chili, Macrae; in the Pampas about Buenos Ayres, Gillies. Leaves remote, 1-3 inches long. Corolla red, glabrous; tube a little exserted, furnished with a pilose ring inside.

White-stemmed Hedge Nettle. Fl. July, Aug. Clt. 1827. Pl. 2 to 3 feet.

37 S. oblongifòlia (Benth. in Wall. pl. rar. asiat. 1. p. 64. lab. p. 545.) erect or ascending, pubescent or villous; leaves on short petioles, oblong-lanceolate, acutish, serrated, subcordate at the base, villous: floral leaves longer than the calyxes; whorls about 6-flowered, distant; calyx tubularly campanulate, pubescent, with lanceolate very acute scarcely spinulose teeth; corolla one half longer than the calyx. ♃. G. Native of the mountains of Silhet. Leaves 1-2 inches long, densely villous or woolly beneath. Corolla violaceous, pubescent outside.

Oblong-leaved Hedge Nettle. Pl.?

38 S. ajugoi'des (Benth. in Linnæa. 6. p. 80. lab. 545.) erect, very hairy; leaves petiolate, oblong, obtuse, crenated, rounded at the base or cuneated, wrinkled: floral leaves conforming to the others; whorls few, 6-flowered, remote; calyx ovate-campanulate, hispid, with ovate acute rather spinose teeth; corolla glabrous, twice as long as the calyx. ♃. H. Native of California, Chamisso. Herb almost simple, and sometimes branched at the base. Leaves 1-2 inches long. Corollas like those of *S. Macræ'i*.

Ajuga-like Hedge Nettle. Pl. ¼ to ¾ foot.

39 S. sideritoi'des (Gill. mss. ex Benth. lab. p. 740.) perennial, ascending, clothed with silky pili; leaves oblong-lanceolate, serrated, narrowed a long way at the base, wrinkled, clothed with soft silky villi: floral leaves ovate-lanceolate: upper ones shorter than the calyxes; whorls 6-flowered, remote; calyx campanulate, hispid, with lanceolate-acute rather spinose teeth; corolla rather pilose, scarcely twice as long as the calyx. ♃. G. Native of Chili, on the Andes about Mendoza, Gillies. Habit of *S. arenària*, but the tube of the corolla is exannulate inside. Perhaps only a villous variety of *S. grandidentàta*.

Sideritis-like Hedge Nettle. Pl.?

40 S. grandidenta'ta (Lindl. in bot. reg. t. 1080.) perennial, erect, pilosely pubescent, hispid above; leaves petiolate, oblong-lanceolate, coarsely toothed, all roundly cuneated at the base or narrowed: upper floral leaves shorter than the calyxes; whorls 6-flowered, remote; calyx ovate-campanulate, hispid, with lanceolate-acute rather spinose teeth; corolla glabrous, twice as long as the calyx. ♃. G. Native of Chili, at Valparaiso, Macrae. Form of leaves and inflorescence that of *S. albicaúlis*. Corollas red or purple.

Large-toothed-leaved Hedge Nettle. Fl. July, Aug. Clt. 1827, Pl. 1 to 3 feet.

41 S. Macræ'i (Benth. lab. 6. p. 78. lab. p. 545.) erect or ascending, pilosely hispid; leaves petiolate, ovate or ovate-lanceolate, obtuse, crenated: lower ones cordate at the base: upper ones roundly cuneated at the base: upper floral leaves sessile, shorter than the calyxes; whorls 6-flowered, remote; calyx ovate-campanulate, hispid, with lanceolate-acute rather spinose teeth; corolla glabrous, twice as long as the calyx. ♃.? G. Native of Chili, at Valparaiso, and of California. Hook. et Arn. in Beech. voy. pt. bot. p. 155, but not of Benth. Very nearly allied to the preceding. Corolla violaceous.

Macrae's Hedge Nettle. Pl. ½ to 1 foot.?

42 S. Bridge'sii (Benth. lab. p. 546.) erect, clothed with soft white villi or wool; leaves petiolate, ovate, obtuse, crenated, subcordate at the base, wrinkled: floral leaves sessile: upper ones rather shorter than the calyxes; whorls 6-flowered, remote: calyx ovate-campanulate, clothed with very soft villi, with mutic teeth; corolla twice as long as the calyx. ♃.? G. Native of the South of Chili, Bridges. Allied to the preceding, but the leaves are smaller, thicker, and the whole plant is canescent from soft wool, not villous from stiff hairs.

Bridges's Hedge Nettle. Pl.?

43 S. Gillie'sii (Benth. lab. p. 740.) ascending, villous; leaves petiolate, obtuse, crenated, cordate at the base: lower ones rounded, nearly glabrous: superior ones ovate, pubescent; floral leaves ovate, quite entire, shorter than the calyxes, villous; racemes hispid from stiff villi; whorls 6-flowered, distant; calyx ovate-campanulate, hispid, with ovate-lanceolate acute rather spinose teeth; corolla glabrous, thrice as long as the calyx, with an exserted tube. ♃.? G. Native of the Andes of Chili, near Mendoza. Intermediate between *S. Macræ'i* and *S. circinnàta*; differing from the first in the short stiff stems, broad leaves, and larger corollas; and from the last in the stems and leaves being less hispid, leaves less crenated, and in the tube of the corolla being exserted.

Gillies's Hedge Nettle. Pl.?

44 S. circinna'ta (Lher. stirp. 1. p. 51. t. 26.) procumbent, hispid; floriferous branches erect; leaves petiolate, roundish, obtuse, crenated, broadly cordate at the base: floral leaves smaller: upper ones ovate, quite entire, rather shorter than the calyxes; whorls 6-flowered, distinct: lower ones remote; calyx campanulate, hispid, with ovate acute rather spinose teeth; corolla pubescent, scarcely twice as long as the calyx. ♃. H. Native of the South of Spain and North of Africa; Gibraltar; on the lead-hills of Tunis, Vahl.; Mount Atlas, in the fissures of rocks, Desf. S. velutìna, Willd. enum. suppl. p. 41. S. latifòlia, Ait. hort. kew. 2. p. 303. Sterile branches procumbent, creeping a little. Corolla 7-8 lines long, pale or dark purple or white.

Circinnate-leaved Hedge Nettle. Fl. June, July. Clt. 1777. Pl. 1 to 2 feet.

45 S. nepetæfòlia (Desf. cat. hort. par. p. 58. Benth. lab. p. 546.) ascending, canescent; leaves petiolate, ovate, obtuse, crenated, cordate at the base, wrinkled; whorls distant, 6-flowered; calyx tubular, canescent, with lanceolate acute rather spinose teeth; corollas pubescent, half again as long as the calyxes. ♃.? H. Native of Spain, Pavon. Plant canescent from short tomentum. Leaves from ½ to 1 inch long, almost like those of *Népeta Mussìni*. Corolla purple; tube equalling the calyx. Habit different from other species of the genus.

Catmint-leaved Hedge Nettle. Fl. June, Aug. Clt. 1805. Pl. 1 to 2 feet.

46 S. Ara'bica (Horn. hort. hafn. p. 554.) erect, divaricately branched; branches glabrous or beset with spreading hairs; leaves petiolate, ovate-lanceolate, acutish, serrately crenated, rounded at the base or cuneated, glabrous or pubescent: floral leaves sessile, ovate, acute, cordate at the base; whorls 6-flowered, remote; calyx large, campanulate, pilose, with ovate acute rather spinose teeth; corolla pubescent, one half longer than the calyx. ⊙.? H. Native of Arabia. This species is distinguished from all others in the large calyx, which is 6-8 lines long. Corolla violaceous; tube shorter than the calyx.

Arabian Hedge Nettle. Fl. June, Aug. Clt. 1819. Pl. 1 foot.

47 S. bulla'ta (Benth. lab. p. 547.) erect, villous; leaves on short petioles, broad-ovate, coarsely crenated, bullately wrinkled, rather canescent beneath, hispidly villous on both surfaces; floral leaves shorter than the calyxes; whorls 6-flowered; calyx turbinately campanulate, hispid, with ovate acute rather pungent teeth; corolla about twice as long as the calyx. ♃.? H. Native of California, Beechey. S. coccínea, Hook. et Arn. in Beech. voy. pt. bot. p. 156. but not of Jacq. Leaves 1½ to 2 inches long; floral leaves sessile. Whorls approximate. Corolla pubescent: tube equalling the calyx, furnished with a ring of hairs inside.

Blistered-leaved Hedge Nettle. Pl.?

48 S. brachia'ta (Bojer, mss. ex Benth. lab. p. 547.) procumbent? clothed with fine tomentose pubescence; leaves sessile, oblong-lanceolate, bluntish, toothed, roundish at the base, wrinkled; whorls about 6-flowered, remote; calyx ovate-campanulate, pubescent, with ovate very acute rather spinose teeth; corollas small, downy outside, about twice as long as the calyx. ♃. S. Native of Madagascar, Lyall. Stems rather woody. Leaves 1 to 1½ inches long. Corolla almost like that of *S. Grahàmii*, scarcely 3 lines long.

Armed Hedge Nettle. Pl. procumbent.

49? S. ca'ndida (Benth. lab. p. 547.) procumbent? clothed with white wool; leaves nearly sessile, oblong-lanceolate, coarsely toothed, or crenated, narrowed at the base; floral leaves rather shorter than the calyxes; whorls 6-flowered, remote; calyx ovate, campanulate, woolly, with lanceolate very acute rather spinose teeth; corolla woolly outside, one half longer than the calyx. ♃.? F. Native of the Levant, ex Hort. par.; Macedonia, ex Herb. Lamb. The whole plant clothed with dirty white wool. Leaves half, or hardly an inch long.

White Hedge Nettle. Pl. procumbent.

50 S. humifu'sa (Burch. cat. geogr. no. 3794.) procumbent, glabrous; leaves nearly sessile, oblong-lanceolate, cordate at the base; whorls about 6-flowered; calyxes glabrous, with rather spinose teeth; corollas twice as long as the calyx. ♃.? G. Native of the Cape of Good Hope. Habit of *S. Æthiópica*, but larger. Leaves about an inch long, with crenulated edges.

Trailing Hedge Nettle. Pl. trailing.

§ 3. Oliga'nthæ (from ολιγος, *oligos*, few; and ανθος, *anthos*, a flower; in reference to the few-flowered whorls.) Benth. lab. p. 548. *Annual, rarely perennial, weak herbs, which are procumbent at the base. Whorls 2-4, rarely 6-flowered.*

51 S. Æthiópica (Lin. mant. p. 82.) villous, procumbent; leaves petiolate, rigid, ovate-deltoid, crenated, deeply and broadly cordate at the base; floral leaves narrowed at the base, rather shorter than the calyxes; whorls 2-4 flowered, racemose; calyx campanulate, hispid, with equal, acute, rather spinose teeth; corolla twice as long as the calyx. ♃. G. Native of the Cape of Good Hope. Jacq. obs. 4. p. 2. t. 77. Lher. stirp. nov. 2. t. 27. Lower leaves ½ an inch long: superior ones smaller: floral ones quite entire. Corolla purple.? This species varies much in hairiness and size of flowers.

Æthiopian Hedge Nettle. Fl. April, June. Clt. 1770. Pl. procumbent.

52 S. subse'ssilis (Burch. cat. geogr. no. 4326.) decumbent; stems nearly glabrous; leaves nearly sessile, ovate, almost quite entire, deeply cordate, pilosely hispid on the margins and nerves; floral leaves nearly glabrous, shorter than the calyxes; whorls 2-flowered, racemose; calyx campanulate, hispid, with equal lanceolate very acute subspinose teeth; corolla nearly glabrous, with the tube rather exserted. ♃.? G. Native of the Cape of Good Hope, and Algoa Bay. Leaves scarcely 2 lines long. Corolla twice as long as the calyx.

Almost-sessile-leaved Hedge Nettle. Pl. procumbent.

53 S. Lya'llii (Benth. lab. p. 548.) annual, diffuse, hispid; leaves petiolate, small, orbicular, rounded at the base, or cordate, wrinkled; floral leaves similar to the rest; whorls 2-flowered; calyx campanulate, with an oblique mouth, and lanceolate, acute teeth, the upper teeth the longest; corolla one half longer than the calyx. ⊙. S. Native of Madagascar. A small plant, with the habit of *Verónica agréstis*. Calyxes secund, subreflexed. Corollas rosy-white, form of those of *S. Córsica*, but much smaller.

Lyall's Hedge Nettle. Pl. diffuse.

54 S. rotundifòlia (Moç. et Sessé, mss. ex Benth. lab. p. 548.) annual, ascending; leaves petiolate, ovate-rounded, crenated, cordate at the base: floral ones similar to the rest; whorls axillary, 2-flowered; calyx campanulate, very pilose, with nearly equal lanceolate acute scarcely spinescent teeth; corolla 3 times as long as the calyx; tube shortly exserted: lower lip large. ⊙. S. Native of New Spain. Allied to *S. Córsica*. Stems nearly simple, villous. Flowers nearly sessile. Corollas almost like those of *S. Córsica*, but larger.

Round-leaved Hedge Nettle. Pl. ½ foot.

55 S. Córsica (Pers. ench. 2. p. 36.) procumbent, pilose; leaves petiolate, ovate, very blunt, broadly crenated, rounded at the base, or subcordate; floral leaves smaller: upper ones shorter than the calyxes; whorls 2-4-flowered, remote; calyx campanulate, hispid, with nearly equal lanceolate acute rather spinescent teeth; corolla more than twice as long as the calyx: tube a little exserted: lower lip large. ♃.? H. Native of Corsica and Sardinia, in corn-fields. Rchb. icon. bot. eur. 7. p. 24. t. 646. Glechòma grandiflòra, D. C. fl. fr. 3. p. 538. Herb diffuse. Corolla downy outside, 7-8 lines long, rosy-white or pink, large for the size of the plant.

Corsican Hedge Nettle. Fl. July, Aug. Clt. 1823. Pl. ¼ to ½ foot.

56 S. serrula'ta (Burch. cat. geogr. no. 5155.) annual, decumbent, pilose; leaves petiolate, broad-ovate, acutish, broadly cordate at the base; upper floral leaves sessile, shorter than the calyxes; whorls about 4-flowered; calyx tubularly campanulate, hispid, with nearly equal lanceolate acute rather spinose teeth; corolla twice as long as the calyx. ⊙. H. Native of

the Cape of Good Hope. Nearly allied to *S. arvénsis;* but the corollas are twice the size; the leaves broader and more acute, and the flowers fewer.

Serrulated-leaved Hedge Nettle. Pl. decumbent.

57 S. marrubiifòlia (Viv. fl. cors. app. 2. ex Benth. lab. p. 740.) annual, erectish, pilose; leaves petiolate, broad-ovate, obtuse, crenated, broadly cordate at the base; upper floral leaves sessile, shorter than the calyxes; whorls 6-flowered; calyx tubularly campanulate, pilose, with lanceolate acute teeth, the upper teeth the largest; corolla twice as long as the calyx: tube inclosed, equalling the calyx: lips nearly equal. ⊙. H. Native of Barbary, Corsica, Naples. S. arvénsis purpùrea, Poir. dict. 7. p. 373. S. Poirètii, Tenore, syll. fl. nap. app. p. 538. Habit of *S. arvénsis;* but the calyxes are broadly campanulate, oblique, and the corollas are much larger. Leaves very like those of a species of *Marrùbium*.

Horehound-leaved Hedge Nettle. Pl. ½ foot.?

§ 4. Agre'stes (from *agrestis*, wild.) *Weak annual herbs. Whorls* 6, *rarely* 10-15-*flowered.*

58 S. eria'ntha (Benth. lab. p. 549.) annual, prostrate, rather creeping; leaves petiolate, ovate-oblong, obtuse, crenated, truncate at the base, or rounded, rather villous; upper floral leaves sessile, scarcely longer than the calyxes; whorls 6-flowered; calyx campanulate, clothed with soft rufous villi, with short acutish mutic teeth; corolla exceeding the calyx a little. ⊙. H. Native of Mexico, Moçino et Sessé. Allied to *S. arvénsis*, and the leaves very like those of *S. Grahàmi*, but differs from both in habit and calyxes. Leaves 6-9 lines long, rather rufescent beneath. Corollas like those of *S. arvénsis*.

Woolly-flowered Hedge Nettle. Pl. prostrate.

59 S. arve'nsis (Lin. spec. p. 814.) annual, decumbent, pilose; leaves petiolate, ovate, obtuse, crenated, cordate at the base; floral leaves narrower: upper ones cuneated at the base, sessile, rather shorter than the calyxes; whorls 4-6-flowered, distant; calyx tubularly campanulate, hispid, with nearly equal lanceolate acute scarcely spinose teeth; corolla scarcely exceeding the calyx, with an inclosed tube and short lips. ⊙. H. Native throughout Europe, North of Africa, and Middle Asia, in corn-fields; also of South America, but probably imported from Europe; plentiful in some parts of Britain, in corn-fields, in gravelly or calcareous soil. Smith, engl. bot. t. 1154. Hook. fl. lond. vol. 2. icone. Oed. fl. dan. t. 587. Rchb. icon. bot. eur. 10. p. 24. t. 967. Curt. fl. lond. 4. t. 41. Sabb. hort. rom. 3. t. 51. Glechòma marrubiástrum, Vill. dauph. 2. p. 371. Cardìaca arvénsis, Lam. fl. fr. 2. p. 383. Trixàgo arvénsis, Hoffm. et Link, fl. port. Trixàgo cordifòlia, Mœnch, meth. p. 398. Trixàgo coloràta, Presl, fl. sic. p. 37. Stàchys Brasiliénsis, Hortul.—Riv. mon. t. 27. f. 2. Glechòma arvénsis, Lin. spec. ed. 1st. p. 578. Plant erectish or decumbent. Leaves ½ to 1 inch long. Corolla pilose outside, pale purple: tube shorter than the calyx, with a ring of hairs inside near the base.

Corn-field Hedge Nettle. Fl. July, Aug. Britain. Pl. ¼ to ½ foot.

60 S. agra'ria (Schiede et Deppe, in Linnæa, 5. p. 100.) annual, erectish, pilose; leaves petiolate, oval, obtuse, crenated, cordate at the base; floral leaves narrower, all longer than the calyxes; whorls about 6-flowered, distant; calyx campanulate, pubescent, with nearly equal very acute rather spinose teeth; corolla hardly exceeding the calyx. ⊙. H. Native of Mexico, near Jalapa; and Texas, at Rio Brazos. Flowers smaller than those of *S. arvénsis*. Corolla pale violet.

Field Hedge Nettle. Pl. ½ foot.?

61 S. trunca'ta (Kunze, in pl. Poppig, mss. ex Benth. lab. p. 550.) annual, erect, pubescent; leaves petiolate, ovate, obtuse, crenated, rounded at the base; floral leaves acute, cuneated at the base, longer than the whorls; whorls 4-6-flowered, distant; calyx broad-campanulate, with equal broad-ovate very acute rather spinose teeth, which are much shorter than the tube; corolla scarcely exceeding the calyx, with an inclosed tube, and very short lips. ⊙. H. Native of Chili, near Valparaiso. Habit of *S. arvénsis*, but more erect and less pilose. Corollas red, glabrous.

Truncate-flowered Hedge Nettle. Pl. ½ foot.?

62 S. Peruvia'na (Domb. in herb. Smith, ex Benth. lab. p. 551.) annual, decumbent; branches pilose; leaves petiolate, ovate-rounded, obtuse, crenated, cordate at the base, glabrous or pilose; floral leaves sessile, exceeding the calyxes; whorls about 6-flowered, distant; calyx broadly campanulate, hispid: teeth shorter than the tube, broad, acute, rather spinose; corolla scarcely exceeding the calyx, having the upper lip very short, and the lower lip 3 times as long as the upper. ⊙. H. Native of Peru, in boggy places near Lima. Larger than *S. arvénsis*. Leaves broader, and more glabrous. Calyx larger. Corolla twice as long, with an inclosed tube.

Peruvian Hedge Nettle. Pl. decumbent.

63 S. Kee'rlii (Benth. lab. p. 551.) annual? erect, villous; leaves petiolate, ovate, crenated, cordate at the base, pilose: superior ones oblong; floral leaves cuneated, narrow, reflexed, hardly longer than the calyxes; racemes elongated; whorls 6-flowered; fructiferous calyx campanulate, spreading: teeth acute, spinescent, rather shorter than the tube; corollas twice as long as the calyx: upper lip short: lower lip 3 times as long as the upper lip. ⊙. H. Native of Mexico, near Tlalpuxahua, Keerl. Habit of *S. Grahàmii*, but more pilose, &c.

Keerl's Hedge Nettle. Pl. ½ to 1 foot.?

64 S. Graha'mii (Benth. lab. p. 551.) herbaceous, procumbent? pilosely pubescent; leaves petiolate, ovate-oblong, obtuse, crenated, subcordate at the base, rather hispid, or at length glabrous; whorls 10-15-flowered, remote; calyx globosely campanulate, nearly glabrous: teeth ovate, acute, rather spinose; corolla small, glabrous, about twice as long as the calyx. ⊙. H. Native of Mexico, near Tlalpuxahua, G. J. Graham. Corollas 3 lines long, almost like those of *S. arvénsis*.

Graham's Hedge Nettle. Pl. procumbent.

65 S. Drummóndi (Benth. lab. p. 551.) annual, erect, pilosely hispid; leaves petiolate, oval, obtuse, broadly cordate at the base, or rounded; floral leaves lanceolate: upper ones rather shorter than the calyxes; whorls 6-flowered; calyx campanulate: teeth linear, or lanceolate-subulate, equalling the tube; corolla twice as long as the calyx: upper lip short: lower one 3 times as long as the upper. ⊙. H. Native of Texas, at Rio Brazos, Drummond. Habit of *S. agrària*.

Drummond's Hedge Nettle. Pl. 1 to 2 feet.

66 S. Bogote'nsis (H. B. et Kunth, nov. gen. amer. 2. p. 309.) erect, pilose; leaves petiolate, ovate, rounded at apex, obsoletely cordate at the base, crenated, rather canescent beneath; whorls 4-6-flowered; calyx turbinately campanulate, 5-cleft, with ovate-oblong mucronate nearly equal teeth; corolla exceeding the calyx: upper lip entire, shorter than the lower one. ⊙. H. Native near Santa Fe de Bogota. Leaves an inch long, and 9 lines broad. Corolla violaceous. This appears only to differ from *S. Drummóndi*, in the form of the calyx, and more villous leaves, which are canescent beneath.

Bogota Hedge Nettle. Pl. 1 foot.?

67 S. de'bilis (H. B. et Kunth, l. c.) erect, puberulous; leaves petiolate, ovate, obtuse, deeply cordate, crenated, nearly glabrous, with the veins and margins hairy; whorls about 10-flowered; calyx turbinately campanulate, with lanceolate aristately subulate nearly equal teeth; corolla with the tube a

little longer than the calyx: upper lip bifid: lower lip 3 times as long as the upper lip. ⊙.? H. Native of Quito, between Cachapamba and Chillo. Leaves 10-11 lines long, and 7 lines broad, paler beneath. Corolla pale violet. Allied to *S. arvénsis*.

Weak Hedge Nettle. Pl.?

68 S. elli'ptica (H. B. et Kunth, l. c. p. 308.) erect, hairy; leaves petiolate, elliptic, rounded at apex, cordate at the base, crenated; whorls 6-flowered; calyx turbinately campanulate, with ovate acuminately mucronate unequal teeth; corolla twice as long as the calyx: upper lip entire, rather concave. ⊙.? H. Native of Quito, near Tumbamba and Chillo. Leaves ½ an inch long, and 4 lines broad. Whorls approximate. Corolla rose-coloured, downy outside, middle segment of lower lip marked by two purple spots at the base.

Elliptic-leaved Hedge Nettle. Pl. 1 foot.

Sect. V. Oli'sia (meaning unknown to us.) Benth. lab. p. 553.—Olìsia species, Dumort, florul. belg.—Tetrahìtum and Stàchys species, Hoffm. et Link, fl. port.—Herbs, annual or perennial, glabrous, pubescent, or pilose, but never woolly. Leaves ovate. Whorls about 6-flowered. Bracteas minute. Calyxes usually spinescent, sometimes bilabiate. Corollas cream-coloured.

69 S. hi'rta (Lin. spec. p. 813.) erect or ascending, branched, pilosely hairy; leaves petiolate, ovate, crenated, truncately cordate at the base; floral leaves sessile, roundly cuneated at the base: upper ones ovate, acute, quite entire; whorls 6-flowered, distant, or the upper ones are approximate; calyx campanulate, pilose, with lanceolate-subulate very acute spinescent teeth; corolla pubescent outside, scarcely a half again as long as the calyx, with an inclosed tube, and an emarginately bifid upper lip. ⊙. H. Native of the South-west of Europe, and the North of Africa, in dry stony places near the sea; as of Spain, Portugal, Italy, Tunis; as well as of the Canary Islands. All. ped. 1. p. 31. t. 2. f. 3. bad. Sideritis ocymástrum, Gouan, hort. monsp. p. 278. Galeópsis hirsùta, Lin. spec. ed. 1st. p. 580. Tetrahìtum hírtum, Hoffm. et Link, fl. port. Stàchys divaricàta, Viv. fl. cors. append. 2. Stàchys inscrípta, Rchb. icon. bot. exot. 1. p. 28. t. 40.—Lob. icon. 519.? Galeópsis Hispánica, Mill. ex Steud. nom. p. 351. Leaves ½ to 1½ inch long. Plant pale green. Corollas cream-coloured.

Hairy Hedge Nettle. Fl. June, Aug. Clt. 1725. Pl. ¼ to ½ foot.

70 S. a'nnua (Lin. spec. p. 813.) annual, erect, nearly glabrous, or pubescent at top; leaves petiolate, ovate, bluntish, crenated, rounded at the base, or cuneated; floral leaves lanceolate, longer than the calyxes, acute, almost quite entire; whorls about 6-flowered, distinct: upper whorls approximate; calyx tubularly campanulate, villous, a little incurved, with lanceolate very acute rather spinose teeth; corollas pubescent, about twice as long as the calyx. ⊙. H. Native of Europe, in corn-fields, and by way sides; as of France, Germany, Italy, Caucasus, &c. Jacq. fl. austr. 4. p. 31. t. 360. Betónica ánnua, Lin. spec. ed. 1st. p. 573. Mœnch, meth. p. 396. Stàchys nervòsa, Gat. fl. mont. p. 107. Stàchys Betónica, Crantz, stirp. austr. p. 265.—Riv. mon. irr. t. 69. Plant branched. Cauline leaves glabrous, 1½ inch long, and 8-10 lines broad; upper floral leaves smaller, pubescent. Corollas yellow, or cream-coloured.

Annual Hedge Nettle. Fl. July, Aug. Clt. 1713. Pl. ½ to 1 foot.

71 S. pube'scens (Tenor. fl. nap. prod. p. 34.) perennial, ascending, almost glabrous, but pubescent above; leaves petiolate, ovate, obtuse, crenated, cuneated at the base; floral leaves ovate, longer than the calyxes, acutish, nearly entire; whorls about 6-flowered, distant; calyx tubularly campanulate, villous, a little incurved, with lanceolate very acute rather spinose teeth; corolla pubescent, about twice as long as the calyx. ♃. H. Native of Europe, in the region of the Mediterranean, in dry fields; as of Spain, Lucania, Dalmatia. S. decúmbens, Willd. enum. suppl. p. 41.? S. Balbìsii, Link, enum. 2. p. 110. S. frágilis, Vis. pl. rar. dalm. ex Rchb. fl. germ. p. 319.? Calycine teeth equalling the tube of the corolla. Corolla yellowish, or cream-coloured, sometimes spotted with red in the throat.

Pubescent Hedge Nettle. Fl. May, July. Clt. 1816. Pl. ½ to 1 foot.

72 S. mari'tima (Lin. mant. p. 82.) perennial, tomentosely hairy, ascending; leaves on short petioles, oblong-lanceolate, obtuse, narrowed at the base, rather wrinkled; floral leaves sessile, ovate, obtuse: upper ones rather shorter than the calyxes; whorls about 6-flowered: lower ones distant: superior ones approximating into a spike; calyx tubularly campanulate, villous, with lanceolate acute mutic teeth; corolla pubescent, about a half again as long as the calyx. ♃. H. Native in the region of the Mediterranean, in sandy places by the sea side; as near Valentia, Montpelier, Nice, &c. Jacq. hort. vind. 1. p. 29. t. 70. Rchb. icon. bot. eur. 5. p. 51. t. 484. S. betonicæfòlia, Pers. ench. 2. p. 124.? but not of Desf.—Dill. elth. 50. t. 42. f. 50.—Bocc. mus. 2. p. 164. t. 127. Stems numerous. Leaves about an inch long, wrinkled and tomentose. Corolla pale yellow or cream-coloured, the lower lip spotted with purple at the base.

Sea-side Hedge Nettle. Fl. July. Clt. 1714. Pl. ½ to 1½ foot.

73 S. spinulòsa (Sibth. et Smith, fl. græc. prod. 1. p. 410.) annual?; angles of branches hispid; leaves petiolate, broad-ovate; lower leaves cordate at the base; floral leaves sessile, ovate-lanceolate; whorls 6-10-flowered, distinct; bracteas minute; calyx ample, campanulate, with broad acute rather spinose equal teeth, which are about equal in length to the corolla; upper lip of corolla very large. ⊙.? H. Native of Dalmatia, Istria, Candia, Corfu, about Constantinople, &c. Galeópsis orientàlis, Mill. Plant erect or ascending. Angles of stems ciliated with obverse hairs. Leaves crenated, 1-2 inches long, green, pilose. Corollas pale yellow, like those of *S. menthæfòlia*, but a little longer.

Spinulose Hedge Nettle. Fl. July, Aug. Clt.? Pl. 1 to 1½ foot.

74? S. menthæfòlia (Vis. pl. rar. dalm. in bot. zeit. 1829. erglb. p. 14. Benth. lab. p. 555.) plant ascending or erect, hairy; leaves on short petioles, oblong-ovate, serrated, rounded at the base, or subcordate; floral leaves sessile, acute, hardly exceeding the calyxes; whorls 6-10-flowered: superior ones approximate; calyx amply campanulate, bilabiate, with broad, very acute, submutic teeth; lower lip of corolla very large. ♃.? H. Native of Dalmatia. S. grandiflòra, Host, fl. austr. 2. p. 169. Leaves 2 to 3 inches long, hispid. Lower whorls distant. Corolla cream-coloured. This differs from the other species of this section in the bilabiate calyx.

Mint-leaved Hedge Nettle. Pl.?

Sect. VI. Chamæsideri'tis (from χαμαι, *chamai*, on the ground; and Σιδηριτις, *Sideritis*; in reference to the smallness of the species.) Rchb. fl. germ. exc. p. 318. Benth. lab. p. 556. Perennial, glabrous, or pilose herbs, never woolly. Leaves oblong, lanceolate, or linear. Whorls 2-6-flowered. Bracteas minute, subspinescent. Corolla cream-coloured or purple.

75 S. subcrena'ta (Vis. pl. rar. dalm. in bot. zeit. 1829.

1 erglb. p. 15.) ascending, pilosely pubescent; leaves nearly sessile, oblong-lanceolate, obtuse, scarcely crenated, narrowed, and quite entire at the base; floral leaves ovate-lanceolate, acute: upper ones shorter than the calyxes; whorls densely 6-10-flowered, distant; calyx tubularly campanulate, rather pilose, with ovate very acute rather spinose nearly equal teeth; corolla nearly glabrous, twice as long as the tube of the calyx. ♃. H. Native of Dalmatia, on hills. S. récta, β, Bertol. amœm. ital. p. 378. Allied to *S. récta*, but differs in the leaves being narrower, more entire. Corolla yellow.?

Subcrenated-leaved Hedge Nettle. Pl. 1 to 2 feet.

76 S. re'cta (Lin. mant. p. 82.) erect or ascending, pilosely hairy; leaves on short petioles, oblong-ovate or lanceolate, obtuse, crenated, rounded or narrowed at the base, wrinkled, hairy; floral leaves sessile, acute: upper ones shorter than the calyxes; whorls about 10-flowered, distant; calyx ovate-campanulate, hairy, with ovate very acute rather spinose equal teeth; corolla glabrous, twice as long as the calyx. ♃. H. Native of Europe, especially in the south, in dry places and by way sides; as of Spain, Germany, Italy, South of Russia, Tauria, Caucasus, Candia, &c. Jacq. fl. austr. 4. p. 31. t. 359. Sideritis hirsùta, Gouan, fl. monsp. p. 85. Betónica hírta, Gouan, hort. monsp. p. 276. Betónica decúmbens, Mœnch, meth. p. 396. Tetràhit herbariòrum, Ger. fl. gallopr. p. 272. S. Betónica, Crantz, stirp. austr. p. 264. S. bufònia, Thuill. fl. par. 1. p. 295. S. procúmbens, Lam. fl. fr. 2. p. 385. S. Sideritis, Vill. fl. dauph. 2. p. 375. S. sylvéstris, Forsk. fl. const. p. 28. S. ánnua, Smith, prod. fl. græc. 1. p. 410. but not of Lin. S. glutinòsa, Smith, prod. fl. græc. 1. p. 409. but not of Lin. S. decúmbens, Rchb. fl. germ. p. 318. but scarcely of Willd.—Riv. mon. irr. t. 70. Leaves 1 to 1½ inch long, very variable in breadth and hairiness. Corolla pale yellow or cream-coloured, with a purplish throat.

Upright Hedge Nettle. Fl. June, Aug. Clt. 1683. Pl. 1 to 1½ foot.

77 S. arena'ria (Vahl, symb. 2. p. 64.) decumbent, canescent from pubescence; leaves nearly sessile, oblong-linear or lanceolate, acute, subserrated, narrow a long way at the base, and quite entire; floral leaves smaller: upper ones shorter than the calyxes; whorls loosely 6-10-flowered, remote; calyx tubularly campanulate, pilose, with lanceolate very acute rather spinose teeth, the upper tooth rather the broadest; corolla pubescent outside, twice as long as the calyx. ♃. H. Native of the region of the Mediterranean; as of Tunis, Sicily, Naples, about Trebezond, Iberia, &c., in dry, rugged, exposed places. Sims, bot. mag. t. 1959. Desf. fl. atl. 2. p. 21. t. 126.? S. Ibérica, Bieb. fl. cauc. 2. p. 51. Rchb. icon. bot. exot. 1. p. 43. t. 58. S. prostràta, Lag. cat. hort. madr. S. diffùsa, Schw. S. scordifòlia, Willd. enum. 2. p. 616. S. purpùrea, Poir. dict. suppl. 2. p. 616. S. congésta, D'Urv. enum. pl. arch. in mem. soc. Lin. par. p. 324. S. rùbra, Donn, hort. cantab. Branches more or less canescent from long soft hairs, as well as the leaves. Leaves 1 to 1½ inch long: upper floral ones quite entire. Corolla purplish, pilose outside.

Sand Hedge Nettle. Fl. July. Clt. 1804. Pl. 1 foot.

78 S. angustifòlia (Bieb. fl. cauc. 2. p. 51.) glabrous; branches twiggy, diffuse; leaves linear, quite entire, serrated, or the lower ones are pinnatifid; racemes elongated; whorls remote, 2-flowered; calyx tubularly campanulate, glabrous, with nearly equal very acute rather spinose teeth; corolla pubescent outside, with a shortly exserted tube. ♃. H. Native of the South of Tauria, in woods, among stones at Femirdschi, and near Cherson. Sweet, fl. gard. 2. t. 180. S. tenuifòlia, Pall. ex Link, enum. 2. p. 109. Rchb. icon. bot. exot. 1. p. 20. t. 28. but not of Willd. S. récta, D'Urv. enum. pl. arch.? but not of Lin. Corollas purplish.

Narrow-leaved Hedge Nettle. Fl. June, Aug. Clt. 1823. Pl. 1 to 3 feet.

Sect. VII. Amble'ia (meaning unknown to us.) Benth. lab. p. 558. Shrubs or under-shrubs, usually tomentose, rarely glabrous, but never pilose. Whorls 2-6-flowered, rarely so much as 10-flowered. Bracteas small, or few. Calyx tomentose or woolly, with soft mutic teeth.

79 S. hyssopoi'des (Burch. cat. georg. no. 2653.) suffruticose?; branches elongated, loosely sub-tomentose; leaves linear or oblong, quite entire, or denticulated at apex, narrowed a long way at the base, glabrous on both surfaces, or scarcely tomentose; upper floral leaves shorter than the calyxes; whorls 2-flowered; calyx clothed with hoary tomentum, with broad lanceolate mutic teeth; corolla about twice as long as the calyx. ♄. G. Native of South Africa. Leaves an inch long, bluntish, green: floral ones gradually broader and shorter. Calyx clothed with very thin tomentum. Corolla silky outside.

Hyssop-like Hedge Nettle. Shrub.

80 S. cæru'lea (Burch. cat. geogr. no. 1775. ex Benth. lab. p. 558.) suffruticose? quite glabrous; branches elongated, loosely tomentose; leaves linear or oblong, quite entire, or somewhat denticulated at apex, narrowed a long way at the base, glabrous, or scarcely tomentose; upper floral leaves shorter than the calyxes; whorls 2-flowered; calyx clothed with hoary tomentum: teeth broad-lanceolate, mutic; corolla about twice as long as the calyx. ♄. G. Native of South Africa. Leaves 2-4 inches long, greenish or tomentose. Flowers few, remote. Corolla silky outside.

Blue-flowered Hedge Nettle. Shrub.

81 S. spatula'ta (Burch. cat. geogr. no. 1738. ex Benth. lab. p. 559.) suffruticose, clothed with hoary tomentum; leaves linear-spatulate, quite entire; superior floral leaves scarcely exceeding the calyxes; whorls 2-flowered; bracteas small; calyx tubularly campanulate, with broad-lanceolate teeth, which are equal in length to the tube of the corolla. ♄. G. Native of South Africa. Very nearly allied to *S. lineàris*; but differs in the form of the leaves, subracemose flowers, small upper leaves, and inclosed tube of corolla, &c.

Spatulate-leaved Hedge Nettle. Shrub.

82 S. linea'ris (Burch. cat. geogr. no. 2717. ex Benth. lab. p. 559.) suffruticose, clothed with hoary tomentum; leaves linear, sessile, quite entire; floral leaves exceeding the flowers; whorls about 2-flowered; bracteas minute; calyx tubularly campanulate, with lanceolate acute mutic teeth, shorter than the tube of the corolla. ♄. G. Native of South Africa. Densely clothed with floccose tomentum. Leaves 1 inch long. Corolla about twice as long as the calyx, silky outside.

Linear-leaved Hedge Nettle. Shrub.

83 S. rosmarinifòlia (Benth. lab. p. 559.) suffruticose, clothed with hoary tomentum; leaves nearly sessile, oblong-linear, quite entire, rounded as the base, tomentose on both surfaces, and white beneath; whorls about 6-flowered, distant; bracteas subulate, shorter than the calyxes; calyx campanulate, clothed with hoary tomentum: teeth lanceolate, acute, mutic; corolla scarcely exceeding the calycine teeth, tomentose outside. ♄. G. Native of the Cape of Good Hope. S. hyssopifòlia, Vahl, herb. but not of Michx. Sideritis pállida, Thunb. prod. fl. cap. 95. Leaves similar to those of Lavender or Hyssop, about an inch long, acutish. Upper whorls sometimes approximate.

Rosemary-leaved Hedge Nettle. Shrub humble.

84 S. rugòsa (Ait. hort. kew. 2. p. 303.) suffruticose, clothed with hoary tomentum; leaves sessile, oblong-linear or lanceolate, narrowed a long way at the base, quite entire, wrinkled; whorls 6-10-flowered, distant; bracteas subulate: outer ones

about equal in length to the calyxes; calyx campanulate, with lanceolate subulate acute mutic teeth; corolla about twice as long as the calyx. ♄. G. Native of the Cape of Good Hope. Jacq. icon. rar. 3. p. 7. t. 493. Corollas pale yellow. ?

Wrinkled-leaved Hedge Nettle. Fl. July, Aug. Clt. 1774. Shrub 1 to 2 feet.

85 S. DENTICULA'TA (Burch. cat. geogr. no. 1369. ex Benth. lab p. 560.) suffruticose; branches clothed with hoary tomentum; leaves petiolate, obovate or oblong, obtuse, crenated, undulately curled, much wrinkled, clothed with sub-floccose tomentum beneath; whorls 2-flowered; bracteas small, subulate; calyx tubularly campanulate, loosely tomentose, with ovate-lanceolate acute mutic teeth; corolla scarcely twice as long as the calyx. ♄. G. Native of South Africa. Branches and leaves almost like those of *Marrùbium vulgàre*. Leaves $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long: floral leaves about twice as long as the calyx. Corolla silky outside.

Denticulated-leaved Hedge Nettle. Shrub.

86 S. CUNEA'TA (Banks, herb. mss. ex Benth. lab. p. 560.) suffruticose, clothed with tomentose wool; leaves petiolate, obovate-cuneated, roundish, obtuse, crenated, undulately curled, much wrinkled, clothed with sub-floccose tomentum on both surfaces; whorls 2-flowered; bracteas small, subulate; calyx campanulate, densely tomentose, with ovate-lanceolate acutish mutic teeth; corolla exceeding the calyx a little. ♄. G. Native of the Cape of Good Hope, Masson. Branches and leaves like those of *Marrùbium Alýssum*. Leaves hardly $\frac{1}{2}$ an inch long: floral ones exceeding the calyxes. Whorls approximate at the tops of the branches. Corolla small, silky outside.

Wedge-leaved Hedge Nettle. Shrub.

87 S. PAUCIFLÒRA (Benth. lab. p. 560.) suffruticose, clothed with floccose wool; leaves nearly sessile, oblong-lanceolate, obtuse, quite entire, narrowed at the base, wrinkled; whorls 2-flowered, rarely 4-flowered, distant; calyx tubularly campanulate, with lanceolate acute mutic teeth; corolla exceeding the calyx a little. ♄. G. Native of Egypt, near Mount Sinai, N. Bové. S. orientàlis, Forsk. fl. ægypt. p. 68. but not of Lin. S. Palæstìna, Vahl, symb. 2. p. 64. but not of Lin. S. affìnis, Fres. mus. senkenb. p. 91. Stems shrubby at the base, branched. Lower leaves 1 to $1\frac{1}{2}$ inch long; floral leaves usually shorter than the calyxes. Corollas small, silky outside. Tomentum white or yellowish.

Few-flowered Hedge Nettle. Fl. ? Clt. 1834. ? Shrub 1 to $1\frac{1}{2}$ foot.

88 S. NI'VEA (Labill. pl. syr. dec. 3. p. 5. t. 3.) suffruticose, clothed with tomentose wool; leaves nearly sessile, oblong, obtuse, quite entire, narrowed at the base, thick; whorls 2-4-flowered, few, distant; calyx tubularly campanulate, white, with ovate obtuse mutic teeth; corolla a half again as long as the calyx, pubescent outside. ♄. G. Native of Syria, near Damascus. Tomentum white, floccose. Leaves $1\frac{1}{2}$ inch long. Calycine teeth equalling the tube of the corolla.

Snowy Hedge Nettle. Shrub $\frac{1}{2}$ to 1 foot.

89 S. BURCHE'LLII (Benth. lab. p. 561.) suffruticose, clothed with floccose tomentum; leaves nearly sessile, oblong or oblong-lanceolate, serrately crenated, narrowed at the base, wrinkled; whorls 6-10-flowered, distinct; bracteas very minute; calyx tubularly campanulate, with lanceolate obtuse mutic spreading teeth: upper teeth the largest. ♄. G. Native of the Cape of Good Hope. Phlòmis micrántha, Burch. cat. geogr. no. 1672. trav. 310. Siderìtis rugòsa, Thunb. prod. p. 95. Habit of *Marrùbium peregrìnum*. Lower leaves 2-3 inches long; floral leaves whiter. Corolla small.

Burchell's Hedge Nettle. Shrub.

90 S. *Æ*GYPTI'ACA (Pers. ench. 2. p. 124.) hoary; flowers spicate; leaves ovate, wrinkled; bracteas broadly ovate, acuminated; calyx campanulate, smooth. ♄. G. Native of Egypt. This differs from *S. Palæstìna* in the calyx and dense spike.

Egyptian Hedge Nettle. Shrub.

91 S. PALÆSTI'NA (Lin. spec. p. 1674.) suffruticose, canescent, tomentose; leaves sessile, oblong-lanceolate, obtuse, or aristately mucronate, quite entire, narrowed a little at the base, stem-clasping, wrinkled; whorls about 6-flowered, at length remote, or the upper ones are approximate; calyx tubularly campanulate, clothed with hoary tomentum: teeth obtuse, mutic; corolla scarcely twice as long as the calyx. ♄. G. Native of Palestine, on the mountains between Gaza and Jerusalem. S. lanàta, Mœnch, p. 397. but not of Jacq.—Barr. icon. t. 279.?—Bocc. mus. 2. t. 109—112.? Leaves 1-2 inches long, whitest beneath. Corolla white or purple, clothed with silky pubescence outside.

Palestine Hedge Nettle. Fl. July, Aug. Clt. 1820. Shrub.

92 S. NU'TANS (Benth. lab. p. 561.) suffruticose, pubescent; leaves sessile, ovate, obtuse, crenated, narrowed at the base, wrinkled, villous above, and clothed with white wool beneath; whorls 2-6-flowered; flowers pedicellate, densely clothed with white wool, reflexed in the fructiferous state: teeth lanceolate, obtuse, mutic; corolla exceeding the calyx a little, pubescent outside. ♄. G. Native of the Cape of Good Hope, Dahl. This differs from *S. Lamárckii*, in the broader leaves, which are green above, and clothed with long white pili beneath, not clothed with white wool, &c.

Nutant-flowered Hedge Nettle. Shrub.

93 S. LAMA'RCKII (Benth. lab. p. 562.) suffruticose, clothed with woolly tomentum; leaves nearly sessile, oblong, obtuse, crenated, narrowly rounded at the base, thick, much wrinkled; whorls about 6-flowered, few, distant; calyx tubular, densely clothed with white wool: teeth ovate, obtuse, mutic; corolla exceeding the calyx a little, clothed with white tomentum outside. ♄. G. Native of the Cape of Good Hope. S. rugòsa, Lam. ill. t. 509. f. 3. but not of Ait. Siderìtis decúmbens, Thunb. prod. p. 95. Habit of *Marrùbium*. Branches at length nearly glabrous. Leaves 6-12 lines long. Corollas yellow. ?

Lamarck's Hedge Nettle. Shrub.

94 S. JUGA'LIS (Burch. cat. geogr. no. 1233. ex Benth. lab. p. 562.) suffruticose, clothed with rather floccose tomentum; leaves nearly sessile, oblong-lanceolate, subcrenated at top, wrinkled; whorls 6-10-flowered, distant; calyx woolly, with broad-lanceolate acute mutic teeth; corolla twice as long as the calyx. ♄. G. Native of South Africa. Leaves 1 to $1\frac{1}{2}$ inch long, the tomentum rather velvety above, and canescent beneath. Corolla clothed with silky villi outside.

Coupled Hedge Nettle. Shrub 1 to 2 feet.

95 S. INFLA'TA (Benth. lab. p. 562.) suffruticose; branches clothed with white tomentum; leaves nearly sessile, oblong, obtuse, quite entire, a little wrinkled, clothed with white tomentum beneath; whorls about 6-flowered, distant; bracteas linear, short; flowers sessile; calyx inflately campanulate, with ovate bluntish mutic teeth; corolla one half longer than the calyx. ♄. G. Native of the North of Africa, and probably of Egypt; in Persia, between Kermancha and Amadan, Olivier. Leaves scarcely an inch long. Corolla silky outside. Tomentum floccose.

Inflated-calyxed Hedge Nettle. Shrub.

96 S. INTEGRIFÒLIA (Vahl, herb. ex Benth. lab. p. 562.) suffruticose; branches tomentosely woolly; leaves nearly sessile, oblong, bluntish, quite entire, or with a few crenatures at apex, narrowed at the base, green; whorls 6-10-flowered, distinct; bracteas linear, shorter than the calyxes; calyx ovate-tubular, sessile, densely clothed with wool, having linear obtuse mutic teeth; corolla one half longer than the calyx. ♄. G. Native of the Cape of Good Hope. Betónica Heraclèa, Lin. mant. p.

83. Phlòmis parvifòlia, Burch. cat. geogr. no. 1232. trav. p. 225. Siderìtis, Thunb. prod. p. 95. Leaves ½ an inch long, beset with rather stellate wool while young, but the adult ones are nearly glabrous; floral leaves longer, and more densely tomentose. Corolla pubescent.

Entire-leaved Hedge Nettle. Shrub.

Sect. VIII. Ziete'nia (probably so named after some obscure botanist.) Benth. lab. p. 562. Zietènia and Stàchys species of authors. Under-shrubs, woolly from white soft hairs, rarely glabrous. Bracteas small or few. Whorls 2-6-flowered. Calyxes woolly or glabrous, with subulate usually spinose teeth.

97 S. lavandulæfòlia (Vahl, symb. 1. p. 42.) suffruticose, pilose; cauline leaves petiolate, oblong-lanceolate, quite entire, narrowed at both ends; floral leaves sessile, ovate-lanceolate; whorls 2-6-flowered: teeth of calyx linear, mutic, longer than the tube, exceeding the corolla. ♄. H. Native of Caucasus, in dry stony places. Zietènia orientàlis, Gled. act. berol. 1766. p. 3. Siderìtis calycántha, Bieb. fl. cauc. 3. p. 393. Rchb. icon. bot. eur. 1. p. 17. t. 15.—A humble, spreading, procumbent, canescent shrub. Sterile branches erect, leafy. Leaves bluntish. Corolla purple, shorter than the calycine teeth.

Lavender-leaved Hedge Nettle. Fl. July, Aug. Clt. 1820. Shrub procumbent.

98 S. mucrona'ta (Sieb. pl. cret. exs. ex Benth. lab. p. 563.) suffruticose, much branched, woolly from long loose hairs; leaves petiolate, oblong, crenated, wrinkled; whorls 2-4-flowered; calyx campanulate, with long, rather spinose teeth, which exceed the corolla. ♄. H. Native of Candia. Leaves 1 inch long: floral ones sessile. Whorls distinct. Limb of corolla very villous.

Mucronate Hedge Nettle. Shrub ½ foot.

99 S. spinòsa (Lin. syst. 3. p. 58.) suffruticose, hoary from silky adpressed hairs, much branched: branches spinescent at apex; leaves sessile, linear, quite entire; whorls 2-flowered; calyx campanulate, with lanceolate spinose teeth, which are equal in length to the corolla. ♄. H. Native of Candia. This differs from *S. glutinòsa*, in the leaves, branches, and calyxes being clothed with silky wool; in the branches being spinescent, and in the larger corollas.—Park. theatr. 476. t. 48. f. 6.—Mor. hist. 3. p. 382. sect. 11. t. 10. f. 9.

Spinose-branched Hedge Nettle. Fl. July. Clt. 1640. Shrub 1 foot. ?

100 S. glutinòsa (Lin. spec. p. 813.) suffruticose, glabrous, much branched; leaves oblong-linear, acute, almost quite entire, narrowed at the base; whorls about 2-flowered; calyx campanulate, glabrous, with equal ovate very acute rather spinose teeth; corolla clothed with silky pubescence outside: tube about equal in length to the calycine teeth. ♄. H. Native of Corsica, on hills; and of Candia, &c.—Mor. hist. 3. p. 389. sect. 11. t. 4. f. 17.? Leaves of the spinescent branches an inch long, on short petioles, furnished with a few scattered hairs, the rest glabrous: superior ones sessile. Flowers on short pedicels. Corolla almost white.

Clammy Hedge Nettle. Fl. June, July. Clt. 1729. Shrub 1 foot.

101 S. fruticulòsa (Bieb. fl. cauc. 2. p. 51.) suffruticose, divaricately branched at the base; branches rather pilose; leaves sessile, oblong-lanceolate, or linear, subdenticulated, green on both surfaces, glabrous: floral ones conforming to the others; whorls 2-flowered; calycine teeth lanceolate, very acute, somewhat spinose, rather shorter than the tube; corolla about twice as long as the calyx. ♄. H. Native of Eastern Caucasus and Iberia, in stony places of mountains. Leaves ½ to 1 inch long, with remote short toothlets. Corolla pale purple.

Fruticulose Hedge Nettle. Fl. June, Aug. Clt. 1818. Shrub 1 foot. ?

† *Species not sufficiently known.*

102 S. betonicæfòlia (Desf. cor. in ann. mus. 10. p. 304. t. 25.) villous; leaves cordate, crenated; whorls about 6-flowered; calyxes mutic. ☉. H. Native of Candia, Tournefort. Stem erect, branched. Leaves petiolate, wrinkled, obtuse, crenated, very like those of *Betónica officinàlis*. Whorls distinct, 2-6-flowered; floral leaves ovate, a little longer than the calyxes. Corolla large, white. Perhaps the same as *S. spinulòsa*.

Betony-leaved Hedge Nettle. Fl. June, July. Clt. 1812. Pl. 2 feet.

103 S. scordioi'des (Poir. dict. 7. p. 373.) suffruticose; leaves lanceolate-linear, almost entire: floral ones spiny-toothed; calycine teeth straight, subulate, spinose. ♄. F. Native of the North of Africa. Branches numerous, divaricate, stiff, villous. Floral leaves sessile, half stem-clasping, all glabrous. Whorls interrupted, terminal, 6-9-flowered. Corolla yellowish, a little longer than the calyx: upper lip flattish, emarginate; lobes of lower lip roundish, unequal, subcrenulated. Perhaps a species of *Siderìtis*.

Scordium-like Hedge Nettle. Shrub humble.

104 S. Oly'mpica (Poir. suppl. 5. p. 226.) villous; stem simple, straight, stoloniferous; leaves elliptic, sharply serrated, ciliated with wool; cauline leaves distant, spreading at the top of straight petioles; spike dense, woolly. ♃.? H. Native of Mount Olympus, Toscan. Allied to *S. nivea*. Stem woolly. Leaves an inch long, obtuse at both ends, whitish-green above, and woolly beneath. Whorls dense. Teeth of calyx spinose. Corolla pale yellow, villous outside.

Olympic Hedge Nettle. Pl. 1 foot.

105 S. Tournefórtii (Poir. suppl. 5. p. 227.) leaves cordate-ovate, subcrenated, obtuse; petioles connate at the base; whorls many-flowered; corolla large, villous outside: tube length of calyx; stem tomentose. ♃.? H. Native of Candia, near Canea, Tournefort. S. Crética latifòlia, Tourn. inst. p. 186. itin. 1. p. 33. t. 1. This is a beautiful species, with large rose-coloured flowers. Leaves wrinkled, whitish-green, finely crenulated, 2-3 inches long, and an inch broad. Corolla with a whitish tube and a rose-coloured lip.

Tournefort's Hedge Nettle. Pl. 2 feet.

106 S. pilòsa (Nutt. journ. acad. nat. sc. phil. 7. p. 48.) hairy from pili; leaves nearly sessile, oblong-ovate, acute, serrated; calyx very pilose, with elongated teeth; whorls about 6-flowered. ♃.? H. Native of North America, in the valleys of the Rocky Mountains. Plant humble, robust. Leaves soft beneath. Flowers rather large, purplish.

Pilose Hedge Nettle. Pl. humble.

† † *Doubtful species.*

107 S. decu'mbens (Pers. ench. 2. p. 123.) whorls many-flowered, approximate; bracteas filiform; leaves cordate, toothed; stem decumbent, villous. ♃.? H. Native country unknown. Habit of *S. circinnàta*. Corolla yellowish. Stem branched.

Decumbent Hedge Nettle. Pl. decumbent.

108 S. venòsa (Pers. l. c.) lower leaves spatulate, obtuse, crenated, petiolate, veined with red; cauline leaves sub-rhomboid; stem very villous; calyx smooth. ♃.? H. Native country unknown.

Veiny-leaved Hedge Nettle. Pl.

109 S. betæfòlia (Pers. l. c. p. 124.) leaves petiolate, cor-

date, deeply crenated; spike compact, villous. ↄ. ? H. Native country unknown.

Beet-leaved Hedge Nettle. Pl.

110 S. BARBI'GERA (Viv. fl. cors. append. 2. p. 4.) hairy; stem ascending; leaves cordate-elliptic, crenulated; floral leaves ovate, acute, equalling the calyxes; bracteas ovate-linear; whorls 6-10-flowered; calyxes regular, spinulose; corolla woolly outside; middle segment of the beard obovate, acute: lateral segments linear, obtuse, and twice as long as the middle lobe. ↄ. ? H. Native of Corsica. This differs from *S. lasiántha*, in habit, shape, and length of the floral leaves, corolla, &c.

Beard-bearing Hedge Nettle. Pl.

111 S. MARRUBIIFÒLIA (Viv. fl. cors. app. l. c.) hairy from spreading pili; stem brachiate; leaves cordate, roundish-ovate, crenated; floral leaves ovate and elliptic, spinulose at apex; whorls 6-flowered; corolla purple; lateral lobes of lower lip short, the middle lobe and upper lip emarginate. ↄ. ? H. Native of Corsica.

Horehound-leaved Hedge Nettle. Pl.

112 S. VALENTI'NA (Lag. nov. gen. et spec. p. 18.) leaves oblong-lanceolate, subcordate, hairy; whorls 6-7-flowered: upper ones sterile. ↄ. ? H. Native of Spain, on hills in the province of Valentia, near Enguera.

Valentia Hedge Nettle. Pl.

113 S. STENOPHY'LLA (Spreng. syst. 2. p. 734.) suffruticose, rather hairy; branches twiggy; leaves linear, 3-nerved: lower ones sub-lanceolate, unidentate on both sides; whorls leafy; calyxes pungent. ♄. H. Native of the South of Spain. Siderìtis linearifòlia, Lam.?

Narrow-leaved Hedge Nettle. Fl. July, Aug. Clt. 1823. Shrub 1 foot.

114 S. GLAUCE'SCENS (Mussin. ex Spreng. syst. 2. p. 736.) stem erect, villous; leaves cordate, acuminated, serrated, hairy on both surfaces; whorls leafless, spicate; segments of calyx divaricate, pungent. ↄ. ? H. Native of Caucasus.

Glaucescent Hedge Nettle. Pl.

115 S. BIFLÒRA (Hook. et Arn. in Beech. voy. pt. bot. p. 155.) Nothing is hardly known of this plant.

Two-flowered Hedge Nettle. Pl.

Cult. Very few of the species are worth cultivating for ornament, most of them having a weedy appearance. They will all grow in any common garden soil; the herbaceous perennial species are readily increased by dividing at the root in spring or autumn. The seeds of annual kinds only require to be sown in spring, in the open border. Some of the smaller species, as *S. Córsica*, do well in pots among other alpine plants. The hardy shrubby species, as *S. lavandulæfòlia*, are well fitted for decorating rockwork; these are readily increased by cuttings, under a hand-glass, or by seeds. The greenhouse species require the treatment of other greenhouse plants.

LXXXII. SPHA'CELE (from *σφακος*, *sphakos*, sage; similarity.) Benth. in bot. reg. under no. 1289. lab. p. 567.—Phytóxys, Molina.—Siderìtis species, H. B. et Kunth, nov. gen. amer. 2. p. 307.

LIN. SYST. *Didynàmia*, *Gymnospérmia*. Calyx campanulate, usually widened in the fructiferous state, irregularly somewhat 10-nerved, and reticulately veined, with an equal mouth, which is naked inside, deeply 5-toothed: teeth nearly equal, or scarcely somewhat dejected into two lips. Corolla with an ample, inclosed, or exserted tube, which is furnished with a pilose ring inside at the base: limb short, scarcely bilabiate; lobes broad-roundish, erectly spreading: upper ones sub-bifid: lateral ones entire: lower one larger, and emarginate. Stamens 4, ascending, nearly equal, or didynamous: lower ones the longest; filaments glabrous, naked; anthers sub-approximate, 2-celled: cells linear, distinct, diverging. Style somewhat equally bifid at top: lobes subulate, stigmatiferous at apex. Achenia dry, smooth.—Subshrubs or shrubs. Leaves bullately wrinkled, often canescent beneath: floral ones bractea-formed, rarely nearly similar to the cauline leaves. Whorls 2-6-flowered. Racemes simple or branched, terminal. This genus is allied to *Stàchys*, with the leaves of *Sálvia*.

1 S. SALVIÆFÒLIA (Benth. lab. p. 567.) shrubby; leaves oblong-lanceolate, rounded at the base, bullate above, and canescent beneath, as well as the branches; whorls many-flowered, secund, crowded into a terminal, rather branched, spike-formed raceme; corolla rather shorter than the calyx. ♄. G. Native of South America. Siderìtis salviæfòlia, H. B. et Kunth, nov. gen. 2. p. 307. Leaves 2-4 inches long. Whorls 6-10-flowered. Corolla whitish-blue, equalling the calyx. Calyx hispid, with lanceolate, subulate teeth. Bracteas very minute.

Sage-leaved Sphacele. Shrub.

2 S. BULLA'TA (Benth. lab. p. 568.) shrubby; branches and under sides of leaves clothed with hoary tomentum, glabrous above, and rugosely blistered, oblong, obtuse, cordate, crenulated; flowers about 5-6 in a whorl, crowded into a dense spike; bracteas ovate, bidentate at apex; calycine teeth acuminately subulate; tube of corolla exceeding the calyx a little. ♄. S. Native of New Granada, on the Andes between Pasto and Teindala. Siderìtis bullàta, H. B. et Kunth, nov. gen. amer. 2. p. 306. Shrub much branched, strong-scented. Leaves 2 inches long. Corollas white.

Blistered-leaved Sphacele. Shrub.

3 S. PANICULA'TA (Benth. lab. p. 568.) suffruticose; branches clothed with hairy tomentum; leaves oblong, sagittately cordate, acute, crenately toothed, rugosely blistered above, and glabrous, but clothed with fine hoary pubescence beneath; spikes panicled; whorls 6-flowered, approximate; bracteas ovate, and are, as well as the calycine teeth, acute. ♄. S. Native of Quito, on the mountains near Tarqui. Siderìtis paniculàta, H. B. et Kunth, nov. gen. 2. p. 307. Shrub strong-scented. Leaves 3 inches long, and 16 lines broad. Calyx hispid. Corollas white, similar to those of *S. bullàta*.

Panicled Sphacele. Shrub 3 to 4 feet.

4 S. CALYCI'NA (Benth. lab. p. 568.) suffruticose?; branches clothed with soft villi; leaves petiolate, ovate-oblong, rounded at the base, a little wrinkled, villous; racemes nearly simple, secund; whorls 2-flowered, remote; calyx ample, very villous; corolla ample, exceeding the calyx a little. ♄. F. Native of California, Douglas. Leaves 2-3 inches long, irregularly toothed. Calycine teeth broad-ovate, acute. Corolla white. Upper floral leaves sessile, bractea-formed, lanceolate, quite entire.

Large-calyxed Sphacele. Shrub.?

5 S. TOMENTÒSA (Benth. lab. p. 569.) suffruticose, prostrate; branches ascending, tomentosely villous; leaves small, oblong, roundly subdilated at the base, wrinkled, tomentose on both surfaces; racemes loose, secund; whorls 2-flowered; corolla scarcely exceeding the calyx. ♄. G. Native of Peru, at Cheuchin, Dombey. Leaves ½ inch long, irregularly and deeply crenated. Upper floral leaves sessile. Corolla inflated a little, pale.

Tomentose Sphacele. Shrub prostrate.

6 S. CAMPANULA'TA (Benth. in bot. reg. under no. 1289. lab. p. 569.) shrubby; branches divaricate; leaves small, oblong-lanceolate, narrowed at the base, bullately wrinkled above, and green, but clothed with hoary tomentum beneath; racemes loose, secund; whorls 2-flowered; corollas ample, about twice as long as the calyx. ♄. G. Native of Chili, near Valparaiso and Conception. Rosmarìnus Chilénsis, Molina, hist. nat. chil. p. 13.? Dracocéphalum chamædryoìdes, Balb. misc. p. 29.

Algue Laguen, Feuill. chil. 3. t. 1. Phytóxys acidíssima, Molina ex Spreng. syst. 2. p. 716. Branchlets tomentosely pubescent. Leaves on short petioles, ½ to 1 inch long. Corollas pale blue.

Campanulate-calyxed Sphacele. Fl. July. Clt. 1795. Shrub 2 to 3 feet.

7 S. subhasta'ta (Benth. l. c.) shrubby; branches tomentose; leaves oblong-lanceolate, truncately subhastate at the base, green, and bullately wrinkled above, but clothed with white tomentum beneath; racemes loose, nearly simple; whorls many-flowered; corolla about twice as long as the calyx. ♄. G. Native of Chili, near Valparaiso. Leaves scarcely an inch long, obtuse, crenulated. Whorls 4-6-flowered. Calycine teeth linear-subulate. Corolla blue. Stamens a little exserted.

Subhastate-leaved Sphacele. Shrub.

8 S. Lindle'yi (Benth. l. c. lab. p. 570.) shrubby; branches clothed with floccose wool; leaves ovate, cordate at the base, bullately wrinkled, clothed with white wool beneath; racemes simple, dense; whorls many-flowered; corolla twice as long as the calyx. ♄. G. Native of Chili, near Valparaiso. Hook. bot. mag. t. 2993. Stàchys Sálviæ, Lindl. in bot. reg. t. 1226. Leaves 1½ to 3 inches long. Corollas purplish-violet, more than an inch long, pubescent outside.

Lindley's Sphacele. Fl. Aug. Clt. 1825. Shrub 3 to 4 feet.

9 S. lamiifòlia (Benth. lab. p. 570.) shrubby; branches clothed with rufous tomentum; leaves on short petioles, ovate, cordate at the base, villous, wrinkled, of nearly the same colour on both surfaces; racemes loose, a little branched; whorls many-flowered; corolla much exserted. ♄. G. Native of Peru, Dombey. Leaves obtuse, crenated, glandular beneath: floral ones sessile. Whorls 4-6-flowered. Calyx sub-bilabiate, with setaceously acuminated teeth. Corolla scarlet, almost 1½ inch long.

Dead Nettle-leaved Sphacele. Shrub.

10 S. speciòsa (St. Hil. mss. ex Benth. lab. p. 570.) shrubby; branches clothed with rufous tomentum; leaves petiolate, ovate, or oblong-lanceolate, truncately subcordate at the base, bullately much wrinkled above, and rather woolly beneath, but at length nearly glabrous; racemes loose, paniculately branched; whorls 2-flowered; corolla much exserted. ♄. G. Native of Brazil, in shady rocky places on Serra do Papagaio, in the province of Minas Geraes. Leaves doubly crenulated: floral leaves small, bractea-formed, acuminated, nearly entire. Corolla reddish-violet, more than an inch long.

Showy Sphacele. Shrub 3 to 5 feet.

Cult. The species are free growers, and flowerers. Any light rich earth will answer them; and cuttings readily strike root, with a hand-glass placed over them.

LXXXIII. LEPECHI'NIA (named after John Lepechin, a Russian botanist.) Willd. hort. berol. 1. p. 21. t. 21. Benth. lab. p. 415.—Hormìnum species, Ortega.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx inflately campanulate, reticulately veined, truncate at apex, sub-bilabiate; upper lip bidentate; lower lip tridentate: teeth all awned; throat naked inside. Corolla equal in length to the calyx; tube naked inside; limb bilabiate; upper lip erect, flattish, emarginate; lower lip trifid, with flat, entire, rather spreading lobes. Stamens 4, didynamous, ascending: lower 2 the longest; anthers approximate: cells rather parallel. Style glabrous, almost equally bifid at apex. Achenia dry, smooth, black.—Herbs. Whorls many-flowered, remote, or spicate.

1 L. spica'ta (Willd. hort. berol. 1. p. 21. t. 21.) stem erect; whorls crowded into a terminal spike; fructiferous calyx closed. ♃. F. Native of Mexico, near Ario and Santa Rosa de la Sierra; and near Xalapa. Bot. reg. t. 1292. Hormìnum caulèscens, Orteg. dec. p. 68. Ulrícia pyramidàta, Jacq. ex Steud. nom. p. 413. Stem rather hairy. Leaves nearly sessile, 2-6-inches long, ovate, obtuse, crenulated, cuneated at the base, wrinkled, pubescent, green on both surfaces; floral leaves under the spike similar to the others, but smaller; those in the spike bractea-formed, equalling the calyxes. Spikes oblong or sub-globose 1 to 1½ inch long. Calyx pubescent. Corolla small, yellow.

Spike-flowered Lepechínia. Fl. July, Aug. Clt. 1800. Pl. 1 to 1½ foot.

2 L. procu'mbens (Benth. lab. p. 415.) stems procumbent; whorls secund, remote; fructiferous calyx spreading. ♃. F. Native of Mexico, Karwinski. Branches nearly simple, villous. Leaves petiolate: lower ones ovate: superior ones oblong; all obtuse, crenated, sub-cordate at the base; lower floral leaves almost similar to the others, sessile: the upper ones small and bractea-formed. Whorls 6-10-flowered. Corolla like *L. spicàta*, but a little longer.

Procumbent Lepechínia. Pl. procumbent.

Cult. The species of *Lepechínia* should be grown in pots in a rich open earth, or one composed of equal parts of peat sand and loam. They require the protection of a frame or greenhouse in winter, and are readily increased by division and seeds, and even by cuttings.

LXXXIV. CRANIO'TOME (from *κρανειον, kraneion,* a helmet; and *τομη, tome,* a section; probably in reference to the short galea or helmet.) Rchb. icon. bot. exot. 1. p. 39. Benth. lab. p. 704.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate, somewhat globose after florescence, equal, 5-toothed; throat contracted, villous inside. Corolla with an exserted tube, and a bilabiate limb: the upper lip very short and concave, entire: the lower lip longer, spreading, and trifid; the lateral segments short. Stamens 4, ascending, didynamous, shorter than the corolla: lower ones longest. Anthers 2-celled; cells at length divaricate. Style about equally bifid at top. Stigmas minute. Achenia dry, smooth.

1 C. versi'color (Rchb. l. c. t. 54.) ♃. H. Native of Nipaul, Kamaon, and Silhet, &c. Népeta versícolor, Trev. in nov. act. acad. nat. cur. 13. p. 183. Anisómeles Nepalénsis, Spreng. syst. 2. p. 706. A'juga furcàta, Link, enum. 2. p. 99. Herb erect, branched. Branches pilose. Leaves petiolate, ovate, acuminated, crenated, cordate at the base, hispid from pili on both surfaces. Uppermost floral leaves bractea-formed. Cymes loose, many-flowered, pedunculate, racemose. Racemes slender, panicled. Flowers minute, elegantly variegated with white, red, and purple. Calyx pubescent.

Party-coloured-flowered Craniotome. Fl. July, Aug. Clt. 1824. Pl. 4 to 6 feet. ?

Cult. For culture and propagation see *Lepechínia*, above.

LXXXV. SIDERI'TIS (of Pliny, and Σιδηριτις of Dioscorides; from *σιδηρος, sideros,* iron; so named on account of its fancied property of healing flesh wounds.) Tourn. inst. t. 90. Lin. gen. no. 712. Schreb. gen. no. 966. Juss. gen. p. 113. Benth. lab. p. 570.—Hesiòdia, Burgsdórffia, and Marrubiástrum, Mœnch.—Empedóclea, Rafin.—Naviculària, Fabr.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 5-10-nerved: teeth erect, rather spinose, sometimes equal, and sometimes the upper one is very broad, or the 3 upper ones are almost joined into an upper lip. Corolla with an inclosed tube,

which is naked or annulate inside, and a bilabiate limb; upper lip erect, flattish, entire, or emarginately bifid; lower lip spreading, trifid, the middle lobe the broadest, and usually emarginate. Stamens 4, didynamous, inclosed; the upper 2 very short, bearing 2-celled anthers: the cells divaricate; the 2 lower ones longer, bearing dimidiate or difformed empty anthers, rarely conforming to the superior anthers. Style inclosed, bifid at top; upper lobe terete, truncate, stigmatiferous at top: lower lobe dilated, clasping the superior one at the base, stigmatiferous on the top and edges. Achenia dry, obtuse at apex, not truncate.—Herbs, shrubs, and under-shrubs. Whorls 6, or many-flowered, axillary, racemose or spicate. Floral leaves sometimes almost similar to the cauline leaves: upper ones minute, sometimes bractea-formed, dilated, and clasping the flowers, with quite entire or spiny-toothed margins. Corollas small, usually yellowish.

Sect. I. Marrubia'strum (from *Marrubium*, horehound; and *astrum*, an affixed signification, like; plants with the habit of *Marrùbium*.) Mœnch, meth. 391. Benth. lab. p. 573. Shrubs clothed with soft wool, generally white. Floral leaves green, quite entire or crenated, nearly similar to the lower cauline ones, but much smaller; uppermost ones minute.

1 S. Massonia'na (Benth. lab. p. 573.) clothed with white dense adpressed wool; leaves oblong, subcordate at the base, thick, clothed with white wool on both surfaces or only beneath; racemes panicled; whorls few-flowered. ♄. G. Native of Madeira, Masson. Allied to *S. Crética*, but the leaves are narrower and scarcely crenated, and the upper surfaces of the leaves less woolly. Whorls 4-10-flowered, interruptedly racemose. Corollas yellow.?

Masson's Ironwort. Shrub.

2 S. ca'ndicans (Ait. hort. kew. 2. p. 289.) clothed with adpressed dense white wool; leaves ovate, crenated, a little truncate at the base, cordate, thick, clothed with adpressed wool on both surfaces, white beneath; racemes simple; whorls few-flowered. ♄. G. Native of Teneriffe. S. Crética, Lin. spec. p. 801.—Comm. hort. 2. p. 197. t. 99. Habit of *S. Canariénsis*, but the wool is white. Leaves 1-2 inches long. Whorls usually 10-flowered; lower ones distant. Corolla yellow, scarcely exceeding the calyx, pale yellow, or dirty white.

Whitened Ironwort. Fl. April, July. Clt. 1714. Shrub 2 to 3 feet.?

3 S. macrosta'chyos (Poir. suppl. 2. p. 381.) clothed with dense white adpressed wool; leaves ovate, subcordate at the base, green above, and very white beneath; whorls many-flowered, imbricated into a thick very dense spike. ♄. G. Native of the Canary Islands, Poiret, Masson. Corollas exceeding the calyx a little. Upper surfaces of leaves nearly glabrous.

Long-spiked Ironwort. Shrub.

4 S. Canarie'nsis (Lin. spec. p. 573.) clothed with villous wool; leaves ovate, crenated, cordate at the base, thick, wrinkled, veiny beneath, and clothed with velvety wool on both surfaces; racemes simple; whorls many-flowered, distinct. ♄. G. Native of the Canary Islands. Jacq. hort. vind. 3. p. 18. t. 30. Marrubiástrum tomentòsum, Mœnch, meth. p. 391.—Pluk. phyt. t. 322. f. 4. Plant clothed with rather floccose yellowish white dense wool. Leaves 2-4 inches long. Whorls dense, 20-30-flowered. Corolla yellowish, scarcely exceeding the calyx. Style often 4-5 cleft, and the ovarium 8-10 parted, in the gardens.

Canary Island Ironwort. Fl. May, Aug. Clt. 1697. Shrub 3-6 feet.

Sect. II. Empedóclea (the name of an ancient philosopher.) Benth. lab. p. 574.—Empedóclea, Rafin. Caratt. ex Guss. Small shrubs or perennial herbs, woolly at the base. Floral leaves quite entire, clasping the sessile flowers.

5 S. Syri'aca (Lin. spec. p. 801.) suffruticose, clothed with white wool; leaves thick, oblong-lanceolate, narrowed at the base: lower ones crenulated: floral leaves cordate at the base, quite entire, equalling the calyxes. ♄. F. Native of Candia and Palestine. Rchb. icon. bot. exot. 1. p. 42. t. 57. Sibth. et Smith, fl. græc. 6. p. 41. t. 550.—Sabb. hort. rom. 3. t. 40. The whole plant is clothed with white wool. Whorls 6-10-flowered. Corolla twice as long as the calyx, yellow, clothed with silky villi outside.

Syrian Ironwort. Fl. June, Sept. Clt. 1597. Shrub 1 to 1½ foot.

6 S. Tau'rica (Bieb. fl. cauc. 2. p. 43.) suffruticose, clothed with white wool; leaves thick, oblong-lanceolate, or spatulate, narrowed at the base: lower ones crenulated, clothed with dense white wool on both surfaces: floral leaves very broadly cordate, acuminated, quite entire, reticulately veined, clothed with loose wool, greenish; calycine teeth lanceolate, mutic. ♄. H. Native of Tauria, on calcareous mountains. Bieb. cent. pl. rar. ross. 1. t. 39. Rchb. icon. bot. eur. 4. p. 61. t. 384. S. Syrìaca, Pall. ind. taur. but not of Lin. S. incàna, Habliz, taur. p. 148, but not of Lin. Nearly allied to *S. Syrìaca*. Corollas yellow.

Taurian Ironwort. Fl. June, Sept. Clt. 1822. Shrub 1 to 1½ foot.

7 S. Si'cula (Ucria, ex Guss. prod. fl. sic. 2. p. 85.) suffruticose, clothed with white wool; leaves thick, oblong-spatulate, narrowed at the base: lower leaves crenulated, woolly on both surfaces: floral ones very broadly cordate, acuminated, quite entire, reticulately veined, clothed with loose wool, green, about twice as long as the calyxes; calycine teeth lanceolate-subulate, very acute, rather spinescent. ♄. F. Native of the South of Europe; as of Spain, Italy, Sicily. S. Brùtia, Tenore, fl. nap. 2. p. 16. Empedóclea montàna, Rafin. Caratt. p. 78. S. decúmbens, Mœnch, meth. p. 390.? Naviculària Heistèri, Fabric. Very nearly allied to *S. Syrìaca*. Corollas yellow.

Sicilian Ironwort. Shrub 1½ to 2 feet.

8 S. Libanótica (Labill. icon. pl. syr. rar. 4. p. 13. t. 8.) suffruticose; branches simple, glabrous; leaves obovate-oblong, serrated, tomentose; whorls distant; bracteas ovate, acuminated, reticulately veined; calycine segments mucronate. ♄. F. Native of Mount Lebanon. Floral leaves sessile. Whorls 4-8-flowered. Bracteas length of calyxes. Calyx pilose. Corolla pale yellow, pilose, the tube length of calyx.

Lebanon Ironwort. Shrub 1 to 1½ foot.

9 S. pu'llulans (Vent. hort. cels. t. 98.) suffruticose; stem rather woolly at the base, green and pubescent above, divaricately branched; leaves ovate-lanceolate, half stem-clasping, stiff, reticulately veined, green on both surfaces, pubescent or canescent from loose wool: floral leaves broadly cordate, acuminated, twice as long as the flowers; calyx green, with subulate spinose teeth. ♄. F. Native of Syria, on mountains near Jerusalem and Nazareth, Bové. Leaves 2-3 inches long; floral ones 1 to 1½ inch long. Whorls 6-10-flowered. Corolla pubescent outside. Perhaps only a variety of *S. Libanótica*.

Sprouting Ironwort. Shrub.

10 S. du'ra (Benth. lab. p. 576.) suffruticose; stem clothed with white wool; leaves sessile, half stem-clasping, lanceolate, acute, quite entire, stiff, rather woolly from hoary villi on both surfaces: floral leaves broad-cordate, equalling the calyxes, quite entire, acuminated; calyx clothed with soft villi, with soft mutic teeth. ♄. F. Native country unknown. Habit of *S. Syrìaca*, but the form of the leaves is different, the whole plant is less woolly, and the whorls more numerous and more remote. Whorls about 6-flowered. Floral leaves very concave.

Hard Ironwort. Shrub.

11 S. PERFOLIA'TA (Lin. spec. p. 802.) suffruticose, hardly woolly at the base; stem pilose, green; leaves half stem-clasping, ovate-oblong or lanceolate, greenish on both surfaces, and furnished with soft villi, rather veiny: floral leaves very broadly cordate, acuminated, reticulately veined, green on both surfaces, twice as long as the leaves; calyx green, pilose, with lanceolate-subulate very acute scarcely spinose teeth. ♄. F. Native of the South of Europe; as of Spain, Sicily, and the Levant. Leaves 1½ to 2 inches long, quite entire or few-toothed, often connate at the base; floral leaves very much dilated, boat-shaped at the base. Corolla yellow, hardly exceeding the calycine teeth.

Perfoliate-leaved Ironwort. Fl. Aug. Nov. Clt. 1731. Shrub 1 to 1½ foot.

12 S. DI'STANS (Willd. spec. 3. p. 66.) suffruticose, hoary; leaves lanceolate, quite entire, acute; whorls distant; floral leaves cordate, acuminated, mucronate, reticulated, nerved. ♄. F. Native of the Levant. Very nearly allied to *S. Taúrica*, from which it differs in the acute, less tomentose, quite entire, leaves, very remote whorls, and glabrous, mucronate bracteas, &c. Tube of corolla longer than the calyx; middle lobe of lower lip obtuse, not emarginate as in *S. Taúrica*.

Distant-whorled Ironwort. Shrub ½ to 1 foot.

13 S. RUGO'SA (Poir. suppl, 2. p. 383.) suffruticose; leaves ovate-lanceolate, obtuse, wrinkled, a little toothed, clothed with hoary tomentum; whorls distant; floral leaves entire, and are, as well as the calyxes acuminated and tomentosely pilose at apex; branches strict. ♄. F. Native of Syria, Labillardière. S. rytídea, Spreng. syst. 5. p. 644. Stems slender. Leaves distant, about an inch long. Calyxes longer than the floral leaves; teeth spinose. Corollas yellow. ?

Wrinkled Ironwort. Shrub ½ to 1 foot.

14 S. ÆGYPTI'ACA (Pers. ench. 2. p. 117.) leaves ovate, serrated, hoary, the veins beneath rather prominent; stem terete, clothed with white tomentum; whorls clasped by the floral leaves. ♄. ? F. Native of Egypt. Stem tall.

Egyptian Ironwort. Shrub tall.

SECT. III. EUSIDERI'TIS (from *ευ, eu*, well, and *Sideritis;* so named from this section being supposed to contain the true or legitimate species of the genus.) Benth. lab. p. 577. Small shrubs, villous or rather woolly from soft hairs or pili; rarely nearly glabrous. Floral leaves bractea-formed, sessile, very broadly cordate, clasping the flowers, reticulately veined, with spiny-toothed margins. Teeth of calyx equal, spiny. Corolla exceeding the calycine teeth a little. The species of this section are closely allied to each other.

15 S. GRANDIFLO'RA (Salzm. pl. tang. exs. ex Benth. lab. p. 577.) suffruticose; stem loosely woolly; leaves oblong, obtuse, crenated, narrowed a long way at the base, clothed with soft villi: floral leaves very broad, exceeding the flowers, clothed with soft villi, bluntly acuminated at top, somewhat spinosely denticulated on the margins at the base. ♄. F. Native on hills about Tangiers. Leaves green on both surfaces. Corollas pale yellow, size of those of *Stàchys récta;* tube annulate inside.

Great-flowered Ironwort. Shrub 1 to 1½ foot.

16 S. OVA'TA (Cav. icon. 1. p. 36. t. 48.) suffruticose, ? green, glabrous or subvillous; leaves oblong-ovate, obtuse, subserrated: floral leaves very broad, exceeding the flowers, glabrous or with villous margins, few-veined, with spiny-toothed margins; whorls approximate, spicate. ♄. F. Native of Spain. Leaves 1 to 1½ inch long. Whorls 6-flowered. Corolla cream-coloured; middle segment of the lower lip crenated.

Ovate-leaved Ironwort. Shrub.

17 S. SPINO'SA (Lam. dict. 2. p. 169.) suffruticose, clothed with soft villi, greenish; leaves oblong-lanceolate, mucronate, with serrated subspinose margins: floral leaves broad, acuminated, exceeding the flowers, with spiny-toothed edges, all clothed with silky villi; whorls approximate, spicate. ♄. F. Native of Spain and Barbary. S. serràta, Lag. nov. gen. et spec. p. 18. Stems branched at the base. Corollas pale yellow.

Spinose Ironwort. Fl. June, Sept. Clt.? Shrub 1 to 1½ foot.

18 S. ILICIFO'LIA (Willd. enum. p. 606.) suffruticose, nearly glabrous; leaves oblong-lanceolate, with spinosely serrated edges, a little cut: floral leaves broad, acuminated, exceeding the flowers, with spiny-toothed margins, all nearly glabrous; whorls all remote. ♄. F. Native of the Levant and Spain. Leaves 1-2 inches long. Corollas small. Whorls many-flowered, dense. Lower leaves petiolate; upper ones sessile.

Holly-leaved Ironwort. Fl. June, Sept. Clt.? Shrub 1 to 1½ foot.

19 S. SCORDIOI'DES (Lin. spec. p. 803.) suffruticose; branches decumbent, ascending or erectish, usually loosely villous, rarely glabrous; leaves ovate, oblong or oblong-linear, narrowed at the base, deeply toothed, mutic or rarely almost entire, pilosely woolly or glabrous: floral leaves very broad, equalling the calyxes or hardly longer, with spiny-toothed margins; whorls rather villous, rarely glabrous, interruptedly or densely spicate. ♄. H. Native of Europe, in the region of the Mediterranean; as of Spain, South of France, Piedmont, South of Switzerland. —Barr. icon. 343.—Lob. icon. 528. Very variable in stature and form of leaves. Corollas pale yellow.

Var. α, grandiflòra (Benth. lab. p. 578.) branches erectish, stiff; leaves oblong, green, villous, deeply toothed; whorls large, subinterruptedly spicate. ♄. H. Native among rocks in the Eastern Pyrenees, near Bagnols, and of Spain. S. subspinòsa, Cav. icon. rar. 3. p. 5. t. 209. S. spinòsa, Benth. cat. pl. pyr. p. 121. but not of Lin.

Var. β, commùnis (Benth. lab. p. 578.) branches erectish or ascending; leaves obovate-oblong, deeply toothed, villous, canescent while young; whorls very spinose, interruptedly spicate. ♄. H. Native of the South of France and Spain in dry, arid places.

Var. γ, elongàta (Benth. lab. p. 578.) branches elongated, ascending or erect; leaves oblong or oblong-lanceolate, deeply toothed, nearly glabrous, green; whorls interruptedly rarely densely spicate. ♄. F. Common in gardens; and probably a native of Spain. S. hyssopifòlia, of many authors. S. fœ'tida, Poir. dict. suppl. 2. p. 382. S. hírta, Roth, catal. 1. p. 67. S. hirsùta, Brot. fl. lus. 1. p. 161. S. fruticulòsa, Pourr. act. tol. 3. p. 328.

Var. δ, alpìna (Benth. lab. p. 578.) branches short, decumbent; leaves oblong-ovate, few-toothed, clothed with hoary villi or at length glabrous; whorls densely or subinterruptedly spicate. ♄. H. Native of the higher Pyrenees and Piedmont. S. alpìna, Vill. fl. dauph. 2. p. 373. S. Pyrenàica, Poir. suppl. 2. p. 383. S. crenàta, Lapeyr. hist. abr. pl. pyr. p. 331.

Var. ε, glabràta (Benth. lab. p. 578.) branches ascending; leaves oblong-ovate, few-toothed or quite entire, nearly glabrous; whorls densely or subinterruptedly spicate. ♄. H. Native along with var. δ. S. hyssopifòlia, of many authors.

Var. ζ, angustifòlia, (Benth. lab. p. 578.) leaves oblong-linear, nearly glabrous. ♄. H. Native of the Eastern Pyrenees. S. hyssopifòlia, Lin. spec. 803. Schkuhr, handb. 2. t. 158.—Barrel. icon. t. 171.

Var. η, incàna, (Benth. cat. pyr. 121. lab. p. 579.) leaves oblong-linear, clothed with hoary villi. ♄. H. Native of the Eastern Pyrenees. S. Pyrenàica, Endress. pl. exs. un. itin. Wurtemb.

Scordium-like Ironwort. Fl. Aug. Nov. Clt. 1597. Shrub ½ to 1 foot.

20 S. LEUCA'NTHA (Cav. icon. 4. p. 2. t. 304.) suffruticose; branches erect, strict, tomentose; leaves linear, a little toothed, nearly glabrous, fascicled in the axils; spikes interrupted, slender, nearly glabrous: floral leaves very broad, equalling the calyxes, with spiny-toothed margins. ♄. F. Native of Spain, in calcareous places, on the mountains. Corollas white or pale yellow.

White-flowered Ironwort. Fl. July, Aug. Clt. 1823. Shrub 1 foot.

21 S. PU'NGENS (Benth. lab. p. 579.) suffruticose; branches erect, strict, pubescent; leaves linear, very acute, pungent, quite entire, glabrous; spikes dense, tetragonal: floral leaves very broad, about twice as long as the calyxes, with deep spiny-toothed margins. ♄. F. Native of Spain. Spikes almost as in *S. serràta*, and the habit is that of *S. fœ'tens;* but the floral leaves are different. Leaves an inch long; lower ones hardly pungent.

Pungent Ironwort. Shrub.

22 S. ARBORE'SCENS (Salzm. pl. exs. ex Benth. lab. p. 579.) suffruticose; branches erect, somewhat bifariously woolly; leaves oblong-lanceolate, deeply toothed, glabrous: floral leaves very broad, equalling the calyxes, reticulately veined, rather woolly, with subspinosely toothed margins; whorls many-flowered, hairy, distinct, approximate, subspicate. ♄. F. Native of Gibraltar, Broussonet and Salzmann. Leaves nearly sessile, scarcely an inch long. Whorls 6-10-flowered, globose. Bracteas orbicular. Corollas pale yellow.

Arborescent Ironwort. Shrub 4 to 5 feet.

23 S. CAVANILLE'SII (Lag. nov. gen. et spec. p. 18.) rather hoary; leaves lanceolate, dentately serrated; spike elongated; whorls distinct; bracteas cordately orbicular, spiny-toothed. ♄. F. Native of Spain, in mountainous places about Madrid and Old Castile. S. scordioìdes, Cav. icon. 4. p. 2. t. 303, but not of Lin. ex Lag. Stems and under surfaces of leaves tomentose, more or less hoary. Corollas yellow.

Cavanilles's Ironwort. Shrub ½ to 1 foot.

24 S. HIRSU'TA (Lin. spec. p. 803.) suffruticose; branches decumbent, very hairy; leaves oblong-ovate or cuneated, deeply toothed, narrowed at the base, hairy: floral leaves very broad, equalling the calyxes, with subspinosely toothed margins; whorls globose, very hairy, all remote. ♄. F. Native of Spain, France, Provence, Piedmont. Cav. icon. 4. p. 1. t. 302. S. scordioìdes, var. lanàta et latifòlia, Benth. cat. pyr. p. 121. S. tomentòsa, Pourr. act. acad. tol. 3. p. 328. S. Hispánica, Mill. dict. no. 7.—Sabb. hort. 3. t. 58. Whorls usually more than 10-flowered, an inch distant. Floral leaves scarcely spinose. Corollas pale yellow.

Hairy Ironwort. Fl. June, July. Clt. 1731. Shrub decumbent.

25 S. CHAMÆDRYFÒLIA (Cav. icon. 4. p. 1. t. 301.) suffruticose; branches ascending, rather villous; leaves oblong or cuneated, deeply toothed, narrowed at the base, rather villous: floral leaves very broad, equalling the calyxes, with subspinosely toothed margins; whorls almost glabrous or villous, all remote. ♄. F. Native of Spain. Hardly differing from *S. hirsùta*, unless in being more glabrous. Whorls usually smaller, and the floral leaves larger. Corollas yellow.

Germander-leaved Ironwort. Fl. June, Aug. Clt. 1816. Shrub 1 foot.

26 S. ANGUSTIFÒLIA (Lam. dict. 2. p. 168.) suffruticose; branches ascending or erectish, strict, tomentosely pubescent; leaves oblong-linear, quite entire, rarely few-toothed, narrowed at the base: floral leaves very broad, equalling the calyxes, with spiny-toothed margins; whorls rather villous, all distant. ♄. F. Native of Spain, in the region of the Mediterranean, and North of Africa, in sandy places near Mascar. S. incàna, Cav. icon. rar. 2. p. 69. t. 186. S. angustifòlia, Lam. dict. 2. p. 168. Lag. nov. gen. et. spec. p. 18. S. linearifòlia, Lag. nov. gen. et spec. p. 18.? Allied to *S. scordioìdes*, var. *angustifòlia* and *S. incàna*. Leaves always sessile. Corollas yellow.

Narrow-leaved Ironwort. Fl. July, Aug. Clt. 1820. Shb. 1 ft.

27 S. TRAGORI'GANUM (Lag. nov. gen. et spec. p. 18.) suffruticose; branches ascending or erectish, tomentosely woolly; leaves oblong-linear, obtuse, quite entire, narrowed at the base, rather woolly: floral leaves very broad, equalling the calyxes, spiny-toothed; whorls rather villous, interruptedly spicate. ♄. F. Native of Spain, in the kingdoms of Murcia and Valentia. S. suffruticòsa, Mill. dict. no. 4.? Calyxes glabrous or villous, not woolly. Corollas yellow.

Goat-marjoram Ironwort. Shrub 1 foot.?

28 S. INCA'NA (Lin. spec. p. 802.) suffruticose; branches clothed with white wool or tomentum; leaves oblong-linear, obtuse, quite entire, clothed with white wool on both surfaces, especially while young: floral leaves very broad, somewhat palmatifid, shorter than the calyxes, rather spinose; whorls distant; calyxes clothed with white wool. ♄. F. Native of Spain. S. virgàta, Desf. fl. atl. 2. p. 15. t. 126.—Bocc. mus. 2. p. 77. t. 67. f. 2.? Habit of *Lavándula spìca*. Leaves ½ to 1½ inch long. Whorls about 6-flowered. Corollas yellow.

Hoary Ironwort. Fl. July, Aug. Clt. 1752. Shrub 1 to 2 feet.

29 S. SERI'CEA (Pers. ench. 2. p. 118. Benth. lab. p. 741.) suffruticose, clothed with white wool; leaves oblong-linear or spatulate, obtuse, quite entire, densely clothed with white wool on both surfaces: floral leaves subpalmatifid, shorter than the calyxes, subspinose; whorls distant; calyx clothed with white wool. ♄. F. Native of Spain. Nearly allied to *S. incàna*, but the wool is much more dense, and the floral leaves shorter, and scarcely toothed.

Silky Ironwort. Shrub.

30 S. GLAU'CA (Cav. icon. 2. p. 68. t. 185.) suffruticose, glabrous, glaucescent; leaves oblong-linear, obtuse, quite entire: floral leaves broad, obtuse, quite entire or a little toothed, rather shorter than the calyxes; whorls distant; calyxes glabrous, with obtuse teeth. ♄. F. Native of Spain, on the mountains. Habit of *S. incàna*, but differs from it in being glabrous and glaucescent, &c. Corollas pale rose-coloured.

Glaucous Ironwort. Shrub.

31 S. FŒ'TENS (Lag. nov. gen. et spec. p. 18.) suffruticose; leaves linear, glabrous, acute; spikes dense; fructiferous calyx with a bearded throat. ♄. F. Native of Spain. Stem and branches twiggy, rush-formed, glabrous. Peduncles villous. Spikes cylindrical, 1½ to 5 inches long; whorls 12-24-flowered. Corolla white, length of calyx.

Stinking Ironwort. Shrub 2 to 3 feet.

32 S. LASIA'NTHA (Pers. ench. 2. p. 117.) leaves ovate, with spinulose teeth; whorls very villous. ♄. H. Native of Spain. S. Hispanica fœtidissima, flore purpurascente, et coma canescente, Tourn. inst. p. 192.

Woolly-flowered Ironwort. Shrub.

33 S. CRISPA'TA (Willd. enum. p. 606. in a note.) hairy; leaves oblong-cuneated, toothed, undulated, tomentose beneath; bracteas orbicular, spiny-toothed; whorls distant. ♄.? F. Native of Gibraltar. Leaves small, undulated.

Curled-leaved Ironwort. Fl. June, Sept. Clt. 1816. Shrub 1½ foot.

Sect. IV. Hesiòdia (probably from Hesiodus, the name of an ancient poet.) Benth. lab. p. 582. Hesiòdia, Burgsdórffia and Marrubiástrum species, Mœnch, meth. Greenish annual herbs, rather woolly from soft pili. Floral leaves almost similar to the cauline ones, but smaller, a little toothed; teeth mutic. Teeth of calyx sometimes all nearly equal, the 3 upper ones somewhat connected at the base, obscurely bilabiate; sometimes the upper tooth is very large, with the lower ones all narrow, and about equal. Corolla usually shorter than the calycine teeth.

34. S. lana'ta (Lin. spec. p. 804.) annual, clothed with soft wool-like hairs; leaves ovate, rounded at the base: floral leaves ovate, crenulated; calyx woolly, greenish, sub-bilabiate, with lanceolate-subulate acuminately subspinose teeth, the upper tooth twice the size of the lower ones. ⊙. H. Native of the region of the Mediterranean, as of Candia, Leri, Syria, &c. S. élegans, Murr. nov. comm. gœtt. 1778. t. 4. S. nígricans, Pers. ench. 2. p. 117. Lam. dict. 2. p. 167. Marrubiástrum élegans, Mœnch, meth. p. 391. Habit of *Stàchys ánnua*. Plant densely pilose. Leaves 1 to 1½ inch long. Corolla yellowish at the base; lips black at apex.

Woolly Ironwort. Fl. July. Clt. 1787. Pl. ½ to 1 foot.

35 S. purpu'rea (H. F. Talbot, fl. corf. ined. ex Benth. lab. p. 742.) annual, very villous, green; leaves oblong-ovate: lower floral leaves toothed: upper ones ovate-lanceolate, acute, almost quite entire; calyx pilose, with aristately mucronate teeth, the upper tooth very large, ovate, the lower ones lanceolate-subulate; galea of corolla oblong, purplish. ⊙. H. Native of the islands, Corfu and Zante, Talbot. Sideritis Cretica, maxima, Ocimi Valentini facie, Tourn. This differs from *S. Romàna* in being more densely beset with long hairs, and particularly in the purple, not yellow, corollas; and the galea is longer and much narrower.

Purple-flowered Ironwort. Pl. ½ foot.

36 S. Roma'na (Lin. spec. p. 802.) annual, clothed with soft rather woolly pili, green; leaves oblong-ovate: floral leaves ovate-lanceolate, toothed; calyx nearly glabrous, with aristately mucronate teeth, the upper tooth large and ovate, and the lower teeth lanceolate-subulate. ⊙. H. Native of the region of the Mediterranean, in cultivated and waste places; as of Spain, France, Italy, Sicily, Grecian Islands, Syria, &c. Cav. icon. 2. p. 69. t. 187. Sibth. et Smith, fl. græc. 6. p. 43. t. 552. S. spatulàta, Lam. fl. fr. 2. p. 377. Burgsdórffia rígida, Mœnch, meth. p. 392. Burgsdórffia, Hoffm. et Link, fl. port. Stems branched at the base, ascending, clothed with long soft villi like the rest of the plant. Whorls 6-flowered, distant. Corolla yellowish.

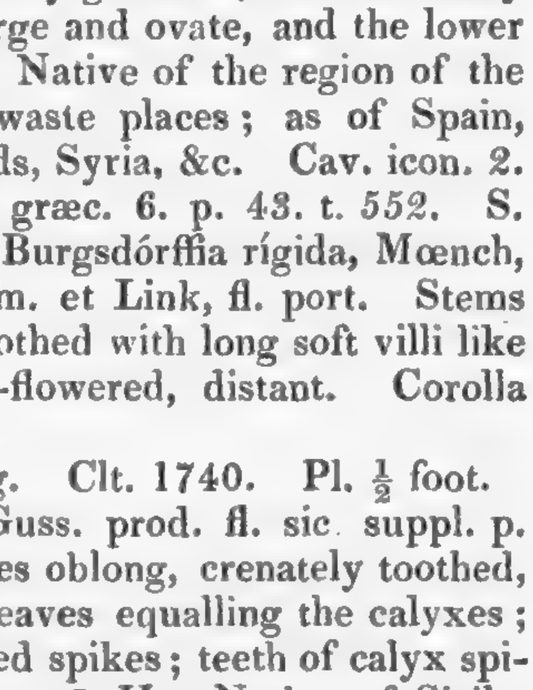
Roman Ironwort. Fl. June, Aug. Clt. 1740. Pl. ½ foot.

37 S. approxima'ta (Gasp. in Guss. prod. fl. sic. suppl. p. 191.) bractless, very villous; leaves oblong, crenately toothed, tapering into the petioles: floral leaves equalling the calyxes; whorls all approximate into elongated spikes; teeth of calyx spinose, pungent: upper tooth ovate. ⊙ H. Native of Sicily, near Seceiara, in maritime pastures, Gasparini. Habit of *S. Romàna*.

Approximate-flowered Ironwort. Pl. ½ foot.?

38 S. monta'na (Lin. spec. p. 802.) annual, ascending; stem hairy; leaves oblong-lanceolate, narrowed at the base: floral leaves awned, a little toothed; calyx green, nearly glabrous, sub-bilabiate; teeth all ovate, aristately mucronate, at length spreading. ⊙. H. Native of the South of Europe and Middle Asia, in cultivated fields; as of the South of France, Italy, Sicily, Dalmatia, Syria, Tauria, Caucasus, Altaia, &c. Jacq. fl. austr. 5. p. 16. t. 434. Hesiòdia bícolor, Mœnch, meth. 392. Hesiòdia montàna, Dumort, fl. belg. p. 44.—Colum. ecphr. 1. p. 198. t. 196. Habit of *S. Romàna*, but taller, the whorls more numerous, the calycine teeth all nearly equal; the 3 superior teeth less deeply cut than the lower ones. Corollas yellow, with a ferruginous margin; upper lip entire, rather concave (fig. 83.)

FIG. 83.



Mountain Ironwort. Fl. July, Aug. Clt. 1752. Pl. ½ to 1 foot.

39 S. remòta (D'Urv. enum. pl. arch. in mem. soc. Lin. par. p. 322.) annual; branches elongated, divaricate, rather villous or woolly; leaves oblong-lanceolate, narrowed at the base: floral leaves obtuse, mutic, a little toothed; calyx clothed with loose wool, sub-bilabiate: teeth all ovate-lanceolate, aristately mucronate, at length spreading. ⊙. H. Native of the Grecian Islands and Syria. S. lanàta, Hochst. et Steud. pl. exs. but not of Lin. S. montàna, Sibth. et Smith, fl. græc. 6. p. 42. t. 551, but not of Lin. Very nearly allied to *S. montàna*, but the habit is stronger, and the calyxes are clothed with white loose wool, not with long pili as in it.

Remote Ironwort. Pl. ½ to 1 foot.

† *Species not sufficiently known.*

40 S. tomentòsa (Ucria, pl. ad Lin. Opus. add. no. 15. ex Guss. prod. fl. sic. suppl. 192.) leaves ovate-lanceolate, toothed, hoary; flowers verticillately spicate; spikes leafy. ⊙.? H. Native of Sicily.

Tomentose Ironwort. Pl.?

41 S. ròsea (Desf. cor. Tourn. in ann. mus. 10. p. 302. t. 24.) villous; leaves ovate-oblong, obtuse, sessile, crenated; flowers twin, axillary; calyxes mutic. ⊙.? H. Native of Egypt. Plant canescent from adpressed tomentum, with the habit and leaves of *Teùcrium Scórdium*. Leaves 6-10 lines long, and 4-5 broad. Flowers nearly sessile. Corolla pale red; tube equalling the calyx; upper lip arched, entire.

Rose-coloured-flowered Ironwort. Pl. ¾ to 1 foot.

† † *Doubtful species.*

42 S. cilia'ta (Thunb. fl. jap. 245.) leaves ovate, serrated; bracteas ciliated. ♃.? H. Native of Japan, Thunb. Plant villous. Leaves petiolate, dotted above, hardly an inch long. Spikes terminal, lanceolate, erect. Bracteas nearly orbicular, acuminated, nerved, ciliated, imbricated.

Ciliated Ironwort. Pl. 1 to 1½ foot.

43 S. parvifòlia (Lam. ill. t. 505. f. 2.) This can hardly be enumerated as a species.

44 S. prostra'ta (Zucc. ex Steud. nom. p. 776.)

45 S. teucriifòlia (Juss. ex Steud. nom. p. 776.)

Cult. All the shrubby species are well fitted for decorating rockwork; they prefer a dry chalky or gravelly soil, and are readily increased by cuttings, seeds, or by division. Those species belonging to the first section being natives of the Canary Islands are properly greenhouse plants. The seeds of annual kinds only require to be sown in the open ground in Spring in dry light soil.

LXXXVI. MARRU'BIUM (of Pliny, from the Hebrew *marrob*, a bitter juice, the species being extremely bitter.) Tourn. inst. t. 91. Lin. gen. no. 721. Schreb. gen. no. 976. Juss. gen. p. 114. Benth. lab. p. 585. Lagópsis, Bunge.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 5-10-nerved, equal; teeth 5-10, acute, rather spinose, nearly equal, erect or often spreading at maturity. Corolla with an inclosed tube, which is naked inside or somewhat annulated, and a bilabiate limb; upper lip erect, flattish or concave, entire or shortly bifid; lower lip spreading, trifid, the middle lobe the broadest, and usually emarginate. Stamens 4, didynamous, the lower ones the longest, inclosed within the tube of the corolla; anthers 2-celled: cells divaricate, sub-confluent, all nearly similar. Style bifid at

top; lobes short, obtuse, stigmatiferous at apex. Achenia dry, obtuse, not truncate at apex.—Perennial, usually tomentose or woolly herbs. Leaves wrinkled, rarely cordate at the base, usually cut; floral leaves similar, exceeding the flowers. Whorls axillary, usually many rarely few-flowered. Bracteas subulate, exceeding the calyxes, rarely very short, and almost wanting.

SECT. I. LAGÓPSIS (from λαγος, *lagos*, a hare; and οψις, *opsis*, resemblance; application not evident.) Benth. lab. p. 586. Lagópsis, Bunge, mon. gen. molucc. Teeth of calyx 5. Tube of corolla exannulate; upper lip quite entire. Leaves roundish, palmatifid.

1 M. INCI'SUM (Benth. lab. p. 586.) leaves roundish, subpalmately-lobed, cut, greenish on both surfaces; bracteas setaceous; calyx glabrous or scarcely tomentose, with 5 setaceous teeth; upper lip of corolla oblong, entire. ♃. H. Native of Siberia, Dauria, and China, near Pekin. Leonùrus supìnus, Willd. spec. 3. p. 116. Plant ascending, pubescent. Whorls 6-10-flowered. Corollas whitish, villous outside.

Cut-leaved Horehound. Pl. ¼ to ½ foot.

2 M. ERIOSTA'CHYUM (Benth. lab. p. 586.) leaves roundish, palmately lobed, cut, green on both surfaces; bracteas stiff, subulate; calyx densely woolly, with 5 subulate spinescent teeth; upper lip of corolla short, entire. ♃. H. Native of Siberia. Leonùrus erióstachys, Turcz. mss. Lagópsis vîridis, Bunge, mon. gen. molucc. ined. Plant ascending, pubescent, but the tops of the stems are woolly. Leaves 5-7-parted; lobes cut. Whorls about 10-flowered. Corollas like those of *M. lanàta*.

Woolly-spiked Horehound. Pl. ½ foot.

3 M. LANA'TUM (Benth. lab. p. 587.) leaves roundish, deeply lobed, clothed with white wool on both surfaces; bracteas setaceous; calyx densely woolly, with 5 subulate subspinescent teeth; upper lip of corolla short, entire. ♃. H. Native of Altaia, in exposed stony places at the river Tschuja. Molucélla marrubiástrum, Steph. in mem. soc. mosc. 2. p. 8. Ledeb. fl. ross. alt. ill. t. 150. Lagópsis incàna, Bunge, mon. gen. molucc. ined. Stems numerous, decumbent, rising from a thick base, ascending at top. Whorls approximate into oblong, woolly spikes. Corolla blackish brown, villous outside.

Woolly horehound. Pl. decumbent.

SECT. II. MARRU'BIUM (see genus for derivation.) Benth. lab. p. 587. Teeth of calyx 5-10. Tube of corolla subannulate inside; upper lip emarginate or bifid. Leaves roundish or ovate, crenated, rarely cut.

4 M. ALY'SSON (Lin. spec. p. 815.) leaves roundish, cuneated at the base, deeply crenated or lobed, clothed with soft white villi on both surfaces; bracteas almost wanting; calyx woolly, with 5 stiff spreading teeth; upper lip of corolla short, emarginately bifid. ♃. H. Native of the region of the Mediterranean; as of Spain, Sardinia, Apulia, Egypt, &c. M. plicàtum, Forsk. fl. ægypt. arab. p. 213.—Mor. hist. 3. p. 377. sect. 11. t. 10. f. 12. Stems thick, ascending, woolly. Whorls distant, 10-15-flowered. Corollas minute, dark purple.

Alysson or Plaited-leaved Horehound. Fl. July, Aug. Clt. 1597. Pl. ½ to 1 foot.

5 M. PE'RSICUM (Meyer, verz. pflanz. p. 95.) leaves orbicular, crenated, clothed with white wool on both surfaces; bracteas almost wanting; calyx woolly, with 5 stiff spreading teeth; upper lip of corolla oblong. ♃. H. Native of Persia, in dry stony places on the Talusch mountains near Swant. Habit, leaves, and inflorescence nearly of *M. vulgàre*, but is clothed with white wool in all parts. Flowers more numerous in the whorls than in *M. Alysson*. Corolla a little larger.

Persian Horehound. Pl. ½ to 1 foot.

6 M. CÆRULE'SCENS (Desf. cat. hort. par. ed. 3. p. 395.) stems tall, clothed with white wool; leaves ovate, crenated at apex, scarcely wrinkled, green above, canescent beneath; outer bracteas shorter than the calyxes; calyx clothed with white wool, with 5 subulate straight spreading teeth; galea of corolla oblong, bifid at apex. ♃. H. Native of Persia. Leaves form of those of *M. Astracánicum*, clothed with white tomentum or wool beneath while young, but almost glabrous in the adult state. Corollas blue.

Blueish-flowered Horehound. Pl. 2 to 3 feet.

7 M. CATARIÆFÒLIUM (Desr. in Lam. dict. 3. p. 717.) stems clothed with hoary tomentum; leaves ovate, crenated, a little wrinkled, pubescent, canescent beneath; outer bracteas shorter than the calyxes; calyx clothed with hoary tomentum, with 5 short stiff spreading recurved teeth; galea oblong, bifid at apex. ♃. H. Native of Cappadocia. Nearly allied to *M. Astracánicum*, but more erect, more branched, and clothed with hoary tomentum, never woolly nor villous. Whorls more numerous and smaller, as well as the flowers. Corollas white.

Cat-mint-leaved Horehound. Fl. July, Aug. Clt. 1819. Pl. 1 to 2 feet.

8 M. ASTRACA'NICUM (Jacq. icon. rar. 1. p. 11. t. 109.) stems loosely villous, rather woolly; leaves ovate, crenated at top, bullately wrinkled, green and villous on both surfaces, or scarcely canescent beneath; outer bracteas shorter than the calyxes; calyx pubescent, with 5 short acute straight or subrecurved teeth; galea of corolla oblong, bifid at apex. ♃. H. Native of the Levant; Persia, on the higher Talusch mountains; and Cashmere, but not about Astracan. Rchb. icon. bot. eur. 3. p. 61. t. 270. Intermediate between *M. candidissimum* and *M. leonuroìdes*. Lower parts of stems and lower leaves clothed with long soft hairs. Whorls dense, many-flowered. Corolla blue or white.

Astracan Horehound. Fl. July, Aug. Clt. 1816. Pl. 1½ to 2 feet.

9 M. LEONUROI'DES (Desr. in Lam. dict. 3. p. 715.) stems rather woolly; leaves ovate or roundish, coarsely and deeply crenated, clothed with soft pubescence, canescent beneath or on both surfaces; outer bracteas scarcely shorter than the calyxes; calyx clothed with white wool, with 5 subulate recurvedly spreading teeth; galea of corolla oblong, bifid at apex. ♃. H. Native of Caucasus and near Astracan. Rchb. icon. bot. eur. 3. p. 84. t. 299. M. Astracánicum, Bieb. fl. taur. 2. p. 52.? and of many other authors. M. affîne, Horn. hort. hafn. p. 556. Lower leaves roundish; superior ones ovate. Whorls size of those of *M. vulgàre*. Corollas blueish purple.

Leonurus-like Horehound. Fl. July, Sept. Clt. 1819. Pl. 1 to 2 feet.

10 M. PLUMÒSUM (Meyer. verz. pflanz. p. 96.) leaves roundish, deeply lobed, clothed with short villi on both surfaces, rather canescent; calyx clothed with soft villi, with 5 teeth, which are, as well as the bracteas subulate and plumose; galea of corolla bifid at apex. ♃. H. Native of Caucasus. Whorls distant, many-flowered, nearly an inch in diameter. Corolla scarcely longer than the calycine teeth.

Feathery-bractead Horehound. Pl. ascending.

11 M. VELUTI'NUM (Sibth. et Smith, fl. græc. 6. p. 49. t. 561.) branches elongated, tomentose, woolly at the base; leaves orbicular, crenated, subcuneated at the base, clothed with velvety villi on both surfaces; whorls ample, many-flowered; calyx clothed with tomentose pubescence, with 5 teeth, which are subulate, stiff, straight, or at length spreading, as well as the bracteas; galea of corolla oblong, bifid. ♃. H. Native of Mount Parnassus. Allied to *M. candidissimum*, but differs in the colour of the whole plant, and in the form of the leaves. Corollas white.?

Velvety Horehound. Pl. 1½ foot.

12 M. candidi'ssimum (Lin. spec. p. 816.) branches elongated, a little branched, clothed with white wool; leaves ovate, crenated, clothed with soft white villi or white wool; whorls large, many-flowered; calyx clothed with white villi or wool, usually with 5 subulate stiff spreading teeth; galea of corolla oblong, bifid at apex. ♃. H. Native of the South of Europe; as of Spain, South of France, Italy, Dalmatia, Carinthia, Persia, &c. M. peregrìnum, Rchb. icon. bot. eur. 4. p. 10. t. 312, but not of Lin. M. catariæfòlium, Rchb. icon. bot. eur. 4. p. 10. t. 313, but not of Desr. M. setàceum, Desr. in Lam. dict. 3. p. 717.? M. incànum, Desr. in Lam. dict. 3. p. 716. M. uncinàtum, Horn. hort. hafn. p. 968.? M. flexuòsum, Mœnch, meth. p. 399.? M. odoratíssimum, Pourr. ex Steud. nom. bot. p. 510.—Dill. elth. 218. t. 174. f. 214. Stems procumbent at the base and ascending at apex. Whorls remote, 20-50-flowered. Corollas whitish.

Very white Horehound. Fl. July, Sept. Clt. 1732. Pl. 1 to 2 feet.

13 M. supi'num (Lin. spec. p. 816.) branches clothed with white wool; leaves ovate-roundish, clothed with soft villi, greenish, or clothed with white wool beneath, crenated, bullately wrinkled; whorls many-flowered; calyx villous, with 5-10-subulate stiff, erect, or at length spreading teeth; galea of corolla oblong, bifid at apex. ♃. H. Native of the South of Europe.?—Bocc. mus. 2. p. 78. t. 69.—Barrel. icon. 685.? Intermediate between *M. candidissimum* and *M. vulgàre*, having the flowers of the first and the leaves of the latter. Perhaps a garden hybrid.

Trailing Horehound. Fl. Aug. Sept. Clt. 1714. Pl. trailing.

14 M. peregri'num (Lin. spec. p. 815.) dwarf, divaricately branched; leaves oblong, clothed with hoary tomentum; whorls few-flowered; calyx tomentose, with 5 lanceolate-subulate erect or scarcely spreading teeth; galea of corolla oblong, bifid. ♃. H. Native of Europe and Middle Asia; as of Germany, Austria, Transylvania, Grecian Islands, Syria, Tauria, &c. Jacq. austr. t. 160. M. Créticum, Mill. dict. no. 3. Rchb. icon. bot. eur. 3. p. 74. t. 288. M. pauciflòrum, Wallr. sched. crit. p. 295. M. angustifòlium, Mœnch, ex Steud. nom. p. 510.—Dill. elth. 219. t. 174. f. 215.—Mor. hist. t. 9. f. 8. Plant clothed with short, hoary tomentum. Whorls 4-6 rarely 10-flowered. Corollas whitish.

Foreign Horehound. Fl. July, Sept. Clt. 1640. Pl. 1 to 1½ foot.

15 M. Pannónicum (Clus. ex Rchb. fl. germ. exc. p. 325.) branches divaricately branched; leaves ovate or oblong, clothed with hoary tomentum or soft villi; floral leaves all twice as long as the flowers; whorls many-flowered, all distant; calyx clothed with hoary tomentum, with 6-10 subulate teeth which at length spread; galea of corolla oblong, bifid at apex. ♃. H. Native of Germany, near Halle, Hungary, Moravia, Austria, and Transylvania. M. paniculàtum, Desr. in. Lam. dict. 3. p. 716.? Rchb. icon. bot. eur. 3. p. 86. t. 300. M. peregrìnum, Spreng. fl. hal. t. 6. but not of Lin. M. remòtum, Kit. in Schultes, œstr. fl. 2. p. 161. M. rùbrum, Roth, nov. spec. p. 259. Whorls distant, 12-15-flowered. Corolla of *M. peregrìnum*. Allied to *M. peregrìnum* and *M. vulgàre*.

Pannonian Horehound. Pl. 1 to 1½ foot.

16 M. radia'tum (Delile, mss. ex Benth. lab. p. 591.) branches divaricate, a little branched, clothed with hoary tomentum; leaves ovate or oblong, clothed with hoary tomentum or soft villi: upper floral leaves scarcely exceeding the calyxes; whorls many-flowered, rather loose: upper ones approximate; calyx small, tomentose, with 6-10 elongated subulate straight stellately spreading subspinescent teeth. ♃. H. Native of the region of the Mediterranean. Allied to *M. Pannónicum*, but the leaves and calyxes are smaller, &c.

Radiate-calyxed Horehound. Pl. 1 to 1½ foot.?

17 M. cunea'tum (Russ. nat. hist. alepp. 2. p. 255.) stem clothed with white tomentum at the base and pubescence at top; leaves ovate-cuneated, much wrinkled, green above and canescent beneath: floral leaves small, scarcely exceeding the calyxes; calyx small, tomentose, with 10 short somewhat recurvedly spreading mutic teeth. ♃. H. Native of Syria, near Aleppo, and between Bagdad and Kermancha. Stems more slender than in other species. Whorls numerous, lower ones remote, upper ones approximate. Corollas small, white.

Cuneate-leaved Horehound. Pl. 1 foot.

18 M. vulga're (Lin. spec. p. 816.) branches clothed with white wool; leaves ovate or roundish, clothed with soft villi, greenish or clothed with white wool beneath, crenated; whorls many-flowered; calyx clothed with woolly villi: teeth 10, recurvedly spreading; galea of corolla oblong, bifid at apex. ♃. H. Native throughout Europe and Middle Asia, among rubbish and by way-sides; plentiful in some parts of Britain, but probably not indigenous. Woodv. med. bot. 265. t. 97. Smith, engl. bot. t. 410.—Sabb. hort. rom. 3. t. 59. Fl. dan. 1036. M. hamàtum, H. B. et Kunth, nov. gen. amer. 2. p. 310. M. Germánicum, Schranck ex Steud. nom. p. 510. Stems ascending, rarely decumbent. Whorls distant, 20-50-flowered. Corollas small, white. This, the common horehound, has a strong penetrating smell, not altogether unpleasant. It was a favourite medicine in obstructions of the viscera. In large doses it proves aperient. Bees much frequent the flowers.

Var. β, lanàtum (Benth. lab. p. 591.) leaves densely clothed with white wool. ♃. H. Native of Naples. M. A'pulum, Tenore, fl. nap. t. 154. syll. p. 292.

Common Horehound. Fl. June, Sept. Britain. Pl. 1½ to 2 feet.

† *Species not sufficiently known.*

19 M. circinna'tum (Desr. in Lam. dict. 3. p. 717.) leaves circinnate, crenated, much wrinkled; calycine teeth subulate, erect, villous. ♃. H. Native of the Levant. Stems tomentose. Leaves clothed with shining soft tomentum. Flowers white. Calyx tubular, tomentose. Tube of corolla exceeding the tube of the calyx; upper lip deeply bifid.

Circinnate-leaved Horehound. Pl. ?

20 M. parviflòrum (Fisch. et Meyer, ind. sem. hort. petrop. 1835. p. 33.) leaves pubescent, wrinkled, ovate-oblong, crenated, clothed with white tomentum beneath, as well as the base of the erect branched stems; bracteas setaceous, equalling the calyxes; calycine teeth 10, setaceous, mucronate, straight, spreading much, rather shorter than the tube; corolla scarcely exceeding the calyx. ♃. H. Native of Caucasus, on the Talusch mountains. M. peregrìnum, Meyer, verz. pflanz. no. 820. This differs from *M. peregrìnum* of Lin. in not being silky, and in the calycine teeth being 10. Corolla white; galea bifid.

Small-flowered Horehound. Pl. 1 to 1½ foot.

21 M. propi'nquum (Fisch. et Meyer, l. c.) clothed with canescent villi; stem branched, erectish; leaves wrinkled, petiolate, coarsely crenated: lower leaves almost orbicular: middle ones obovate: upper ones cuneated; bracteas setaceous, rather shorter than the calyxes; calycine teeth villous, setaceous, mucronate, spreading much, straight, not half so long as the tube; tube of corolla exserted; galea short. ♃. H. Native of Caucasus, on the Talusch mountains. Allied to *M. leonuroìdes*. Flowers violaceous.

Allied Horehound. Pl. 1 to 2 feet.?

Cult. All the species of *Marrùbium* grow freely in any common garden soil, and are readily increased by division and by seed.

LXXXVII. BALLO'TA (βαλλωτη, *ballote*, the Greek name

of *Ballòta nìgra*, or Black Horehound, which is derived from *βαλλω*, *ballo*, to emit; rejected by cattle on account of the offensive smell.) Benth. lab. p. 592. Ballòta and Marrùbium, species of Lin. and other authors. Beringèria, Necker. Pseudodictámnus, Tourn. and Mœnch.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx somewhat funnel shaped; tube 10-nerved; teeth 5-10, dilated at the base or combined into an orbicular spreading limb. Corolla having the tube a little inclosed, with a transverse pilose ring inside, and a bilabiate limb; upper lip erect, oblong or subconcave, emarginate at apex; lower lip spreading, trifid, middle lobe emarginate. Stamens 4, ascending, didynamous; lower ones the longest; anthers exserted from the tube of the corolla, approximating by pairs, 2-celled: cells at length divaricate, and nearly distinct. Style bifid at apex, with subulate lobes, which are stigmatiferous at apex. Achenia dry, obtuse at apex, not truncate.—Perennial, hairy, woolly, or tomentose herbs. Leaves wrinkled, usually cordate at the base, entire or crenated, never cut; floral ones almost similar. Whorls axillary, many rarely few-flowered. Bracteas numerous, oblong, subulate, spine-formed, but sometimes very short.

Sect. I. Beringe'ria (probably named after some botanist of the name of Beringer, of whom we know nothing.) Benth. lab. p. 594. Bracteas oblong or subulate, soft. Limb of calyx 6-20-toothed or crenated.

1 B. Africa'na (Benth. lab. p. 594.) hairy; leaves orbicular, irregularly crenated, green on both surfaces; limb of calyx spreading, orbicular, dilated, with about 10 short setaceous teeth; galea of corolla ovate; stamens scarcely exserted from the tube. ♃. G. Native of the Cape of Good Hope. Marrùbium Africànum, Lin. spec. p. 816. Pseudodictámnus emarginàtus, Mœnch, ex Steud. Marrùbium críspum, Lin. spec. 1674. Marrùbium Thouíni, Schultes, ex syll. pl. soc. ratisb. 2. p. 23.—Comm. hort. 2. p. 179. t. 90. Whorls globose, many-flowered, distant. Corollas nearly glabrous, white or purple.?

African Stinking Horehound. Fl. July, Sept. Clt. 1710. Pl. 1 foot.

2 B. pseudodicta'mnus (Benth. lab. p. 594.) clothed with white wool; leaves orbicular, quite entire or obscurely crenated, thick, woolly; limb of calyx spreading, dilated, woolly, with 5-10 crenatures. ♄. F. Native of Candia. Marrùbium pseudodictámnus, Lin. spec. 817. Sibth. et Smith, fl. græc. 6. p. 50. t. 562. Lam. ill. t. 508. f. 2. Beringèria pseudodictámnus, Necker, Link, handb. 478.—Sabb. hort. rom. 3. t. 47.—Park. theatr. 28. f. 2. Whorls dense, many-flowered, distant. Corollas white, spotted with red.

Bastard Dittany of Crete. Fl. July, Aug. Clt. 1596. Shrub 1 to 2 feet.

3 B. undula'ta (Benth. lab. p. 595.) hairy; leaves orbicular, crenated, villous on both surfaces, rugosely curled; limb of calyx spreading, orbicular, rather shorter than the tube, thick, villous, with an undulately curled 10-20 crenated margin: crenatures mutic. ♃. H. Native of Arabia, in the desert of Sinai, N. Bové. Marrùbium umbellàtum, Fres. pl. ægypt. in mus. senk. p. 92. Some of the hairs glanduliferous. Whorls many-flowered, less dense than those of *B. pseudodictámnus*.

Undulated-calyxed Stinking Horehound. Pl. ?

4 B. acetabulòsa (Benth. lab. p. 595.) hairy or somewhat woolly; leaves orbicular, crenated, villous above, and clothed with white wool beneath; limb of calyx spreading, with a 20-crenated margin: crenatures mutic. ♃. or ♄. F. Native of the Grecian islands and Syria. Marrùbium acetabulòsum, Lin. spec. p. 817. Marrùbium pseudodictámnus, Steud. et Hochst. pl. exs. un. itin. but not of Lin. Beringèria acetabulòsa, Necker, Link, handb. p. 478. Marrùbium suffruticòsum, Mill. dict. no. 9. —Park. theatr. 28. f. 3.?—Barrel. icon. t. 129. Calyx woolly or villous at the base. Corolla small, pale purple; galea scarcely emarginate.

Saucer-leaved Stinking Horehound. Fl. June, Aug. Clt. 1676. Pl. 2 feet.

5 B. molli'ssima (Benth. lab. p. 595.) stems clothed with white wool; leaves broad-ovate, obtuse, canescent or white on both surfaces, floccosely woolly beneath; limb of calyx spreading, about equal in length to the tube, villously tomentose, with a shortly 10-toothed margin: teeth broad, acute, scarcely mucronate. ♄. F. Native of Spain.? Marrùbium Hispánicum, Lin. herb, but scarcely of his spec. pl. 816. but not of other authors. Marrùbium cinèreum. M. scrophulariæfòlium Hortul. —Herm. par. 201.?—Bocc. mus. 2. p. 167. t. 122.? Leaves more broad than long, regularly crenated, very soft. Whorls dense, many-flowered. Bracteas spatulate. Corolla whitish. Perhaps only a variety of *B. hirsùta*.

Very soft Stinking Horehound. Fl. July, Aug. Clt. 1714. Pl. 1 foot.

6 B. hirsu'ta (Benth. lab. p. 595.) hairy or somewhat woolly; leaves orbicular, crenated, hairy above, green on both surfaces, or clothed with white wool beneath; limb of calyx spreading, about equal to the tube, hairy, with a shortly 10-toothed margin: teeth broad acute or mucronate. ♃. F. Native of the North of Africa, near Mogodor. Marrùbium hirsùtum, Willd. spec. 3. p. 113.? Marrùbium críspum, Desv. in Lam. dict. 3. p. 719.? and of many other authors, but not of Lin. Habit and leaves of *B. acetabulòsa*, but differs in the limb of the calyx being 10 not 20-toothed, smaller, and in the plant being more hairy. Corollas pale purple.?

Var. β, híspida (Benth. lab. p. 596.) greener and more hairy. ♃. H. Native of Spain.

Hairy Stinking Horehound. Fl. June, Aug. Clt.? Pl. 1½ foot?

7 B. microphy'lla (Benth. lab. p. 596.) tomentose; leaves subcordately ovate, finely crenulated; calyx funnel-shaped: limb spreading, with 10 acute unequal teeth; bracteas spatulate, acute. ♃.? F. Native of the Levant. Marrùbium microphýllum, Desr. in Lam. dict. 3. p. 720. Leaves nearly sessile, soft; thick, 7-9 lines long, and 4 lines broad. Whorls numerous, many-flowered.

Small-leaved Stinking Horehound. Pl.

8 B. rugòsa (Benth. lab. p. 596.) stem pubescent, rather woolly; leaves ovate, obtuse, crenated, wrinkled, clothed with hoary tomentum on both surfaces; whorls few-flowered; limb of calyx short, spreading a little, with 10 short mucronulate teeth. ♃. F. Native of the Levant. Marrùbium rugòsum, Desf. cat. hort. par. ed. 3. p. 395. Marrùbium hùmile, Desf. l. c.? Leaves scarcely ½ an inch long, usually clothed with white wool beneath. Whorls 4-6 rarely 10-flowered. Corolla of *B. acetabulòsa*, but more glabrous.

Wrinkled-leaved Stinking Horehound. Pl. humble.

9 B. obli'qua (Benth. lab. p. 596.) stems clothed with hoary pubescence; leaves ovate, crenated, wrinkled, canescent above, and clothed with white wool beneath; whorls few-flowered; limb of calyx short, unequally dilated, with 10 mucronate teeth. ♃. F. Native of Syria, on mountains about Aleppo and Antioch, P. Russell. Marrùbium rugòsum, var. Russell, herb. All parts as in *B. saxátilis*, but twice the size.

Oblique-calyxed Stinking Horehound. Shrub. ?

10 B. saxa'tilis (Sieb. pl. exs. ex Benth. lab. p. 596.) hairy; leaves ovate or orbicular, crenated, thick, wrinkled, green on both surfaces or white beneath, hairy on both surfaces; whorls few-flowered; limb of calyx short, spreading a little, with 10 mucronate teeth. ♄. F. Native of Syria, near Aleppo and of Palestine. Marrùbium rugòsum, Russel, nat. hist. alep. 2. p.

255. Molucélla microphýlla, Delile, fragm. fl. arab. petr. 10. f. 2. Stems woody at the base. Branches divaricate or procumbent. Corollas smaller than in *B. rugòsa*.

Rock Stinking Horehound. Shrub procumbent.

11 B. Russellia'na (Benth. lab. p. 597.) stems scarcely pubescent; leaves ovate, obtuse, quite entire, wrinkled, green above, and white beneath; whorls few-flowered; limb of calyx short, spreading a little, with 6-10 acute or shortly mucronate teeth. ♄. ? F. Native of Syria, Near Aleppo, Russell. Allied to *B. saxátilis*, but the leaves are all quite entire, and the branches less hairy. Leaves hardly half an inch long, cordate at the base, pubescent above.

Russell's Stinking Horehound. Shrub.

12 B. Hispa'nicum (Benth. lab. p. 597.) hairy; leaves ovate-cordate: upper ones usually acute, or all are obtuse, rarely rounded, hairy on both surfaces, green or canescent beneath; limb of calyx short, spreading a little, with 10 setaceously mucronate teeth. ♃. ? H. Native of Spain, Sicily, and South of Italy. Marrùbium Hispánicum, Lin. spec. 816. Marrùbium rupéstre, Biv. manip. 2. t. 1. Marrùbium scrophulariæfòlium, Lag. Pseudodictámnus acùtus, Mœnch, meth. p. 399. Marrùbium saxátile, Rafn.—Bocc. mus. 2. p. 167. t. 122.—Barrel. icon. t. 797.—Herm. par. t. 201. Leaves usually 2 inches long, exactly cordate, crenated. Whorls 20-50-flowered, dense. Bracteas and calyxes very hairy. Corollas like those of *B. acetabulòsa*.

Spanish Stinking Horehound. Fl. July, Aug. Clt. 1714. Pl. 2 feet.

Sect. II. Ballòta (see genus for derivation.) Benth. lab. p. 597. Bracteas linear-subulate, soft. Limb of calyx 5-toothed.

13 B. nìgra (Lin. spec. 814.) hairy or glabrous; leaves ovate, truncate at the base, green on both surfaces, more or less hairy; limb of calyx erectish: teeth dilated at the base and subulately mucronate at the apex. ♃. H. Native throughout the whole of Europe, in waste places, in hedges, and by waysides; also of Tauria and Caucasus; plentiful in Britain. Rchb. icon. bot. eur. 8. p. 30. t. 1773. Smith, engl. bot. t. 46. B. álba, Lin. spec. 814. B. fœ'tida, Lam. fl. fr. 2. p. 281. Rchb. icon. bot. eur. 8. p. 30. t. 775. B. vulgàris, Link. B. boreàlis, Schweigg. Rchb. icon. bot. eur. 8. p. 30. t. 776. B. ruderàlis, Spreng. fl. hal. p. 101. B. sèpium, Paulet, in Pers. ench. 2. p. 125. B. rùbra, Schrad. Marrùbium nìgrum, Ger. emac. 701. f. 1. Crantz, stirp. austr. p. 272. Marrubiástrum, Riv. mon. irr. t. 65.—Sabb. hort. rom. 3. t. 35.—Blackw. 136.—Mor. hist. 3. p. 377. sect. 11. t. 9. f. 14. Stems, leaves, and calyxes green, sometimes nearly glabrous, but usually pubescent, rarely hairy. Whorls many-flowered, rather loose, the lower cymes on short peduncles. Limb of calyx very variable in form. In the species the stems are brown, and corollas purple; but in that variety called *B. álba* the whole plant is pale green, and the corollas white. The plant is recommended in hysterical cases. In Gotland it is an universal remedy in disorders incident to cattle.

Black or Common Stinking Horehound. Fl. July, Sept. Britain. Pl. 2 to 3 feet.

14 B. urticæfòlia (Ostm. ex Rchb. icon. bot. eur. 8. p. 30. t. 774.) slender; leaves ovate, sharply and deeply serrated; teeth of calyx erect, linear-setaceous, equalling the tube. ♃. H. Native of Bohemia and Saxony, in waste places and on walls. Plant slender, green, less pubescent than *B. nìgra*. Leaves exactly of *Urtìca ùrens*, the first ones cordate, ex Rchb. fl. germ. exc. p. 325. Perhaps only a variety of *B. nìgra*.

Nettle-leaved Stinking Horehound. Pl. 3 to 4 feet.

Sect. III. Acanthopra'sium (from *ακανθος, acanthos*, a spine; and *πρασιον, prasion*, one of the Greek names of Horehound; so called in allusion to the subulate spine-formed bracteas.) Benth. lab. p. 598. Bracteas subulate, stiff, spine-formed. Limb of calyx 5-10-toothed.

15 B. Pe'rsica (Benth. lab. p. 598.) leaves cuneiform, toothed; bracteas spine-formed; limb of calyx membranous, dilated, shortly 5-10-toothed. ♄. G. Native of Persia. Molucélla Pérsica, Burm. fl. ind. p. 128. t. 38. f. 2. Branches simple, glabrous, whitish, with a single spine at each joint. Serratures of leaves spiny. Calyx regular, 5 cleft; segments obovate, scarious, with 3 mucrones. Corolla flattish, glabrous.

Persian Stinking Horehound. Shrub.

16 B. limba'ta (Benth. lab. p. 743.) canescent; leaves oblong, quite entire, cuneated at the base; bracteas spine-formed; limb of calyx unequally and membranaceously dilated, somewhat 5-toothed. ♄. G. Native of the North East of India, on the mountains, in gravelly places near Pindaden Khan. Shrub much branched, younger branches villous. Leaves ½ to 1 inch long. Whorls distant, 6-flowered. Calyx very villous; limb with 5 angles, and as many teeth between the angles.

Limbate-calyxed Stinking Horehound. Shrub 2 feet.

17 B. spinòsa (Link, handb. p. 475.) leaves ovate, quite entire or deeply toothed, green on both surfaces; whorls few-flowered; bracteas spine-formed, straight; calyxes hairy: limb erectish, with 5-10 teeth, which are dilated at the base, subulate, and subspinose; galea of corolla very hairy. ♄. F. Native of Piedmont and Provence. Molucélla frutéscens, Lin. spec. p. 821. Beringèria frutéscens, Rchb. fl. germ. exc. p. 325. Shrub branched; branches villous. Leaves scarcely an inch long. Whorls about 6-flowered, distant.

Spinose Stinking Horehound. Shrub 1 foot.

18 B. integrifòlia (Benth. lab. p. 599.) shrubby, pubescent; leaves ovate, quite entire, rarely with a few crenatures, green on both surfaces; bracteas spine-formed, spreadingly reflexed; limb of calyx dilated, spreading a little, 5-toothed; galea of corolla nearly glabrous. ♄. F. Native of the island of Cyprus. Molucélla frutéscens, Sibth. et Smith, fl. græc. 6. p. 568. Habit of *B. spinòsa*, but the branches are longer, and the leaves usually entire, the spines stronger and usually recurved. Corolla white, lined with purple.

Entire-leaved Stinking Horehound. Shrub 1 to 2 feet.

19 B. Forska'hlei (Benth. lab. p. 599.) leaves ovate, serrated; calyx campanulate, pubescent, with 5 subulate unequal unarmed teeth; whorls remote, 10-12-flowered, involucra quadrifid, with setaceous segments. ♄. F. Native of Arabia Felix. Phlòmis álba, Forsk. fl. ægypt. p. 107. Corolla white; upper lip hairy. Habit of *B. spinòsa*.

Forskahl's Stinking Horehound. Shrub.

† *Doubtful species.*

20 B. orienta'lis (Presl. del. prag. p. 80.) stem branched; villous; leaves cordate-roundish, toothed, wrinkled, clothed with hoary tomentum beneath; bracteas linear; calyx stiff, with 10 spinose teeth; galea of corolla arched, crenulated. ♃. H. Native of Asia Minor. Marrùbium orientàle, Spreng. syst.

Eastern Stinking Horehound. Pl.

21 B. pilòsa (Lour. coch. p. 364.) leaves ovate, crenated, tomentose; whorls pilose; calyx 10-toothed. ♃. H. Native of Cochinchina. Stem pilose, branched. Corolla white. Teeth of calyx reflexed. Upper lip of corolla entire, arched. Perhaps a species of *Leùcas*.

Pilose Stinking Horehound. Pl. ?

22 B. díscolor (Desf. ex Steud. nom. p. 99.) and 23. B. parvifòlia (Desf. l. c.) Nothing is known of these two plants but the names.

Cult. See *Marrùbium* for the culture of the perennial herbaceous kinds; and *Lasiócorys* for that of the shrubby species.

LXXXVIII. LASIO'CORYS (from λασιος, *lasios*, wool; and κορυς, *korys*, a helmet; in reference to the outside of the galea of the corolla being very hairy.) Benth. lab. p. 600.—Leùcas species, R. Br.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx subcampanulate, equal, 10-nerved: teeth 5, ovate, rarely furnished with minute teeth in the sinuses. Corolla with an inclosed tube, which is annulate inside, and a bilabiate limb; upper lip entire, concave, erect, very hairy outside: lower lip spreading, scarcely longer, trifid; the middle segment hardly broader than the lateral ones, emarginate. Stamens 4, didynamous: lower 2 the longest, ascending; filaments naked at the base; anthers approximating by pairs under the upper lip, 2-celled: cells divaricate. Lobes of style subulate: lower one the shortest, and sometimes very short, stigmatiferous towards the apex. Achenia dry, triquetrous, obtuse at top.—Branched shrubs. Leaves entire or toothed.

1 L. Cape'nsis (Benth. lab. p. 600.) leaves almost quite entire; whorls 2-4-flowered; calycine teeth one half shorter than the tube. ♄. G. Native of the Cape of Good Hope. Young branches clothed with white tomentum: adult ones canescent, or nearly glabrous. Leaves fasciculate, nearly sessile, oblong or cuneiform, obtuse, canescent from tomentum, as well as the calyxes, &c. Corolla whitish. Upper lobe of style usually very short.

Cape Lasiocorys. Shrub.

2 L. Abyssi'nica (Benth. lab. p. 600.) leaves toothed at apex; whorls 6-10-flowered; calycine teeth subulately acuminated, about equal in length to the tube. ♄. G. Native of Abyssinia. Leùcas quinquedentàta, R. Br. append. to Salt. abyss. Habit of *L. integrifòlia*. Branches pubescent. Leaves longer and greener. Calyx scarcely tomentose. Upper lobe of style one half shorter than the lower one.

Abyssinian Lasiocorys. Shrub.

Cult. A light rich soil will suit the species of this genus; and cuttings will strike root readily in the same kind of earth, with a hand-glass placed over them; but if seeds ripen, this will be unnecessary.

LXXXIX. RO'YLEA (named in honour of John Forbes Royle, M.D. surgeon in the East India Company's Service; late superintendent of the botanic garden at Saharumpur; now Professor of Materia Medica in King's College, London; author of "Illústrations of Indian Botany, &c.") Wall. pl. rar. asiat. 1. p. 57. t. 74. Benth. lab. p. 601.—Ballòta species, D. Don, prod. fl. nep. p. 111.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular at the base, 10-nerved; limb 5-cleft; segments erect, oblong, membranaceous, reticulately veined, equal. Corolla shorter than the calyx; tube inclosed, annulate inside; limb bilabiate; upper lip erect, entire, arched: lower lip spreading, trifid, having the middle lobe entire. Stamens 4, didynamous, ascending under the upper lip: lower 2 the longest; anthers approximate by pairs, 2-celled: cells divaricate, at length sub-confluent. Style almost equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia dry, obtuse at apex.—Allied to *Ballòta* and *Otostègia*, from which it differs only in the calyx.

1 R. e'legans (Wall. l. c.) ♄. G. Native of Sirmore and Deyra Dhoon, Wall.; Hurdwar and Sirinaghur, Hardwick; Himalaya, Royle. Phlòmis calycìna, Roxb. fl. ind. 3. p. 11. Ballòta cinèrea, D. Don, prod. fl. nep. p. 111.—A much branched, erect shrub. Branches cinereous from tomentum. Leaves numerous, petiolate, ovate, acute, subcordate, coarsely and bluntly serrated, 1 to 1½ inches long, pilose on both surfaces, green above and hoary beneath; floral leaves conforming to the others, but gradually smaller. Whorls 6-10-flowered; cymes on short peduncles. Calyxes tomentosely pubescent. Corollas from white to pale red, or rose-coloured.

Elegant Roylea. Fl. July, Aug. Clt. 1824. Shrub 2 to 3 feet.

Cult. For culture and propagation see *Lasiócorys*, above.

XC. OTOSTE'GIA (from ους ωτος, *ous otos*, an ear; and στεγος, *stegos*, a covering; in reference to the lips of the calyx being prolonged.) Benth. lab. p. 601.—Phlòmis species, Vahl. —Molucélla species, R. Br.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular at the base, 10-nerved; limb sub-bilabiately and membranaceously prolonged: upper lip short, entire, or triangular: lower lip large, ovate, obtuse. Corolla with an inclosed tube, which is annulate inside, and a bilabiate limb; upper lip oblong, concave, entire, erect, very hairy outside: lower lip spreading, trifid: middle lobe broader, emarginate. Stamens 4, ascending, didynamous, the lower ones the longest; filaments naked at the base; anthers approximate by pairs under the superior lip, 2-celled: cells divaricate. Style somewhat equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia dry, obtuse at apex.—Shrubs. Whorls loosely many-flowered. Corollas white.? This genus differs from *Ròylea*, *Ballòta*, and *Leùcas*, in the calyx; and from the latter genus in the divisions of the style.

1 O. integrifòlia (Benth. lab. p. 602.) leaves oblong, quite entire, clothed with rather silky tomentum on both surfaces; upper lip of calyx ovate, entire. ♄. G. Native of Abyssinia, Salt. Molucélla integrifòlia, R. Br. Append. to Salt's Abyssinia. Shrub clothed with silky tomentum or pubescence. Leaves narrowed at the base and blunt at apex, canescent on both surfaces as in *A'triplex Hálimus*; young leaves fascicled, with 2 short straight spines in each axil. Whorls numerous, disposed in a terminal raceme.

Entire-leaved Otostegia. Shrub.

2 O. scariòsa (Benth. lab. p. 602.) leaves ovate, toothed, wrinkled, green on both surfaces; upper lip of calyx ovate, entire. ♄. G. Native of Arabia Felix, Forsk; Abyssinia, Salt. Molucélla scariòsa, R. Br. append. to Salt's Abyss. Clinopòdium fruticòsum, Forsk. fl. ægypt. p. 107. Phlòmis moluccoìdes, Vahl. symb. 1. p. 42. t. 14. Habit of *Ròylea*. Branches pubescent. Leaves an inch long, roundly cuneated at the base, green above and pubescent beneath. Whorls few; cymes on short peduncles. Bracteas canescent, pubescent. Calyx villous.

Scarious Otostegia. Shrub.

3 O. repa'nda (Benth. lab. p. 602.) leaves ovate, toothed, wrinkled, clothed with hoary tomentum beneath; upper lip of calyx short, triangular. ♄. G. Native of Abyssinia, Salt. Molucélla repánda, R. Br. Append. to Salt's Abyss. Allied to *O. scariòsa*, but differs in the branches and leaves being villous, and in the calyxes being more villous, and in the form of the upper lip of the corolla.

Repand-leaved Otostegia. Shrub.

Cult. For culture and propagation, see *Lasiócorys*, above.

XCI. LEU'CAS (from λευκος, *leucos*, white; in allusion to the downy whiteness of the flowers.) R. Br. prod. p. 504. Benth. lab. p. 602.—Phlòmis species, Lin.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular or tubularly campanulate, striated, straight or incurved at apex;

mouth equal or drawn out obliquely above or beneath, 8-10-toothed. Corolla with an inclosed tube, which is annulate, or naked inside, and a bilabiate limb; upper lip concave, erect, entire, rarely emarginate, very hairy outside; lower lip longer, spreading, trifid, the middle segment the largest. Stamens 4, didynamous, ascending, the lower ones the longest; filaments naked at the base; anthers approximate by pairs under the upper lip, sub-bilocular: cells divaricate, confluent. Upper lobe of style very short, lower one subulate and stigmatiferous towards the apex. Achenia dry, triquetrous, obtuse at apex.—Herbs or under shrubs. Leaves quite entire or usually toothed; floral ones nearly similar. Whorls sometimes few-flowered and sometimes densely many-flowered. Corollas usually white, rarely purplish.—Scarcely differing from *Ballòta*, except in the unequally lobed stigma, but the calyx, corolla, and the general habit mark it out as a good genus.

Sect. I. Hemi'stoma (from *ἡμι*, *hemi*, half, and *στομα*, *stoma*, a mouth; the lower side of the calyx is alone drawn out.) Benth. lab. p. 605. Hemístoma, Ehrenb. Calyx tubular, with an oblique mouth; lower side drawn out, cleft above. Whorls globose, many-flowered. Bracteas numerous, equalling the calyxes.

1 L. I'ndica (R. Br. prod. p. 504.) herbaceous; stems and under sides of leaves clothed with silky tomentum; whorls many-flowered, globose; calyx rather villous, membranaceous, having the 3 lower teeth short and setaceous, the upper ones having disappeared. ⊙. S. Native of Madagascar. Phlòmis I'ndica, Lin. spec. 820. Leaves broad-ovate, acutish, coarsely and serrately crenated. Corollas exceeding the calyx a little, densely clothed with white hairs or villi.

Indian Leucas. Fl. July, Aug. Clt. 1789. Pl. 1 foot.

2 L. urticæfòlia (R. Br. prod. p. 504.) herbaceous, clothed with fine canescent tomentum; whorls many-flowered, globose; calyx rather villous, membranaceous, with 8-10 very short setaceous teeth. ⊙. S. Native of the East Indies, Abyssinia, and Arabia. Phlòmis urticæfòlia, Vahl, symb. 3. p. 76. Leùcas affìnis, R. Br. in append. to Salt, abyss. Hemístoma ovàta, Ehrenb. mss. Habit and inflorescence of *L. I'ndica*. Stems decumbent or ascending at the base. Leaves broad, ovate, coarsely and serrately crenated. Corollas white.

Nettle-leaved Leucas. Fl. July, Sept. Clt. 1810. Pl. ½ to 1 foot.

Sect. II. Loxo'stoma (from *λοξος*, *loxos*, oblique; and *στομα*, *stoma*, a mouth; mouth of calyx oblique.) Benth. lab. p. 606. Calyx tubular, with an oblique mouth, the lower side more drawn out than the upper, and hardly cleft above. Whorls few-flowered. Bracteas minute.

3 L. glabra'ta (R. Br. prod. p. 504.) herbaceous, glabrous; whorls 2-4-flowered, secund; calyx glabrous, with 10 subulate teeth. ⊙. S. Native of Delagoa Bay, and Arabia Felix. Phlòmis glabràta, Vahl, symb. 1. p. 42. Plant often purplish. Stems elongated, decumbent. Leaves ovate or oblong, few-toothed. Corolla purplish.

Glabrous Leucas. Pl. decumbent.

Sect. III. Physoca'lyx (from *φυσα*, *physa*, a bladder; and *καλυξ*, *calyx*, a calyx; calyx inflated.) Benth. lab. p. 744. Calyx inflated, with a contracted equal mouth. Whorls 6-10-flowered. Bracteas minute.

4 L. infla'ta (Benth. lab. p. 744.) shrubby; leaves sessile, orbicular, subcordate at the base, hairy on both surfaces, and green; whorls subspicate; calyx with 10 short erect teeth: throat nearly naked inside. ♄. G. Native of Arabia, in the desert of Suez, N. Bove.

Inflated-calyxed Leucas. Shrub.

Sect. IV. Ortholeu'cas (from *ορθος*, *orthos*, straight; and *Leucos*; in reference to the equal mouth of the calyx.) Benth. lab. p. 606. Ortholeùcas, Benth. in Wall. pl. rar. asiat. 1. p. 61. Whorls rather loose, usually few-flowered. Bracteas minute or few, setaceous, rarely almost equalling the calyxes. Calyx tubular or sub-campanulate, striated, with an equal or scarcely oblique mouth, a nearly naked throat, and 10 erect, subulate, or very short setaceous teeth.

5 L. Chine'nsis (R. Br. prod. p. 504.) suffruticose?; branches clothed with silky tomentum; leaves broad-ovate, coarsely toothed, wrinkled, villous, white beneath; whorls few-flowered; calyx funnel-shaped, tomentose, with an equal acutely 10-toothed limb. ♄. G. Native of China and the Indian peninsula. Phlòmis Chinénsis, Retz, obs. 2. p. 19. Habit of *L. montàna* and *L. lanàta*. Whorls 6-10-flowered. Corollas white.

China Leucas. Fl. June, Oct. Clt. 1820. Shrub procumbent.

6 L. monta'na (Spreng. syst. 2. p. 742.) perennial or suffruticose; branches clothed with silky tomentum; leaves ovate, serrately crenated, wrinkled, green above and pubescently hairy, but clothed with white wool beneath; whorls many-flowered; calyx clothed with silky villi, with an equal mouth, and very short setaceous erect teeth. ♄.? S. Native of India, near Madras. Phlòmis montàna, Roth, nov. spec. p. 263. Branches ascending, rising from a woody base. Leaves roundly truncate, or broadly cordate at the base. Whorls 15-20-flowered. Corollas white; tube annulate inside.

Mountain Leucas. Shrub ascending.

7 L. ova'ta (Benth. in Wall. pl. rar. asiat. 1. p. 61. lab. p. 607.) perennial or suffruticose; branches clothed with silky tomentum; leaves ovate, obscurely crenated, wrinkled, green and pubescently hairy above, but clothed with white wool beneath; whorls many-flowered; calyx pubescent, with an equal mouth, and very short setaceous straight teeth. ♄.? S. Native of Ava, on the banks of the Irawaddi. Allied to *L. montàna*; but the leaves are larger and blunter, scarcely broadly crenated, or almost quite entire.

Ovate-leaved Leucas. Shrub 2 feet.

8 L. lana'ta (Benth. l. c.) perennial or suffruticose; branches clothed with white wool; leaves ovate, sub-crenated, thick, wrinkled, clothed with very soft white wool on both surfaces; whorls many-flowered; calyx clothed with white wool, with an equal truncate mouth, and very short setaceous erect teeth. ♄.? G. Native of the East Indies, in the valleys of the provinces of Kamaon, Sirmore, and Deyra Dhoon, Wall. and Royle. Marrùbium mollíssimum, D. Don, prod. fl. nep. p. 112. Allied to *L. montàna*; but the plant is clothed with white wool; the leaves narrower, and less deeply crenated. Corollas white.

Woolly Leucas. Pl. 1 to 1½ foot.

9 L. molli'ssima (Wall. pl. rar. asiat. 1. p. 62.) perennial or suffruticose; branches tetragonal, clothed with adpressed tomentose villi; leaves ovate, crenated, wrinkled, clothed with soft villi, pale or canescent beneath; whorls many-flowered; calyx pubescent, with an equal mouth, and very short setaceous erect teeth. ♄.? S. Native of the East Indies, in the valleys of Nipaul, and on the Pundua mountains; also of China, Sir G. Staunton. Habit of *L. montàna*, but usually taller, and more branched. Leaves ½ to 1 inch, roundly truncate or broadly cordate at the base. Whorls 10-30-flowered. Corollas white? or usually purplish; tube annulate inside.

Very-soft Leucas. Shrub 1 to 2 feet.?

10 L. HAMILTONIA'NA (Benth. l. c.) perennial; branches clothed with adpressed tomentose villi; leaves ovate, serrately crenated, wrinkled, clothed with soft villi, canescent or rufescent beneath; whorls few-flowered; calyx pubescent, a little incurved, with an oblique mouth, and very short setaceous erect teeth. ♃. S. Native of the East Indies, at Monghyr, Hamilton. Differs from *L. mollissima*, in the larger more acute leaves, and few-flowered whorls, and in the calyx.

Hamilton's Leucas. Pl. 1 to 1½ foot.

11 L. TE'RES (Benth. l. c.) perennial or suffruticose; branches tomentose, terete; leaves ovate, subcrenated, green and pubescent above, and canescent beneath, hardly wrinkled; whorls 6-10-flowered; calyx pubescent, with an equal mouth and very short setaceous erect teeth. ♄.? S. Native of the Birman Empire, on the banks of the Irawaddi. Allied to *L. mollissima*; but differs in the branches being terete; in the leaves being smaller, and flowers fewer; in the whorls being smaller, &c.

Terete-stemmed Leucas. Pl.

12 L. STRIGÒSA (Benth. l. c.) herbaceous; branches tetragonal, clothed with adpressed pubescence; leaves oblong-lanceolate, scarcely serrated, green and strigosely hairy above, but clothed with rufous canescent adpressed tomentum beneath; whorls few-flowered; calyx pubescent, with an equal mouth, and very short teeth. ⊙. S. Native of the East Indies, near Prome, Wall. Branches ascending. Leaves nearly sessile. Whorls remote, 2-6-flowered, rarely about 10-flowered. Flowers of *L. pilòsa*.

Strigose Leucas. Pl. ascending.

13 L. ANGULA'RIS (Benth. l. c.) herbaceous, procumbent; branches acutely tetragonal; angles ciliated, subalate; leaves on short petioles, ovate, crenated, wrinkled, strigosely hispid on both surfaces; whorls few-flowered; calyx tubularly campanulate, villous, with an equal mouth and setaceous teeth. ⊙.? S. Native of Ceylon, Macrae. Allied to *L. strigòsa* and *L. pilòsa*, but differs in the form of the leaves, and especially in the calyxes.

Angular-stemmed Leucas. Pl. procumbent.

14 L. PILÒSA (Benth. l. c.) perennial, erect; branches pilosely pubescent; leaves ovate, serrately crenated, green on both surfaces, pilose or canescently pubescent beneath; whorls many-flowered; calyx pubescent, with an equal mouth, and very short setaceously erect teeth. ♃. S. Native of Bengal, and the banks of the Irawaddi. Phlòmis pilòsa, Roxb. fl. ind. 3. p. 12.? Corollas white or pale purple. Whorls 2-20-flowered.

Var. β, pubéscens (Benth. l. c.) leaves canescent from pubescence beneath. ♃. S. Native of Deyra Dhoun, Royle; Rajemahl, Wall.

Pilose Leucas. Pl. 1½ foot.

15 L. DECEMDENTA'TA (Smith, in Rees' cycl. Benth. lab. p. 609.) annual? pubescent; leaves ovate, crenated, clothed with fine tomentum, green on both surfaces, or sub-canescent beneath; whorls many-flowered: lower ones or all are shorter than the petioles; calyx pubescent, striated, with an equal mouth, and short setaceous teeth. ⊙.? S. Native of the Islands of the Pacific; as of Timor, Otaheite, Corollines, Malden, &c. Stàchys decemdentàta, Forst. prod. no. 526. Phlòmis decemdentàta, Willd. spec. 3. p. 124. Leùcas stachyoìdes, Spreng. syst. 2. p. 743. Floral leaves ½ an inch long, twice as long as the flowers. Allied to *L. mollissima*.

Ten-toothed Leucas. Pl. 1 to 1½ foot.?

16 L. FLA'CCIDA (R. Br. prod. 505.) annual, nearly glabrous; leaves ovate, crenated, membranaceous, green on both surfaces, and nearly glabrous; whorls many-flowered, shorter than the petioles; calyx nearly glabrous, with an equal mouth, and setaceous teeth. ⊙. S. Native of tropical New Holland, Moluccas, banks of the Irawaddi. Phlòmis Moluccàna, Roxb. fl. ind. 3. p. 11. Leùcas melissæfòlia, Benth. in Wall. pl. rar. asiat. 1. p. 62. L. parviflòra, Benth. in Wall. l. c. Hardly distinct from *L. decemdentàta*, except in the smoothness, and thinner blunter leaves. Corollas white.

Flaccid Leucas. Fl. July, Sept. Clt. 1823. Pl. 1 to 2 feet.

17 L. NEPETÆFÒLIA (Benth. l. c.) herbaceous? clothed with fine pubescence; leaves numerous, petiolate, ovate-roundish, crenated, green on both surfaces, or scarcely canescent; whorls few-flowered; calyx tubularly campanulate, nearly glabrous, with an equal mouth, and short acute teeth. ⊙.? S. Native of the Indian peninsula. Leaves an inch long, obtuse, truncate or subcordate at the base, pubescent on both surfaces.

Catmint-leaved Leucas. Pl.?

18 L. LONGIFÒLIA (Benth. lab. p. 744.) stem herbaceous, erect, villous; leaves linear, almost quite entire, nearly glabrous; whorls 6-10-flowered; calyx turbinately tubular, with an equal mouth, and very short setaceous teeth. ⊙.? S. Native of the North-east of India, at Pounah, Jacquemont. Allied to *L. hyssopifòlia*.

Long-leaved Leucas. Pl. erect.

19 L. ANGUSTIFÒLIA (Wall. pl. asiat. rar. 1. p. 62. Benth. lab. p. 610.) herbaceous, diffuse; leaves oblong-lanceolate or linear, narrowed at the base, nearly glabrous; whorls 6-20-flowered; calyx tubular, with an equal mouth, and very short setaceous erect teeth. ⊙.? S. Native of Nipaul. Habit of *L. procúmbens*; but differs in the much longer leaves, which are narrowed at both ends; and in the flowers being more numerous; in the whorls, &c.

Narrow-leaved Leucas. Pl. diffuse.

20 L. PROCU'MBENS (Desf. mem. mus. par. 11. p. 7. t. 3. f. 2.) herbaceous, diffuse; leaves ovate-lanceolate, subserrated, nearly glabrous; whorls 2-6-flowered; calyx tubular, with an equal mouth, and lanceolate-subulate erect teeth. ♃. S. Native of the East Indies, Bengal, Ceylon, Peninsula, Bundelgund, &c. Phlòmis biflòra, Roxb. fl. ind. 2. p. 12. and of many other authors, but not of Vahl. Népeta I'ndica, Burm. fl. ind. p. 126. The whole plant nearly glabrous. Stems rising from a thick perennial base. Corollas as in *L. biflòra*.

Procumbent Leucas. Pl. procumbent.

21 L. BIFLÒRA (R. Br. prod. p. 504.) herbaceous, diffuse; leaves ovate, coarsely toothed, pubescent on both surfaces; whorls 2-flowered; calyx tubular, with an equal mouth, and subulate teeth. ⊙.? S. Native of the peninsula of India and Ceylon. Phlòmis biflòra, Vahl, symb. 3. p. 77.—Burm. thes. zeyl. p. 140. t. 63. f. 1. Leaves pale beneath, ½ an inch long. Corolla white; tube obscurely annulate inside.

Two-flowered Leucas. Fl. July, Sept. Clt. 1819. Pl. diffuse.

22 L. PUBE'SCENS (Benth. lab. p. 610.) herbaceous; branches clothed with fine pubescence; leaves ovate, crenated, truncate at the base, thin, green on both surfaces, or pale and pubescent beneath; whorls densely many-flowered; bracteas subulate, shorter than the calyxes; calyx tubular, with an equal mouth, and straight subulate teeth. ⊙.? S. Native of the peninsula of India. L. marrubioìdes, β, glàbrior, Benth. in Wall. pl. asiat. rar. 1. p. 61. This differs from *L. marrubioìdes*, in the leaves and calyxes being finely pubescent, not clothed with white wool, &c.

Pubescent Leucas. Pl.

23 L. MARRUBIOI'DES (Desf. mem. mus. par. 11. p. 6. t. 3. f. 1.) herbaceous; branches clothed with woolly pubescence; leaves broad-ovate, crenated, subcordate at the base, wrinkled, hispid above, but clothed with white wool beneath; whorls densely many-flowered; bracteas subulate, about equal in length to the calyxes; calyx tubular, with an equal mouth, and straight

subulate teeth. ⊙.? S. Native of the Indian peninsula and Ceylon. Stems procumbent at the base. Whorls above 30-flowered. Corollas white.

Horehound-like Leucas. Pl. procumbent.

24 L. Java'nica (Benth. lab. p. 611.) stem branched, scandent; branches obversely pilose on the angles; leaves ovate, bluntly serrated, acutish at the base, and quite entire, pubescent on both surfaces; whorls 6-10-flowered; calyx oblong, pubescent, 10-toothed: teeth subulate, the alternate ones shorter. ⊙.? S. Native of Java, among bushes on the banks of rivers. Phlòmis Chinénsis, Blum. bijdr. p. 829. but not of Retz.

Var. β; leaves smaller, clothed with soft pubescence on both surfaces. ⊙.? S. Native of Java, on declivities between Mount Burangrang and Tankuwan Paku.

Java Leucas. Pl. climbing.

Sect. V. A'strodon (from *αστηρ, aster*, a star; and *οδους οδοντος, odous odontos*, a tooth; in allusion to the teeth of the calyx spreading in a stellate manner.) Benth. lab. p. 611. A'strodon, Benth. in Wall. pl. asiat. rar. 1. p. 61. Calyx tubular, with an equal mouth, and a usually very villous throat, and 10 teeth, which usually spread in a stellate manner at the time of maturity. Whorls usually globose, many-flowered, solitary or few, the upper ones sometimes capitate. Bracteas scarcely shorter than the calyxes.

25 L. suffruticòsa (Benth. lab. p. 611.) branches clothed with rufous villi, leafy at the base; leaves sessile, oblong-lanceolate, linear, quite entire, green and hispid above, and clothed with white tomentum beneath; bracteas subulate; calyx clothed with rufous villi, with a truncate villous mouth, and very short rather spreading teeth. ♄. S. Native of the Indian peninsula, on the Nielgherry mountains. Stems numerous, rising from a woody base. Leaves 8-10 lines long. Whorls about 10-flowered. Corollas as in *L. ternifòlia;* tube exannulate inside.

Suffruticose Leucas. Shrub ½ to 1 foot.

26 L. rosmarinifòlia (Benth. l. c.) suffruticose; branches clothed with adpressed villi; leaves sessile, linear, quite entire, scabrous from hairs above, but clothed with white tomentum beneath; bracteas lanceolate-linear; calyx villous, with a truncate villous mouth, and very short rather spreading teeth. ♄. S. Native of the Indian peninsula, Wight. Allied to the preceding, but the hairs are hardly rufescent. Leaves an inch long, much narrower. Bracteas broader, very acute, equalling the calyxes.

Rosmary-leaved Leucas, Shrub dwarf.

27 L. helianthemifòlia (Desf. mem. mus. par. 11. p. 2. t. 1.) stems shrubby at the base; branches clothed with silky subrufescent wool; leaves opposite, sessile, oblong-elliptic or lanceolate, quite entire, silky on both surfaces, but greener above, and very white beneath; bracteas linear, shorter than the calyxes; calyx clothed with silky villi, with a truncate villous mouth, and very short rather spreading teeth. ♄. S. Native of the Indian peninsula, on the Nielgherry mountains, Leschenault and Wight. Differs from *L. ternifòlia*, in the leaves being opposite, shorter, less white; and in the branches being usually rufescent.

Sun-rose-leaved Leucas. Shrub dwarf.

28 L. ternifòlia (Desf. mem. mus. par. 11. p. 4. t. 1. f. 2.) stem shrubby at the base; branches densely tomentose; leaves 3 in a whorl, sessile, oblong-lanceolate, quite entire, silky on both surfaces, very white beneath; bracteas linear; calyx clothed with silky wool, with a truncate villous mouth, and very short, rather spreading teeth. ♄. S. Native of the Indian peninsula, on the Nielgherry mountains. Branches clothed with dense white or rufescent wool. Leaves 1 to 1½ inch long. Whorls 10-20-flowered. Galea of corolla densely clothed with white hairs; tube exannulate inside.

Tern-leaved Leucas. Shrub dwarf.

29 L. lanceæfòlia (Desf. mem. mus. 11. p. 5. t. 2. f. 2.) stem erect, clothed with rufous tomentum; leaves oblong-lanceolate, almost quite entire, green and pubescent above, but canescent and clothed with tomentose pubescence beneath; bracteas equalling the calyxes; calyx clothed with rufous villi, with a truncate pubescent mouth, very short teeth, which are, as well as the bracteas, stiffly mucronulate. ♃. S. Native of the Indian peninsula, on the Nielgherry mountains. Leaves 3-4 inches long. Galea of corolla densely clothed with white villi; tube finely pubescent inside, but exannulate.

Lance-leaved Leucas. Pl. 7 to 8 feet.

30 L. stelli'gera (Wall. pl. rar. asiat. 1. p. 61. Benth. lab. p. 613.) herbaceous, erect, pubescent and sub-canescent; leaves oblong-lanceolate, bluntly serrated, glabrous or finely pubescent; calyx tomentose, with a truncate mouth, which is villous inside; teeth 10, and are, as well as the bracteas, subulate, soft, spreading, revolute at top. ⊙.? S. Native of the East Indies, at Aurungabad, Wall. Habit of *L. linifòlia.* Leaves 2-3 inches long. Whorls usually solitary, or 2-3 approximate at the tops of the branches. Corolla white; tube annulate inside.

Star-bearing Leucas. Pl. 1½ foot.

31 L. lamiifòlia (Desf. mem. mus. 11. p. 4. t. 2. f. 1.) herbaceous, clothed with rufous villi; leaves cordate-ovate, clothed with rufous villi above, and hoary tomentum beneath; bracteas lanceolate-linear, equalling the calyxes; calyx silky, with a truncate equal mouth, which is villous inside, and subulate teeth, which at length spread in a stellate manner. ⊙.? S. Native of the Indian peninsula, on the Nielgherry mountains. Leaves crenated, 2 to 2½ inches long. Whorls few, towards the tops of the branches, densely many-flowered. Flowers like those of *L. lanceæfòlia.*

Dead Nettle-leaved Leucas. Pl. 2 feet.

32 L. hi'rta (Spreng. syst. 2. p. 743.? Benth. lab. p. 613.) suffruticose?; branches clothed with rufescent villi; leaves ovate or oblong, sub-crenated, green and hairy on both surfaces; bracteas equalling the calyxes; calyx villous, with a truncate very villous mouth, and 10 short subulate stellately spreading mutic teeth. ♄.? S. Native of the peninsula of India, Heyne. Phlòmis hírta, Heyne, and perhaps of Roth, nov. spec. pl. p. 264.? Leùcas helianthemifòlia, Benth. in Wall. pl. asiat. rar. 1. p. 61. but not of Desf. Plant divaricately branched. Leaves scarcely an inch long. Whorls usually solitary, on the tops of the branches. Galea of corolla densely clothed with white hairs.

Hairy Leucas. Shrub ½ foot.

33 L. vesti'ta (Benth. in Wall. pl. rar. asiat. 1. p. 61. lab. p. 613.) herbaceous, erect; stem clothed with rufescent hairs; leaves ovate-oblong, crenated, hairy, green, or scarcely canescent beneath; bracteas linear, ciliately hairy; calyx hairy, with a truncate nearly equal mouth, which is very hairy inside, and hardly equal subulate teeth, which spread in a stellate manner. ⊙.? S. Native of the peninsula of India, on the Madura mountains; and of Silhet. Stem more robust than in *L. ciliàta.* Tube of corolla annulate inside.

Clothed Leucas. Pl. 2 to 3 feet.?

34 L. cilia'ta (Benth. l. c.) herbaceous, erect, clothed with adpressed pubescence; leaves ovate-lanceolate or oblong, serrately crenated, green on both surfaces; bracteas linear, ciliately hairy; calyx tubular, with a truncate equal mouth, which is rather pilose inside or naked, with elongated subulate hairy stellately spreading teeth. ⊙.? S. Native of Nipaul. Leaves

2-3 inches long. Whorls few, distant, towards the tops of the branches. Corollas as in *L. Zeylánica;* tube annulate inside.

Ciliated Leucas. Pl. 1 to 2 feet.

Sect. VI. Plagióstoma (from πλαγιος, *plagios*, transverse; and στομα, *stoma*, a mouth; in reference to the oblique mouth of the calyx.) Benth. lab. p. 614. Plagióstoma, Benth. in Wall. pl. rar. asiat. 1. p. 60. Calyx turbinate or tubular, with an oblique mouth, which is drawn out above. Whorls usually globose, many-flowered, solitary or few: upper ones sometimes capitate. Bracteas equal to, or a little shorter than the calyxes.

35 L. strí'cta (Benth. l. c.) herbaceous, erect, strict, pubescently hairy; leaves oblong-lanceolate or linear, almost quite entire; whorls many-flowered, solitary, terminal; bracteas subulate, hairy; calyx hairy, sub-striated, with an oblique mouth, and subulate striated teeth, which spread at length in a stellate manner. ⊙.? S. Native of the Indian peninsula. Leaves remote, 1 to 1½ inch long. Whorls 1-2 together, forming a head, 15-30-flowered. Corollas as in *L. Zeylánica.*

Strict Leucas. Pl.?

36 L. Zeyla'nica (R. Br. prod. p. 504.) herbaceous, erect, pubescently hairy; leaves oblong-lanceolate or linear, quite entire, or few-crenate; whorls dense, many-flowered, dimidiate or nearly equal; bracteas linear, hairy; calyx glabrous at the base, almost veinless, striated at top, a little incurved, with an oblique mouth, and short teeth, the upper teeth the largest. ⊙. S. Native of Ceylon; also of Pegu, near Rangoon. Phlòmis Zeylánica, Lin. spec. p. 820. but not of Roxb. Leonùrus marrubiástrum, Burm. fl. ind. 127. but not of Lin.—Rumph. amb. 6. p. 39. t. 16. f. 1. Leaves distant, green. Whorls 10-20-flowered, 1 or 2 together at the tops of the branches. Corollas white.

Ceylon Leucas. Fl. June, Oct. Clt. 1777. Pl. 1 foot.

37 L. diffu'sa (Benth. lab. p. 615.) herbaceous, diffuse, pubescently hairy; leaves oblong or linear, quite entire; whorls few-flowered, dimidiate, remote; bracteas linear, hairy; calyx glabrous at the base, almost veinless, striated at top, hairy, a little incurved, with an oblique mouth, and short hardly unequal teeth. ⊙. S. Native of the Indian peninsula. L. dimidiàta, Benth. in Wall. pl. rar. asiat. but not of Roth. Leaves nearly sessile, remote, ½ an inch long. Whorls remote, secund, 4-12-flowered. Very nearly allied to *L. áspera.*

Diffuse Leucas. Pl. 1 to 1½ foot, diffuse.

38 L. hyssopifòlia (Benth. l. c.) herbaceous, perennial, many-stemmed, ascending, hairy; leaves oblong-linear, quite entire; whorls dense, nearly equal; bracteas linear, scarcely pilose; calyx glabrous, almost veinless, or scarcely striated at apex, rather hairy, with an oblique truncate mouth, and minute setaceous hairy teeth. ♃. S. Native of Nipaul and Kamaon, Wall.; Deyra Dhoon, Royle. Stems numerous, rising from a thick woody base, ascending. Leaves 1 to 1½ inch long. Whorls 10-20-flowered, distant. Calyx shortly 10-toothed. Corollas white.

Hyssop-leaved Leucas. Pl. ½ to 1 foot.

39 L. a'spera (Spreng. syst. 2. p. 743.) herbaceous, pubescently hairy; leaves oblong or linear, sub-crenated, green; whorls dense, equal; bracteas oblong-linear, or subulate, hairy; calyx glabrous at the base, almost veinless, striated at top, and a little incurved, with an oblique mouth, and short, scarcely unequal teeth. ⊙. S. Native of the Himalaya, along the river Jumna, even to Allahabad, Royle; Indian peninsula, Wight; Mauritius, Bourbon, Java, and the Philippines, &c. Phlòmis áspera, Willd. enum. 2. p. 621. Phlòmis Plukenètii, Roth, nov. pl. spec. 261.? Leùcas Plukenètii, Spreng. syst. 2. p. 743.? Phlòmis esculénta, Roxb. fl. ind. 3. p. 10. Phlòmis cephalòtis, var. Blum. bijdr. p. 830.? Tumba, Rheed. mal. 10. p. 181. t. 91.? Stems hispid, or tomentosely pubescent, rarely glabrous. Leaves entire or few-toothed. Whorls usually 10-20-flowered. Corollas white; tube annulate inside.

Var. β, Wightiàna (Benth. lab. p. 616.) whorls small, numerous, approximate. ⊙. S. L. Wightiàna, Benth. in Wall. pl. rar. asiat. 1. p. 60.

Rough Leucas. Fl. July, Aug. Clt. 1818. Pl. 1 to 3 feet.

40 L. nu'tans (Spreng. syst. 2. p. 743.) herbaceous, pubescent; leaves ovate-oblong, crenated a little, green; whorls many-flowered, distant; bracteas oblong or lanceolate; calyx pubescent, striated, much elongated in the fructiferous state, incurved, nutant, with an oblique mouth, and short, linear, scarcely unequal teeth. ⊙.? S. Native of the Indian peninsula; and near Segain, and on the banks of the Irawaddi. Leaves broader than in *L. áspera*, with the crenatures fewer and more obscure. Corollas small.

Nodding-calyxed Leucas. Pl.?

41 L. dimidia'ta (Spreng. syst. 2. p. 743. Benth. lab. p. 616. but not of Benth. in Wall. pl. rar. asiat.) herbaceous, pubescently hairy; leaves ovate-oblong, subcrenated, green; whorls many-flowered, usually solitary, terminal; bracteas linear-subulate, hairy; calyx glabrous at the base, almost veinless, striated at top, incurvedly reflexed, with an oblique mouth, and short scarcely unequal teeth. ⊙.? S. Native of the Burman Empire, on the banks of the Irawaddi. Nearly allied to *L. nùtans*, but differs in the shorter calyxes, minute bracteas, solitary whorls; and with the habit and leaves of *L. Zeylánica.*

Dimidiate Leucas. Pl.?

42 L. cephalòtis (Spreng. syst. 2. p. 743.) herbaceous, pubescently hairy; leaves ovate or oblong, subserrated, green; whorls usually solitary, large, globose, densely many-flowered; bracteas ovate-lanceolate, acute, imbricated; calyx striated at top, rather villous, with an oblique mouth, and short, scarcely unequal teeth. ⊙. S. Native of the East Indies, common; Nipaul, Bengal, and the Peninsula. L. capitàta, Desf. mem. mus. 11. p. 8. t. 4. Phlòmis cephalòtes, Roth, nov. pl. spec. 262. Leaves 2-4 inches long. Whorls terminal. Corollas white; lower lip large, obcordate.

Headed Leucas. Fl. July, Sept. Clt. 1818. Pl. 1 foot.

43 L. Martinice'nsis (R. Br. prod. p. 617.) herbaceous, pubescent, scarcely canescent; whorls distant, large, globose, many-flowered; bracteas lanceolate-subulate; calyx membranous, incurved, with an oblique mouth, which is drawn out above, and with about 10 subulate teeth, the upper tooth very long. ⊙. S. Native of the tropics in both hemispheres; as of the East Indies, Madagascar, west coast of Africa, West Indies, Brazil, &c. Clinopòdium Martinicénsis, Jacq. amer. p. 173. t. 177. f. 75. Phlòmis Martinicénsis, Swartz, prod. fl. ind. occ. p. 88. Phlòmis Caribæ'a, Jacq. icon. rar. 1. p. 11. t. 110. Leonùrus parviflòrus, Mœnch, meth. p. 401. Phlòmis móllis, Schum. pl. guin. 263. Leaves ovate, crenated, rounded at the base, but more often cuneated: upper ones lanceolate. Bracteas subspinescent. Corollas small, white; tube exannulate inside.

Martinico Leucas. Fl. July, Sept. Clt. 1781. Pl. 1 to 2 feet.

44 L. linifo'lia (Spreng. syst. 2. p. 743.) herbaceous, erect, clothed with fine canescent pubescence or tomentum; leaves oblong-linear, quite entire, or remotely serrated; whorls dense, nearly equal, many-flowered; bracteas linear, canescent; calyx canescent or glabrous, almost veinless, elongated above, with a very oblique mouth, the lower teeth very short, and the upper tooth very large. ⊙. S. Native of the East Indies, Bengal, and the Peninsula, very common; Madagascar, Mauritius,

Bourbon, Moluccas, Philippines, &c. Phlòmis linifòlia, Roth, nov. spec. pl. p. 260. Phlòmis Zeylánica, Roxb. fl. ind. 3. p. 9. Lin. syst. 450. Jacq. icon. rar. 1. p. 11. t. 111. but not of Lin. spec. L. lavandulæfòlia, Smith, in Rees' cycl. vol. 2. Leonùrus I'ndicus, Burm. fl. ind. p. 127. Herba admiratiònis, Rumph. amb. 6. p. 39. t. 16. f. 1. Leaves 2-3 inches long. Whorls distinct, 2-4 towards the tops of the branches. Corollas like those of *L. Zeylánica*, white.

Flax-leaved Leucas. Fl. July, Sept. Clt. 1816. Pl. 1 to 1½ foot.

Cult. Most of the species of *Leùcas*, being annual, the seed should be reared on a hot-bed early in spring; and when the plants are about 1 inch in height, they should be planted into separate small pots, and afterwards shifted from size to size of pots, as they increase in size; and in the summer they may be placed in the greenhouse, where they will flower and seed freely, if plenty of air be given through the day. The suffruticose species should be treated like other stove plants, and they will be readily increased by cuttings or seeds.

XCII. LEONO'TIS (from λεων, *leon*, a lion; and ους ωτος, *ous otos*, an ear; lion's ear; fanciful likeness in the corollas.) R. Br. prod. p. 504. Benth. lab. p. 618.—Phlòmis species of Lin. and other authors.

Lin. syst. *Didynamia, Gymnospérmia.* Calyx ovate-tubular, 10-nerved, incurved at apex, with an oblique sub-10-toothed mouth; the upper tooth the largest. Corolla having the tube usually exserted, naked, or incompletely annulate inside, and a bilabiate limb; upper lip concave, erect, elongated, entire: lower lip short, spreading, trifid, the middle segment hardly larger than the lateral ones. Stamens 4, ascending, didynamous, the lower 2 the longest; filaments naked at the base; anthers approximating by pairs under the lower lip, 2-celled: cells divaricate, acute. Upper lobe of style very short. Achenia dry, obtuse at apex.—Herbs or sub-shrubs. Whorls many-flowered, usually very dense. Bracteas numerous, linear-subulate. Corollas showy, scarlet or yellowish.

1 L. nepetæfòlia (R. Br. prod. p. 504.) herbaceous; leaves ovate, crenated; teeth of calyx all spiny: upper one large; corollas scarlet, scarcely twice as long as the calyx. ⊙. S. Native of Asia and Africa, within the tropics; West Indies, and Brazil, in moist places. Ker. bot. reg. 4. t. 281. Phlòmis nepetæfòlia, Lin. spec. 820. Leonùrus globòsus, Mœnch, meth. 400. Leonùrus nepetæfòlius, Mill. dict. no. 2.—Herm. lugdb. 115. t. 117.? Stem pubescent or tomentose. Leaves 2-4 inches long, obtuse, rarely acutish, truncate or subcordate at the base, green on both surfaces, clothed with hoary tomentum beneath or glabrous. Whorls few, distant. Corolla villous, scarlet.

Cat-mint-leaved Lion's-Ear. Fl. Sept. Oct. Clt. 1778. Pl. 2 to 7 feet.

2 L. pa'llida (Benth. lab. p. 619.) herbaceous; leaves ovate, acute, bluntly serrated; calycine teeth all spinose: upper one large, ovate; corollas yellowish, scarcely exceeding the calyxes. ⊙. S. Native of Guinea. Phlòmis pállida, Schum. pl. guin. p. 262. Phlòmis Africàna, Beauv. fl. d'ow. 2. p. 82. t. 111. Very nearly allied to *L. nepetæfòlia;* but differs in the leaves being more acute, on shorter petioles, and especially in the corollas being smaller, and yellowish.

Pale-flowered Lion's-Ear. Pl. 2 to 4 feet.

3 L. ova'ta (Spreng. syst. 2. p. 744.) herbaceous; leaves ovate, deeply crenated; calycine teeth all spinose; upper tooth large, ovate; corolla about 3 times as long as the calyx. ⊙.? S. Native of South Africa, without the tropic, Burchell. Phlòmis Leonòtis, Lin. mant. p. 83. Mill. fig. t. 162. f. 1. Stems tomentosely pubescent. Leaves scarcely an inch long, broadly truncate or subcordate at the base, pubescent above, and tomentosely pubescent beneath. Whorls size of those of *L. nepetæfòlia.* Corollas orange-coloured, size of those of *L. Leonùrus.*

Ovate-leaved Lion's-Ear. Fl. June, July. Clt. 1713. Pl. 2 to 7 feet.

4 L. interme'dia (Lindl. bot. reg. 10. t. 1850.) herbaceous or suffruticose; leaves ovate-lanceolate, deeply toothed; whorls very dense, globose; calyx villous, with mutic teeth; corolla about 3 times as long as the calyx. ♄.? or ♃.? Native of Algoa Bay. Habit of *L. ovàta;* but the leaves are 2 or 3 times as long, bluntly acuminated, and the tomentum on the lower surfaces of the leaves, as well as on the petioles and branches, is more dense. Corollas orange-coloured, a little shorter than those of *L. Leonùrus.*

Intermediate Lion's-Ear. Fl. Sept. Oct. Clt. 1822. Shrub? 3 to 4 feet.

5 L. parvifo'lia (Benth. lab. p. 619.) shrubby; leaves ovate, wrinkled, and are, as well as the branches, canescent; upper tooth of calyx ovate, spinescent: lower ones all very short and mutic; corolla about 3 times as long as the calyx. ♄. G. Native of the Cape of Good Hope, Masson. This species differs from *L. ovàta,* in the leaves being smaller, more wrinkled, canescent, and in the form of the mouth of the calyx. Stems woody and humble. Corollas of *L. Leonùrus.*

Small-leaved Lion's-Ear. Shrub humble.

6 Leonu'rus (R. Br. prod. p. 504.) shrubby; leaves oblong-lanceolate, bluntly serrated; whorls rather loose; calyx clothed with fine pubescent tomentum, with mutic teeth; corolla more than 3 times as long as the calyx. ♄. G. Native of the Cape of Good Hope. Phlòmis Leonùrus, Lin. spec. p. 820. Curt. bot. mag. t. 478. Leonùrus grandiflòrus, Mœnch, meth. 400. Leonùrus Africànus, Mill. dict. no. 1.—Knor. del. 2. t. 50.—Sabb. hort. rom. 3. t. 44.—Breyn. cent. 171. t. 86.—Seba, mus. 1. p. 22. t. 14. f. 1. Branches tomentose. Leaves 2 inches long, obtuse, tomentose beneath and pubescent above. Whorls distant or approximate. Corollas 2 inches long, scarlet, villous.

Lion's-tail Lion's-Ear. Fl. Oct. Dec. Clt. 1712. Shrub 3 to 6 feet.

Cult. The species are all very showy when in blossom. Any light rich earth will suit them; and young cuttings of the shrubby kinds strike root readily in sand, with a hand-glass over them. The annual kinds should be treated in the manner recommended for the species of *Leùcas,* see above.

XCIII. PHLO'MIS (φλομος, of Dioscorides; from φλοξ, *phlox*, φλογος, *phlogos*, a flame; the down of some species was used formerly as wicks.) R. Br. prod. p. 504. Benth. lab. p. 620.—Phlòmis species of Lin. and other authors. Phlomidópsis, Link, handb. p. 479.—Phlomoìdes, Mœnch, meth. p. 403.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular, 5 or 10-striped, usually plicate, with an equal, truncate, or tridentate mouth. Corolla with an inclosed or scarcely exserted tube, usually annulate inside, and a bilabiate limb; upper lip galeate, keeled, compressed, broad, entire or emarginate, incumbent or erectish: lower lip spreading, trifid. Stamens 4, ascending, didynamous: the lower 2 the longest; upper filaments adnate, usually drawn out into an appendage at the base: lower ones naked; anthers approximate by pairs under the galea, somewhat 2-celled: cells divaricate, obtuse, confluent. Superior lobe of style very short, the lower lobe subulate, stigmatiferous at apex. Achenia dry, triquetrous, obtuse at apex, rarely trun-

cate, glabrous or pubescent at apex.—Herbs, under-shrubs, and shrubs; in the first section clothed with floccose wool, and in the second section green. Leaves wrinkled. Whorls many-flowered, axillary, propped by bracteas, rarely naked. Corollas in the first section yellow or purple; but in the second section purple or white.

SECT. I. EUPHLO'MIS (from *ευ, eu*, well; and *phlomis;* so called because this section is supposed to contain the true species of the genus.) Benth. lab. p. 622. Galea of corolla large, incumbent, tomentose, rarely villous, shortly somewhat bearded inside and along the margins; lateral segments of the lower lip small, furnished each with a lanceolate, or ovate, truncate, small appendage; the middle lobe large, very broad, rounded, emarginate, or somewhat 2-lobed.

§ 1. LYCHNI'TIS (from λυχνος, *lychnos*, a lamp; down used for making wicks.) Benth. lab. p. 623. *Plant suffruticose. Floral leaves broadly dilated at the base, clasping the flowers.*

1 P. LYCHNI'TIS (Lin. spec. p. 819.) suffruticose, clothed with hoary tomentum; leaves sessile, oblong-linear, narrowed at both ends, stem-clasping, wrinkled; floral leaves very broad at the base; bracteas subulate, and are, as well as the calyxes, clothed with silky pili, with short subulate teeth. ♄. H. Native of Europe, in the region of the Mediterranean, in dry places; as of Spain, South of France, North of Italy.? Sims. bot. mag. 999. Mill. fig. 203.—Lob. icon. 558.—Barrel. icon. 1321. Stems numerous, simple, rising from a woody base. Cauline leaves 2-3 inches long, and scarcely 4 lines broad, green or canescent above, very veiny, and clothed with white tomentum beneath. Corolla yellow, twice as long as the calyx. The dry leaves of this sort are used for wicks; hence its specific name, and its Spanish one of *Candelera*.

Link Phlomis. Fl. June, Aug. Clt. 1658. Shrub 2 feet.

§ 2. GYMNOPHLÒMIS (from *γυμνος, gymnos*, naked; and *φλομος, phlomos*, the Greek name of Mullien; so called from the whorls being almost destitute of bracteas.) Benth. lab. p. 623. *Perennial herbs or undershrubs. Floral leaves narrowed at the base. Whorls few-flowered. Bracteas few, loose or wanting. Calycine teeth soft, mutic.*

2 P. BRUGUIE'RI (Desf. mem. mus. 11. p. 9. t. 5.) perennial or suffruticose, very white from floccose tomentum; leaves ovate-oblong, roundly cuneated at the base, densely woolly; whorls about 6-flowered; bracteas linear, loose; calyx very pilose, with lanceolate soft plumose teeth, which exceed the corolla. ♃. F. Native of Persia, near Kermanchan. Stems almost simple. Leaves 2-3 inches long, acutish, a little crenated, and a little wrinkled. Whorls approximate. Corollas deep red, a little smaller than those of *P. lychnìtis*. Superior filaments thickened at the base, scarcely appendiculate.

Bruguier's Phlomis. Pl. 1 to 1½ foot.

3 P. CRINI'TA (Cav. icon. rar. 3. p. 25. t. 247.) perennial or suffruticose, clothed with very white floccose wool; leaves ovate-oblong, roundedly truncate at the base, the radical leaves subcordate, very thick, densely woolly on both surfaces; floral leaves narrowly rounded at the base; whorls 6-10-flowered; bracteas linear, loose; calyx very pilose, with linear plumose mutic teeth, which are shorter than the corolla. ♃. F. Native of Spain. Stems rising from a woody base. Radical leaves 2-3 inches long, almost quite entire. Whorls disposed in a paniculately branched raceme. Corolla like those of *P. lychnìtis*, yellow or pale orange.

Long-haired Phlomis. Fl. June, Aug. Clt. 1820. Pl. 1 to 1½ foot.

4 P. BI'LOBA (Desf. fl. atl. 2. p. 25. t. 127.) perennial or suffruticose, woolly; leaves ovate-oblong, rounded at the base, clothed with sub-floccose tomentum on both surfaces; whorls 4-6-flowered; bracteas linear, loose; calyx pilose, with linear soft acute mutic teeth. ♃. F. Native of Algiers, near Mayane. Lower leaves petiolate: upper ones sessile, scarcely crenated. Corollas size of those of *P. hérba-vénti*, purple, villously tomentose outside; upper lip bipartite.?

Two-lobed-lipped Phlomis. Pl. 2 to 3 feet.

5 P. ORIENTA'LIS (Mill. dict. no. 9.) perennial or suffruticose, clothed with floccose wool; leaves ovate: lower ones cordate at the base, much wrinkled, villous or woolly on both surfaces; floral leaves narrowed at the base; whorls 6-10-flowered; calyx elongated, pilose, with linear, soft, acute, plumose teeth. ♃. F. Native of Syria, near Aleppo, and about Smyrna. Habit of *P. Nissòlii*, but the calyx is very different. Corollas pale brown or yellow.

Eastern Phlomis. Fl. July, Aug. Clt.? Pl. 1 to 2 feet.

6 P. OLIVIE'RI (Benth. lab. p. 624.) shrubby, woolly; leaves petiolate, ovate, narrowed at the base: lower ones cordate, wrinkled, densely clothed with wool in the young state; whorls few-flowered; bracteas short, linear; calyx hispidly woolly, with lanceolate-linear obtuse teeth. ♄. F. Native of Persia, between Bagdad and Kermanchan, and between Kermanchan and Armadan. Bracteas as in *P. Armenìaca*, but more hispid; but the calyxes are less pilose, and the stems more simple than in *P. orientàlis*.

Olivier's Phlomis. Shrub.

7 P. ARMENI'ACA (Willd. spec. 3. p. 119.) perennial, clothed with floccose wool; radical leaves on long petioles, cordate-oblong, obtuse, crenated; cauline leaves lanceolate, attenuated at the base; whorls 6-flowered; bracteas loose, subulate, mucronulate; calyx clothed with tomentose wool, contracted at the apex in the fructiferous state, with subulate mucronate straight teeth. ♃. F. Native of Armenia; and of Caucasus, in dry stony places among the Talusch mountains, near Perimbal and Swant. D. Don, in Sweet, fl. gard. n. s. 4. t. 364. P. orientàlis, angusto et lineare folio, flore luteo, Tourn. cor. p. 10. Stems simple. Leaves obscurely crenated. Whorls distinct, usually 6-flowered. Corollas yellow, similar to those of *P. lychnìtis*, twice the length of the calyx, clothed with stellate pubescence outside.

Armenian Phlomis. Fl. June, July. Clt. 1834. Pl. ½ to 1 foot.

8 P. NISSÒLII (Lin. spec. p. 819.) perennial or suffruticose, densely clothed with sub-floccose wool; leaves petiolate, ovate-oblong, deeply cordate at the base, much wrinkled; whorls few-flowered; bracteas very short; calyx densely woolly, with ovate acuminated soft mutic teeth. ♃. F. Native of Syria, near Smyrna and Aleppo. Mill. fig. 204. Stems rising from a woody base. Lower leaves petiolate, 4-5 inches long, crenulated. Whorls distant. Corolla yellow, similar to that of *P. lychnìtis;* but the upper lip is a little acuminated, and the middle lobe of the lower lip more deeply emarginate.

Nissole's Phlomis. Fl. June, July. Clt. 1757. Pl. 1 to 1½ foot.

§ 3. DENDROPHLÒMIS (from *δενδρον, dendron*, a tree; and *φλομος, phlomos*, the Greek name of Mullien; in allusion to the species being woody). Benth. lab. p. 625. *Shrubs, rarely subshrubs. Whorls dense. Bracteas adpressed, numerous, about equal in length to the calyxes. Calyxes usually truncate, mucronate.*

9 P. PURPU'REA (Lin. spec. p. 818.) shrubby; branches

clothed with floccose tomentum; leaves oblong, obtuse, crenated, truncate or subcordate at the base, greenish above, and clothed with white tomentum beneath; bracteas oblong-lanceolate, and are, as well as the calyxes, clothed with white tomentum; calycine segments lanceolate, softly acuminated. ♄. H. Native of Spain, near Malaga. Smith, spicil. 6. t. 7. P. ferrugínea, Mill. dict. no. 12. P. salviæfòlia, Jacq. hort. schœnbr. 3. p. 58. t. 359. Floral leaves ovate-lanceolate, much longer than the whorls. Corollas reddish-purple; upper lip tomentosely villous outside. Appendages of upper filaments subulate.

Purple-flowered Phlomis. Fl. June, Aug. Clt. 1661. Shrub 2 to 3 feet.

10 P. Ita'lica (Smith, spicil. 1. t. 6.) shrubby, clothed with floccose tomentum; leaves oblong-lanceolate, obtuse, truncate at the base, wrinkled; whorls dense; bracteas linear, obtuse, adpressed, about equalling the calyxes, clothed with floccose tomentum; calyx truncate, with very short obtuse mutic teeth. ♄. H. Native of Spain, Italy, and Balearic Islands. P. rotundifòlia, Mill. dict. no. 13. fig. 202. Wool subferruginous or white. Leaves all petiolate, 2-3 inches long, velvety on the upper surface, a little crenated. Corollas purple. Upper filaments thickened a little under the insertion. This differs from *P. purpùrea* in the calyxes and bracteas.

Italian Phlomis. Fl. June, Aug. Clt. 1661. Shrub 1 to 2 feet.

11 P. elli'ptica (Benth. lab. p. 626.) shrubby, clothed with subfloccose tomentum; leaves ovate-elliptic, truncate at the base, much wrinkled, clothed with floccose tomentum beneath, or on both surfaces: whorls dense, many-flowered; bracteas lanceolate, linear, bluntish, stiff, clothed with floccose wool; calyx truncate, with linear stiff pungent teeth. ♄. F. Native of Persia. Branches at length glabrous towards the tops. Leaves an inch long, at length naked above, but clothed with floccose tomentum on both surfaces while young. Whorls about 10-flowered. Corolla purplish.

Elliptic-leaved Phlomis. Shrub.

12 P. lana'ta (Willd. enum. suppl. p. 41.) shrubby; branches divaricate, clothed with subfloccose wool; leaves small, ovate-roundish, very blunt, roundly cuneated at the base, much wrinkled, green above, and clothed with white wool beneath; bracteas ovate-lanceolate, obtuse, shorter than the calyxes, and are, as well as them, clothed with white wool; calycine teeth very short, obtuse, or stiffly mucronulate. ♄. H. Native of Calabria and Candia. P. parvifòlia, Presl. del. prag. p. 86. P. microphýlla, Sieb. in bot. zeit. 1823. 2. p. 598. Shrub divaricately much branched. Branches clothed with rusty wool. Whorls solitary on the branches, or twin and remote, 6-8-flowered. Corolla yellow; upper lip clothed with velvety tomentum.

Woolly Phlomis. Fl. June, July. Clt. 1696. Shrub 1 to 2 feet.

13 P. angustifòlia (Mill. dict. no. 2.) shrubby; branches clothed with floccose tomentum; leaves ovate or oblong, obtuse, truncate at the base, much wrinkled, canescent above, and clothed with white tomentum beneath; bracteas lanceolate, clothed with soft white tomentum, mutic; calyx clothed with white tomentum; calycine teeth truncate, mucronate, very short and stiff. ♄. F. Native among rocks in the desert of Sinai, Bove; and in the Grecian Archipelago. P. flavéscens, Mill. dict. no. 10. This species differs from *P. purpùrea*, in the stem being taller; in the calyxes being truncate, &c. Corolla cream-coloured, size of those of *P. purpùrea*.

Narrow-leaved Phlomis. Fl. June, Aug. Clt. 1596. Shrub.

14 P. fruticòsa (Lin. spec. p. 818.) shrubby; branches clothed with floccose tomentum; leaves ovate or oblong, roundly cuneated at the base, wrinkled, green above, and clothed with white tomentum beneath; whorls densely many-flowered; bracteas broad-ovate or ovate-lanceolate, acute, greenish, ciliated, villous; calyx villous, with truncate teeth, which end each in a subrecurved, or spreading, subulate, stiff acumen. ♄. H. Native of the region of the Mediterranean, in dry exposed places of mountains; as of Sicily, Abruzzo, Greece, Levant, &c. Sims, bot. mag, 1843. Sibth. et Smith, fl. græc. 6. p. 51. t. 563. P. ferrugínea, Hortul. but not of Tenore nor Mill. P. latifòlia, Mill. dict. no 3.—Sabb. hort. rom. 3. t. 15. Shrub branched. Tomentum of branches usually yellowish. Leaves 2-3 inches long, quite entire, or more or less crenated, villous above. Whorls solitary or twin at the tops of the branches, 20-30-flowered. Corollas yellow or dusky yellow, showy. Appendages of upper filaments recurved.

Shrubby Phlomis, or Jerusalem Sage. Fl. June, July. Clt. 1596. Shrub 2 to 4 feet.

15 P. ferrugi'nea (Tenore, fl. nap. 2. p. 36. t. 57.) shrubby; branches clothed with loose floccose tomentum; leaves oblong-lanceolate, obtuse, crenulated, cordate at the base, much wrinkled, villous and green above, but clothed with loose floccose tomentum beneath; bracteas lanceolate, hispid; calyx villous, with a long-haired throat, and short stiff subulate teeth. ♄. H. Native of Lucania and Japygia, Tenore. Branches clothed with rusty purple loose wool. Leaves 2-3 inches long, green above, and canescent beneath. Whorls 12-20-flowered. Corollas yellow, densely tomentose outside. Appendages of upper filaments short, acute.

Var. β, Crética (Benth. lab. p. 627.) leaves lanately villous, canescent; bracteas linear-subulate. ♄. H. Native of Candia. P. fruticòsa, Sieb. pl. cret. exs. P. Crética, Presl. del prag.

Rusty Phlomis. Fl. June, July. Clt. 1823. Shrub 2 to 3 feet.

16 P. visco'sa (Poir. dict. 5. p. 271.) shrubby; branches scarcely tomentose; leaves petiolate, ovate, obtuse, crenated, truncate or subcordate at the base, green above, and scarcely tomentose beneath; whorls many-flowered; bracteas lanceolate-linear, ciliated; calyx hispid, with truncate, subulately acuminated, stiff, rather spreading teeth, 2 of the teeth longer than the rest. ♄. H. Native of the Levant. P. vìrens, D. C. cat. hort. monsp. p. 132. Nearly allied to *P. ferrugínea;* but the leaves are broader, greenish, and scarcely wrinkled; and the calyx is distinct. Leaves form of those of *P. fruticòsa*, rather villous above. Whorls about 16-flowered. Corollas yellow, villous outside.

Clammy Phlomis. Fl. June, July. Clt.? Shrub 2 to 3 feet.?

§ 4. Oxyphlòmis (from οξυς, *oxys*, sharp; and φλομος, *phlomos*, the Greek name of Mullien; in reference to the very acute, stiff, sub-pungent bracteas.) Benth. lab. p. 628. *Herbs or under-shrubs. Whorls usually many-flowered, rarely so low as 6-flowered. Bracteas very acute, with stiff, rather pungent tops.*

17 P. flocco'sa (D. Don, in bot. reg. t. 1300.) suffruticose; branches clothed with white floccose wool; leaves ovate-oblong, cordate at the base, greenish above, and much wrinkled, and clothed with floccose wool beneath; whorls densely many-flowered; bracteas linear, clothed with white wool, and are, as well as the calycine teeth, subulate, stiff, glabrous, and hooked at apex. ♄. F. Native of Egypt. Leaves with the auricles closed at the base, covered with canescent villi above. Whorls few, distant, large, 20-30-flowered. Corollas yellow, size of those of *P. Sàmia*.

Floccose Phlomis. Fl. July, Oct. Clt. 1828. Shrub 2 feet.

18 P. bi'color (Benth. lab. p. 629.) corolla deep yellow outside; lower lip purplish above; bracteas entire; calyxes mucro-

nate; mucrones blackish, glabrous, hooked. ♄. H. Native of Lybia, in the mountains of Cyrenaica Viviani. P. Sàmia, Sims, bot. mag. t. 1891. S. Sàmia, β, bícolor, Viv. fl. lib. spec. 30. t. 15. f. 2. Habit almost of *P. fruticòsa*. Bracteas not joined at the base, as in *P. Sàmia*. Calyxes and bracteas hairy, not woolly as represented in Viviani's figure.

Two-coloured-flowered Phlomis. Fl. June, July. Clt. 1714. Pl. 2 to 3 feet.

19 P. RUSSELLIA'NA (Lag. mss. Benth. lab. p. 629.) herbaceous; branches tall, almost simple; radical leaves very ample, ovate, deeply cordate at the base, and are, as well as the cauline leaves, wrinkled, green above, and canescent from tomentum beneath; whorls large, many-flowered; bracteas linear, very acute, and are, as well as the calyxes, green and pubescent; calyx truncate, with long stiff subulate spreading teeth. ♃. H. Native of Syria, near Aleppo. P. hérba-vénti, var. Russ. nat. hist. alep. 2. p. 269. t. 16. P. lunarifòlia, β, Russelliàna, Sims, bot. mag. 2542. Branches clothed with loose white tomentum. Leaves 6-8 inches long. Whorls 40-50-flowered. Corollas yellow or brownish? tomentose outside. Appendages of superior filaments subulate.

Russell's Phlomis. Fl. June, July. Clt. 1821. Pl. *3 to 5* feet.

20 P. LUNARIFO'LIA (Sibth. et Smith, prod. fl. græc. p. 414.) stems herbaceous, tall, pubescent; leaves ovate, wrinkled above, canescently tomentose beneath; whorls many-flowered; bracteas broad-lanceolate or oblong, acute, subciliated, and are, as well as the calyxes, green; calyx truncate at apex, rather membranous, with subulate stiff pungent teeth. ♃. H. Native of the Peloponnesus, in various places; and on Mount Athos. Bracteas 3 times as broad as those of *P. Russelliàna*. Corollas yellow.

Honesty-leaved Phlomis. Fl. June, July. Clt. 1818. Pl. 3 to 4 feet.

21 P. SA'MIA (Lin. spec. 819.) stems herbaceous, tall, pubescent; leaves ovate, wrinkled above, and clothed with canescent tomentum beneath; whorls many-flowered; bracteas linear, very acute, pungent, and are, as well as the calyxes, green and pubescent; calyx elongated, plicate, with lanceolate-subulate stiff pungent teeth. ♃. H. Native of Eubœa, Samos, Ceramania, &c. Vent. choix. t. 4. Sibth. et Smith, fl. græc. 6. p. 52. t. 564. Allied to *P. Russelliàna;* but the stems are less tomentose, the whorls sometimes 10-15-flowered. Calyx 9-10 lines long, pubescent and clammy. Corollas purple. "Leaves ovate-cordate, crenated," ex Desf.

Samos Phlomis. Fl. June, July. Clt. 1714. Pl. 2 to 3 feet.

22 P. RI'GIDA (Labill. icon. pl. syr. rar. 3. p. 15. t. 10.) herbaceous; leaves oblong-lanceolate, wrinkled, clothed with subfloccose tomentum, having the nerves and petioles pilose; whorls many-flowered; bracteas subulate, stiff, pungent; calyx hairy, with subulate stiff teeth. ♃. H. Native of Syria, near Damascus, in sandy places. Stems woolly from short hairs, intermixed with long hairs. Leaves obtuse, crenulated, cordate at the base, but the cauline ones are roundly cuneated at the base. Corollas yellow, almost like those of *P. Lychnìtis*. Filaments not appendiculate, ex Labill.

Stiff Phlomis. Pl. 2 feet.

23 P. CASHMERIA'NA (Royle, ex Benth. in Hook. bot. misc. 3. p. 382. lab. p. 630.) herbaceous, erect: stem densely clothed with floccose tomentum; leaves ovate-lanceolate, obtuse, crenated towards the apex, broadly rounded at the base, wrinkled, pubescent or villous above, and clothed with dense white tomentum beneath; bracteas subulate, ciliated, longer than the calyxes; calyx clothed with floccose wool, with subulate stiff spreading teeth. ♃. H. Native in the valley of Cashmere, Royle. Corollas larger than in *P. hérba-vénti* and *P. púngens*, to which species it comes nearest. Galea densely villous.

Cashmere Phlomis. Pl. 1 to 1½ foot.?

24 P. HE'RBA-VE'NTI (Lin. spec. 819.) herbaceous, erect, divaricately much branched; branches beset with long hairs; leaves oblong-lanceolate, crenated, rounded at the base, coriaceous, green on both surfaces, or canescent beneath, always shining and rather scabrous above; bracteas subulate, ciliated, longer than the calyxes; calyx hairy, with subulate stiff rather spreading teeth. ♃. H. Native of the region of the Mediterranean, in dry places; as of Spain, Sicily, Italy, Tauria. Sims, bot. mag. t. 2449. Sibth. et Smith, fl. græc. t. 564.—Sabb. hort. rom. 3. t. 17. Branches green or purplish. Leaves often 6-8 inches long: floral ones sessile, all much exceeding the whorls. Whorls 10-20-flowered. Corollas purplish-violet, tomentose outside. Appendages of upper filaments acute, sub-recurved. In autumn, after the substance of the leaves has decayed, the veins remain perfect, showing the complete skeletons of them; hence the specific name. We believe this is also the case in *P. púngens*.

Var. β, *tomentòsa* (Benth. lab. p. 631.) leaves tomentose beneath.

Wind-herb Phlomis. Fl. July, Sept. Clt. 1596. Pl. 1 to 1½ foot.

25 P. PU'NGENS (Willd. spec. 3. p. 121.) herbaceous, divaricately branched; branches clothed with hoary tomentum; leaves on short petioles, ovate-lanceolate, quite entire or serrated, rounded at the base, shining and green above, and rather scabrous, but clothed with hoary tomentum beneath; bracteas subulate, ciliated, rather longer than the calyxes; calyx hairy, with subulate stiff rather spreading teeth. ♃. H. Native of the south-east of Europe, and west of Asia, in dry mountain places; as of Galicia, Greece, Tauria, Caucasus, Persia, &c. Sweet, fl. gard. n. s. t. 33. Nearly allied to *P. hérba-vénti;* but is distinguished from it in the tomentosely pubescent, not pilose, stem; in its narrower, quite entire, or serrated, not crenated, leaves, which are constantly tomentose beneath; and the whorls are more numerous, usually 6-10-flowered, &c. Corolla purplish-violet.

Pungent Phlomis. Fl. July. Clt. 1820. Pl. 1½ to 2 feet.

SECT. II. PHLOMIDÓPSIS (from φλομος, *phlomos*, the Greek name of Mullien; and οψις, *opsis*, resemblance; so called because it has been considered a distinct genus allied to *Phlomis* by some authors.) Benth. lab. p. 631. Phlomidópsis, Link, handb. p. 479. Phlomoìdes, Mœnch, meth. p. 403. Galea of corolla erectish, pilose, bearded inside and on the margins with long pili; middle lobe of lower lip hardly larger than the lateral ones.—Green, hairy, or pilose herbs, rarely rather woolly. Whorls dense. Bracteas adpressed. Corollas purple or white.

26 P. BREVIFLO'RA (Benth. in Wall. pl. rar. 1. p. 62.) herbaceous, erect, nearly glabrous; leaves petiolate, broad-ovate, acuminated, crenated, truncate or subcordate at the base, rather hispid above, and glabrous beneath; bracteas linear, and are, as well as the calyxes, nearly glabrous; galea of corolla pubescent, erect. ♃. H. Native of Nipaul, on Gosainsthan, Wall. Leaves all petiolate. Whorls 15-20-flowered. Calyx truncate, with very short emarginate or acuminated teeth. Filaments scarcely drawn out at the base. Corolla hardly a half again as long as the calyx, white.?

Short-flowered Phlomis. Pl.

27 P. MACROPHY'LLA (Wall. pl. rar. asiat. 1. p. 62. Benth. lab. p. 631.) herbaceous, tall, nearly glabrous. Leaves on long petioles, very ample, hastately cordate; floral leaves ovate, narrowed at the base; bracteas subulate, and are, as well as the

calyxes, a little ciliated; galea of corolla erect, very pilose inside. ♃. H. Native along with the preceding. Herb many feet high, branched. Allied to *P. tuberòsa*. Branches furnished with short reflexed rufescent pili at top. Petioles ciliated with long rufous hairs. Leaves 6 inches long, hispid above, and tomentose beneath. Whorls numerous, remote, 30-40-flowered. Corollas white.

Long-leaved Phlomis. Pl. 3 to 6 feet.

28 P. tuberòsa (Lin. spec. p. 819.) herbaceous, tall, nearly glabrous; leaves ample, ovate, obtuse, crenated, deeply cordate at the base: floral leaves oblong-lanceolate; bracteas subulate, and are, as well as the calyxes, subciliated; galea of corolla erectish, very pilose inside. ♃. H. Native of the East of Europe and Middle Asia, in exposed fields; as of Bohemia, Moravia, Austria, Hungary, Podolia, South of Russia, Siberia, Tauria, Caucasus, &c. Sims. bot. mag. t. 1555. Hall. comm. gœtt. 1751. t. 11. Phlomoìdes tuberòsa, Mœnch, meth. p. 404. Phlomidópsis tuberòsus, Link, handb. p. 480. Root tuberous in this, and probably in many other species of the present section. Branches and stems purplish. Lower leaves ½ foot long; floral ones 2-3 inches long, usually hastately dilated at the base or a little cut, all green and glabrous. Whorls remote, 30-40-flowered. Corollas purple; galea crenulated. Appendages of upper filaments recurved. Several varieties of this species occur in the gardens.

Tuberous-rooted Phlomis. Fl. June, July. Clt. 1759. Pl. 3 to 5 feet.

29 P. agra`ria (Bunge, in Ledeb. fl. alt. 3. p. 411.) stem herbaceous, simple or a little branched, hispid; lower leaves on long petioles, hastately cordate; upper floral leaves shorter than the calyxes; bracteas subulate, and are, as well as the calyxes ciliated and tomentosely pubescent; galea of corolla erect, very pilose inside. ♃. H. Native of Altaia, in cultivated fields near Semipalatinsk. Led. fl. ross. alt. ill. t. 364. Stems many, generally simple. Leaves deeply toothed, pubescent, green above, and subcanescent beneath; floral leaves sessile. Whorls about 10-flowered. Corollas purplish, almost similar to those of *P. tuberòsa*. Appendages of upper filaments long, subulate.

Field Phlomis. Fl. June, Aug. Clt. 1830. Pl. 1½ to 3 foot.

30 P. alpi`na (Pall. in act. petrop. 1779. 2. p. 265. t. 13.) stems herbaceous, simple, hispid; radical leaves very ample, deeply cordate; cauline leaves ovate-lanceolate: upper floral ones linear-lanceolate, elongated, quite entire, soft; bracteas subulate, and are, as well as the calyxes, hairy; galea of corolla very pilose, erect. ♃. H. Native of the Altaian mountains, in subalpine shady places. Stems numerous, green. Radical leaves 8 inches long and 6 broad, rather hispid on both surfaces. Whorls 20-30-flowered. Corollas purple, similar to those of *P. tuberòsa*.

Alpine Phlomis. Fl. June, Sept. Clt. 1802. Pl. 1 to 1½ foot.

31 P. bracteòsa (Royle, ex Benth. in Hook. bot. misc. 3. p. 383. lab. p. 633.) herbaceous, tall, erect, a little branched; stems obversely villous; leaves petiolate, ovate, obtuse, coarsely crenated, broadly cordate at the base, wrinkled, clothed with adpressed pili above and pale short tomentum beneath: floral leaves almost similar to the rest; bracteas oblong: outer ones large, foliaceous; calycine teeth truncate, subulate, acuminated at top; galea of corolla very pilose. ♃. F. Native of the Himalaya, on Mount Choor, and at Kidarkonta, Royle; Simla, Countess of Dalhousie. Outer bracteas almost similar to the leaves, an inch long; sometimes oblong, quite entire, all green like the leaves. Filaments exappendiculate. Root probably tuberous.

Bracteate Phlomis. Pl. 1 to 1½ foot.

32 P. lamiifòlia (Royle, ex Benth. in Hook. bot. misc. 3. p. 383. lab. p. 633.) herbaceous, humble, simple; stems obversely villous; leaves petiolate, broad-ovate, crenated, deeply cordate at the base, wrinkled, villous on both surfaces, pale beneath: floral leaves oblong-lanceolate; bracteas lanceolate or subulate, ciliated, equalling the calyxes; calyx nearly glabrous, with truncate subulately acuminated teeth; galea of corolla villous. ♃. F. Native of Cashmere, on Mount Choor, and in Mussooree, Royle; and the mountains of Kamaon, Wall. P. latifòlia, Royle, ex Benth. in Hook. bot. misc. 3. p. 383. Upper floral leaves scarcely exceeding the flowers. Whorls 15-20-flowered. Corollas like those of *P. tuberòsa*. Filaments exappendiculate. Root probably tuberous.

Archangel-leaved Phlomis. Pl. ½ to 1 foot.

33 P. sìmplex (Royle, ex Benth. in Hook. bot. misc. 3. p. 382. lab. p. 634.) herbaceous, humble, erect, nearly simple; stem obversely pilose; leaves petiolate, broad-ovate, obtuse, crenated, cordate at the base, wrinkled, green on both surfaces, villous: floral leaves nearly sessile, oblong, narrowed at both ends; bracteas linear, ciliated, equalling the calyxes; calyx membranous, rather coloured, ciliated at apex, with truncate subulately acuminated teeth; galea of corolla very pilose. ♃. F. Native of Cashmere, on the mountains of Kanaour, and at Peer Punjale, Royle. This species differs from *P. lamiifòlia* in the leaves being narrower, more villous, in the corollas being larger, and in the tube being exserted.

Simple Phlomis. Pl. ½ to 1 foot.?

34 P. corda`ta (Royle, ex Benth. l. c.) herbaceous, humble, erect, nearly simple; stem obversely pilose; leaves on long petioles, ovate-roundish, obtuse, crenated, cordate at the base, wrinkled, densely clothed with silky villi on both surfaces: floral leaves oblong-lanceolate; bracteas linear, subulate, rather shorter than the calyxes, villous; calyx rather villous, with roundish subulately acuminated teeth; galea of corolla very pilose. ♃. F. Native of Cashmere, on the mountains of Kanaour, Royle. This differs from the two preceding species in the leaves being densely clothed with soft silky villi on both surfaces, but is perhaps only a variety of one of them.

Cordate-leaved Phlomis. Pl. ½ to 1 foot.?

35 P. rugòsa (Benth. in Wall. pl. rar. 1. p. 62. lab. p. 634.) suffruticose, erect, simple, rather fleshy, finely tomentose; leaves on long petioles, ovate-oblong, acute, serrated, narrowed or rounded at the base; whorls much shorter than the petioles; bracteas subulate, and are, as well as the calyxes glabrous; calycine teeth lanceolate-subulate; corollas nearly glabrous. ♄. S. Native of Silhet, among the mountains. Different in habit from the other species of this section, but it is allied in characters to *P. breviflòra*. Leaves all petiolate, green, rather fleshy,? nearly glabrous, 4-6 inches long. Corollas yellowish, ex Wall. similar to those of *P. breviflòra*. Stamens a little exserted. Filaments all naked at the base.

Wrinkled-leaved Phlomis. Shrub.

N.B. P. condensàta, Mart. ex. Steud. nom. and P. scariòsa, Presl. ex Steud. nom. are only known by name.

Cult. All the species of *Phlòmis* prefer a light dry soil, in which even the more tender kinds will endure our winters. The shrubby kinds are readily increased by young cuttings in spring; and the herbaceous perennial species by division and seeds. Those marked frame should be protected in winter from frosts. Being all ornamental, they are worth cultivating in every collection.

XCIV. NOTOCHÆ`TE (from *νωτος, notos*, the back; and *χαιτη, chaite*, a bristle or beard; in reference to the nerves of the calyx being drawn out into stiff hooked bristles under the apex of the calyx.) Benth. in Wall. pl. rar. 1. p. 63. lab. p. 635.

Lin. syst. *Didynàmia, Gymnospérmia*. Calyx tubular, equal,

membranaceous at apex, shortly 5-toothed, 5-nerved; nerves drawn out into subulate, stiff, uncinately revolute awns under the top of the calyx. Corolla with an inclosed, exannulate tube; upper lip galeate, very pilose; lower lip spreading, somewhat equally trifid. Stamens 4, ascending, didynamous; lower 2 the longest. Filaments naked at the base; anthers approximate by pairs, 2-celled; cells at length divaricate. Lobes of style short, equal. Achenia dry, truncate at apex, naked. This genus is allied to section *A. Phlomidópsis* of *Phlòmis*, and particularly to *Phlòmis breviflòra*, but differs in the structure of the calyx and that of the anthers.

1 N. hamòsa (Benth. l. c.) ♃. ? F. Native of Nipaul, Wall. Stems herbaceous, branched, erect, pubescent. Leaves on long petioles, 3-5 inches long, ovate, acuminated, serrately crenated, obliquely and roundly cuneated at the base, nerved, green on both surfaces and nearly glabrous, but tomentose beneath while young. Whorls remote, globose, densely many-flowered, much shorter than the petioles. Bracteas subulate, stiff, revolute, exceeding the corolla. Corollas small, purplish.

Hooked-calyxed Notochaite. Pl. 2 feet.

Cult. For culture and propagation, see *Phlòmis*, p. 854.

XCV. EREMO'STACHYS (from *ερημος, eremos*, deserted; and *σταχυς, stachys*, a spike; in reference to the species being inhabitants of desert places, and from the flowers growing in verticillate spikes.) Bunge, in Ledeb. fl. alt. 2. p. 414. Benth. lab. p. 636.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx amply tubular, subcampanulate or funnel-shaped, with 5 spinose or mucrone-formed teeth; limb large and membranaceous. Corolla with an inclosed tube, which is annulate or naked inside, and a gaping bilabiate limb; upper lip elongated, galeate, somewhat compressed, attenuated at the base, pubescent outside, and bearded inside and on the margins; lower lip spreading, trifid, the lobes all rounded, but the middle one is the broadest. Stamens 4, ascending, didynamous, the lower 2 the longest. Superior filaments thickened into an obtuse or fringed appendage at the base; anthers approximate by pairs, 2-celled: cells divaricate. Style bifid at top; lobes subulate, equal, or the upper one is scarcely a half shorter than the lower. Achenia dry, densely pilose at apex.—Rather branched herbs. Radical leaves larger than the cauline ones, entire or dissected. Whorls many-flowered, usually approximate at the tops of stem or branches. Bracteas adpressed. Corollas usually yellow or cream-coloured, rarely purple.

1 E. lacinia'ta (Bunge, in Led. fl. alt. 2. p. 416.) leaves pinnate; leaflets oblong-lanceolate or linear, deeply pinnatifid; calyx amply tubular, campanulate, hardly dilated at apex. ♃. H. Native of the Levant, Eastern Caucasus, and Siberia, Persia, &c. Phlòmis laciniàta, Lin. spec. 819. Sweet fl. gard. 1. t. 24. Stems nearly simple. Radical leaves ½ foot long: floral leaves scarcely exceeding the calyxes. Petioles, stems, and nerves of leaves clothed with loose wool. Whorls 10-20-flowered, upper ones approximate. Calycine teeth spinosely mucronate. Corollas purplish; tube annulate. Appendages of upper filaments obtuse, nearly entire. Lobes of style unequal.

Jagged-leaved Eremostachys. Fl. July. Clt. 1731. Pl. 1 to 1½ foot.

2 E. supe'rba (Royle, ex Benth. in Hook. bot. misc. 3. p. 281. lab. p. 637.) radical leaves large, pinnate; leaflets 2-3 pairs: lower ones petiolulate: outer one very long: all broad and coarsely crenate-lobed, green on both surfaces: floral leaves ovate, acute, almost quite entire; calyx amply tubular, scarcely dilated at apex. ♃. H. Native of the East Indies, at Kheere Pass, and Deyra Dhoon, Royle. Royle, ill. pl. himal. t. 74. Radical leaves 1½ foot long, the ultimate leaflet 10 inches long; petioles and petiolates villous; but the limb is almost glabrous. Stems woolly towards the top. Whorls 6-flowered, disposed in dense racemes. Calycine teeth ending in spiny mucrones. Corollas almost as in *E. laciniàta*, but yellow; tube exannulate. Appendages of upper filaments obtuse, scarcely fringed. Lobes of style equal.

Superb Eremostachys. Pl. 1 to 2 feet.

3 E. phlomoi'des (Bunge, in Ledeb. fl. alt. 1. p. 414. fl. ross. alt. ill. t. 122.) leaves ovate, toothed; calyx tubular, scarcely dilated at apex, with spreading spinose teeth. ♃. H. Native of Altaia, in saltish places, adjacent to the Arkaul and Dolenkara mountains. Stems branched, hairy from long soft white pili, as well as calyxes and bracteas. Radical leaves petiolate, obtuse; and floral leaves sessile, acute, spiny-toothed, narrowed at the base. Whorls 6-flowered, distinct. Bracteas subulate, spinose. Corolla pale yellow, one half smaller than in *E. laciniàta*. Appendages of upper filaments short, fringed.

Phlomis-like Eremostachys. Pl. 1 foot.

4 E. tuberòsa (Bunge, in Ledeb. fl. alt. 2. p. 415.) leaves ovate, toothed; calyx glabrous, tubular at the base, with a membranaceous rather spreading limb, which is shorter than the tube, and ending in 5 spinose teeth. ♃. H. Native of Siberia, at Lake Inderio. Molucélla tuberòsa, Pall. itin. 3. append. no. 101. t. 1. Leaves clothed with loose wool, and the petioles with dense wool, the rest of the plant glabrous; radical leaves petiolate; cauline ones sessile. Whorls 6-flowered, rather distant. Corolla cream-coloured, about twice as long as the calyx. Appendages of upper filaments, shortly fringed.

Tuberous-rooted Eremostachys. Pl. ½ to 1 foot.

5 E. molucelloi'des (Bunge, in Ledeb. fl. atl. 2. p. 416.) leaves ovate, toothed; base of calyx tubular, pubescent, and with the limb large and membranaceously dilated, furnished with 5 short mucrones. ♃. H. Native of the Kirghisean Steppe, in dry sandy places. Ledeb. fl. ross. alt. ill. t. 437. Phlòmis lanígera, Sievers in Pall. beytr. 7. ex Bunge. Root thick, tuberous. Stems usually almost simple, clothed with white wool at the knees and base, the rest with spreading white hairs. Radical leaves wrinkled, rather hispid above, and clothed with villous wool beneath. Whorls 6-flowered. Corolla cream-coloured, like that of *E. tuberòsa*. Genitals and achenia like those of *E. tuberòsa*.

Molucella-like Eremostachys. Pl. 1 to 2 feet.

Cult. For culture and propagation, see *Phlòmis*, p. 854.

XCVI. ERIOPHY'TON (from *εριον, erion*, wool; and *φυτον, phyton*, a plant; in allusion to the plant, which is clothed with long white wool.) Benth. in Wall. pl. rar. asiat. 1. p. 63. lab. p. 638.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx membranous, amply campanulate, equal, 5-toothed. Corolla with an inclosed tube and a bilabiate limb; upper lip large, galeate, compressed, incumbent; lower lip small, trifid, with rounded lobes. Stamens 4, ascending, didynamous, the lower ones the longest; superior filaments appendiculately thickened at the base; anthers approximate by pairs, 2-celled: cells divaricate. Style about equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia dry, naked. This genus is nearly allied to *Eremóstachys*, but differs in the form of the calyx and corolla, as well as in habit, which is nearly that of *Phlòmis*.

1 E. Wallichia'num (Benth. in Wall. l. c.) ♃. F. Native of Nipaul, on Gosainsthan. Wall. Stems rising from a tuberous root, ? simple. Lower leaves small; superior and floral ones rhomboid or orbicular, subcuneated at base, sessile, crenated, very soft. Whorls 6-flowered. Calycine teeth rather

spiny at top. Corollas yellow; galea large, orbicular. The upper parts of the stems, leaves, calyxes, and galea of corolla clothed with very long loose white wool.

Wallich's Eriophytum. Pl.

Cult. For culture and propagation, see *Phlòmis*, p. 854.

XCVII. MOLUCE'LLA (a dim. from Molucca Islands, of which one of the species was supposed to be a native.) Lin. gen. no. 724. Schreb. gen. 979. Gærtn. fruct. 1. p. 320. t. 66. Juss. gen. p. 115. Benth. lab. p. 639.—Molúcca, Tourn. Mœnch.—Chasmònia, Presl.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx obliquely campanulate at the base, striated; limb ample, dilated, reticulately veined, with 5-10 mucrones or spines. Corolla with an inclosed tube, which is obliquely annulate inside; limb bilabiate; upper lip erect, entire or emarginately bifid; lateral lobes of lower lip erectish; middle lobe spreading broad, obcordate. Stamens 4, didynamous, ascending, lower ones the longest; filaments naked at the base; anthers laterally pedicellate at the tops of the filaments, 2 celled: cells almost distinct, divaricate. Style about equally bifid at apex; stigmas nearly terminal. Achenia dry, acutely triquetrous, truncate at apex.—Annual quite glabrous herbs. Leaves petiolate, deeply crenated or cut; floral leaves similar to the cauline ones. Whorls axillary, many-flowered. Bracteas subulate, spinose.

1 M. læ'vis (Lin. spec. 821.) limb of calyx large, membranaceous, subpentagonal, with 5 very short mucrones or teeth. ⊙. H. Native of Syria and Palestine. Sibth. et Smith, fl. græc. 6. p. 53. t. 566. Sims, bot. mag. t. 1852. Molúcca læ'vis. Riv. mon. t. 64. Mœnch, meth. p. 404.—Sabb. hort. rom. 3. t. 45. Plant quite glabrous in every part, smooth. Stem a little branched, floriferous almost from the base. Leaves on long petioles, roundish, coarsely crenated, rounded or cuneated at the base. Whorls usually 6-flowered, distant. Corolla white, shorter than the limb of the calyx, furnished with an almost complete membranaceous not pilose ring inside the throat.

Smooth Molucca Balm. Fl. July, Aug. Clt. 1570. Pl. 1 to 1½ foot.

2 M. spinòsa (Lin. spec. 821.) limb of calyx short, coriaceous, sub-bilabiate, with 8 spines. ⊙. H. Native of the region of the Mediterranean; as of Sicily, Naples, Palestine, Mount Parnassus, &c. Sibth. et Smith, fl. græc. 6. p. 54. t. 567. Lam. ill. t. 510.—Sabb. hort. rom. 3. t. 46. Chasmònia incìsa, Presl. fl. sic. 37. Bot. reg. 1244. M. armàta, Sieb. pl. exs. Molúcca spinòsa, Mœnch, meth. p. 404. Habit of *M. læ'vis*, but more rigid. Leaves smaller, with mucronulate teeth. Inflorescence and bracteas like those of *M. læ'vis*. Corolla exceeding the calyx a little, furnished with a pilose ring inside, cream-coloured.

Spiny Molucca Balm. Fl. July, Aug. Clt. 1596. Pl. 1½ to 2 feet.

Cult. The seeds of these plants should be reared on a hot-bed early in autumn or spring; and when the plants are of sufficient size they should be planted in separate pots, and kept under glass, until the middle of May, when they may be planted out of doors in any warm dry situation, where they will flower and seed freely; for if the seeds are sown out in the open ground in spring, the plants in this case come into flower so late that they seldom, if ever, ripen seed.

XCVIII. HOLMSKIO'LDIA (named in memory of Theodore Holmskiold; author of Coriphæi clavarias Ramarias complectentes, 1 vol. fol.; Copenhagen, 1790, and other works.) Retz, obs. 6. p. 31. Benth. lab. p. 642. Hastíngia, Smith, exot. bot. 2. t. 80.—Platùnium, Juss. ann. mus. 7. p. 76.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx with a very short tube and a large subrotately campanulate, membranaceous, veiny, almost entire limb. Corolla with an elongated, incurved tube, which is naked inside, a subdilated throat, and a sub-bilabiate limb; upper lip bifid, with erectly spreading segments; lateral segments of the lower lip small, reflexed: middle one ovate, spreading. Stamens 4, ascending, didynamous, lower ones the longest and exserted; upper filaments dilated a little at the base; anthers 2-celled: cells parallel. Style nearly entire, or the upper lobe is very short, stigmatiferous at apex. Ovarium bipartite, with deeply bifid, scarcely bipartite lobes. Achenia rugose, rather fleshy.? Shrub with the habit of *Verbenàceæ*. Allied to *Molucélla* by the calyx; and to *Melissíneæ* in the corolla; and to the tribes *Prasièæ* and *Ajugoídeæ*.

1 H. sanguí'nea (Retz. l. c.) ♄. S. Native of Hindostan and Silhet, &c. Hastíngia coccínea, Smith, l. c. Platùnium rùbrum, Juss. l. c. Shrub with divaricate, tetragonal, glabrous, often tubercled branches. Leaves petiolate, ovate, acuminated, hardly toothed, somewhat truncate at the base, 2-4 inches long, glabrous, green on both surfaces. Racemules axillary, scarcely longer than the petioles, constantly composed of a few 2-4-flowered whorls. Calyx red or blood coloured. Corolla red. Genitals exserted. (fig. 87.)

FIG. 87.

Bloody-calyxed Holmskioldia. Fl.? Clt. 1796. Shrub.

Cult. Any light rich earth, or a mixture of equal parts of loam, sand, and peat, will suit this shrub; and young cuttings will be readily rooted in the same kind of soil in heat, with a hand-glass placed over them.

XCIX. HYMENOCRA'TER (from ὑμην, *hymen*, a membrane; and κρατηρ, *krater*, a cup; in allusion to the large membranous calyx.) Fisch. et Meyer, ind. sem. hort. petrop. 1835. p. 39.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx with a short 13-nerved tube, and a large membranous spreading 5-cleft limb; lobes ovate. Corolla with an exserted tube and a sub-bilabiate limb; upper lip bipartite; lower lip tripartite, having the middle segment large and emarginate. Stamens inclosed, didynamous, ascending under the upper lip; cells of anthers divaricate. Stigma bilabiate. Achenia dry, subovate, glabrous, tubercled. This genus comes near to *Róylea* and *Holmskióldia*, but differs from the first in the quinquefid limb of the calyx, bipartite upper lip of corolla, as well as in the divaricate cells of anthers; and from the latter in the spreading limb of calyx, exserted corolla, bipartite upper lip and tubercled achenia; and from *Molucélla* in the form of the corolla.

1 H. bituminòsus (Fisch. et Meyer, l. c.) ♄. F. Native of the North of Persia, on arid hills. A humble glabrous shrub, having leaves much like those of *Népeta Pannónica*, viscid, and smelling of bitumen. Cymes axillary, 5-7-flowered, crowded, furnished with oblong, almost quite entire floral leaves. Throat of calyx closed by villi. Corollas violaceous, painted with white lines. Achenia black.

Bituminous Hymenocrater. Shrub humble.

Cult. For culture and propagation, see *Phlòmis*, p. 854.

C. ACHYROSPE'RMUM (from αχυρον, *achyron*, chaff; and σπερμα, *sperma*, a seed; so called because the achenia are

crowned by a paleaceous arillus.) Blum. bijdr. p. 840. Benth. lab. p. 643.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx larger than the corolla, sub-bilabiate; upper lip erect, trifid; lower one a little shorter, spreading, bifid. Corolla longer than the calyx, tubular; limb bilabiate; upper lip short, erect, emarginate; lower lip semitrifid, the middle lobe large and concave. Stamens 4, nearly equal, ascending; anthers 1-celled. Achenia 4, inclosed in the permanent calyx, crowned by a paleaceous aril above. —Herbs with opposite toothed leaves, which are clothed with soft pubescence. Flowers verticillately spicate, terminal.

1 A. densiflòrum (Blum. bijdr. p. 841.) spike cylindrical, dense-flowered; bracteas many-flowered; leaves obovate-oblong, acute, quite entire at the base. ♃.? S. Native of Java, on the edges of rivulets about Linga Jattie in the province of Cheribon.

Dense-flowered Achyrospermum. Pl. ½ to 1 foot.

2 A. phlomoi'des (Blum. bijdr. 841.) spike loose; bracteas 1-flowered, biglandular at the base inside; leaves obovate, obtuse, quite entire at the base. ♃.? S. Native of Java, in the higher woods, in humid places on Mount Burangrang.

Phlomis-like Achyrospermum. Pl. ½ to 1 foot.?

3 A. fruticòsum (Benth. lab. p. 643.) shrubby, with pubescent branches; leaves ovate, obtuse, broadly crenated, rounded at the base, minutely glandular beneath, on cuneated winged petioles; whorls 6-flowered, disposed in loose terminal spikes. ♄. S. Native of Madagascar, Lyall, Bojer. Siphotáxis ròsea, Bojer, mss. Ovarium densely beset with pubescent scales at apex. Calyx pubescent, with an oblique 5-toothed mouth. Corolla of *Holmskióldia*, twice as long as the calyx, of a splendent rose colour.

Shrubby Achyrospermum. Shrub.

Cult. For culture and propagation, see *Holmskióldia*, p. 856.

CI. COLQUHOU'NIA (named in honour of Sir Robert Colquhoun, Bart., resident at Kamaon.) Wall. in Lin. trans. 13. p. 608. tent. fl. nep. 1. p. 13-14. Benth. lab. p. 644.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubularly campanulate, 10-nerved, subincurved, almost equally 5-toothed, and having the throat naked inside. Corolla with an exserted incurved tube, which is naked inside, a dilated throat, and a bilabiate limb; upper lip erect, entire, flattish; lower one rather spreading, with 3 short ovate entire lobes. Stamens 4, ascending, didynamous, lower ones the longest; filaments naked at the base; anthers approximate, 2-celled: cells at length divaricate. Style about equally bifid at top; lobes subulate, stigmatiferous at apex. Achenia oblong, dry, smooth, drawn out into a membrane at top.—Twining or scandent, usually tomentose, not pilose shrubs. Whorls loose, axillary, or approximating into a terminal spike. Bracteas minute. Corollas scarlet.

1 C. cocci'nea (Wall. l. c. tent. fl. nap. 1. p. 13. t. 6.) leaves nearly glabrous, roughish, canescent from fine tomentum while young, as well as the calyxes; calycine teeth ovate, obtuse; upper lip of corolla ovate. ♄. ⌒ G. Native of Nipaul. Hastingia scándens, Roxb.? Holmskióldia scándens, Sweet.? Leaves ovate, acuminated, 3-4 inches long. Whorls few-flowered, approximating into a spike, which is leafy at the base, and sometimes disposed in short axillary racemules. Calyxes tomentose. Corolla scarlet, twice the length of the calyx.

Var. β, parviflòra (Benth. lab. p. 644.) young leaves and calyxes hardly tomentose. ♄. ⌒ S. Native of Gosainsthan.

Scarlet-flowered Colquhounia. Shrub twining.

2 C. vesti'ta (Wall. tent. fl. nap. 1. p. 14. pl. asiat. rar. 3. p. 43. t. 267.) under surfaces of leaves, stems, and calyxes clothed with white tomentum; calycine teeth ovate, obtuse; upper lip of corolla ovate. ♄. ⌒ G. Native of Kamaon, Wall. Corollas a little smaller than those of *C. coccínea*, but the habit is similar.

Clothed Colquhounia. Shrub twining.

3 C. e'legans (Wall. pl. rar. asiat. 1. p. 65. and 3. p. 43. t. 268.) stems, leaves, and calyxes clothed with velvety pubescence; calycine teeth broad-lanceolate, acutish; upper lip of corolla oblong. ♄. ⌒ S. Native of Ava, on Mount Taong Dong. This differs from both the preceding by the calyx being one half smaller, in the corolla being more exserted, with a wider throat, and in the colour being orange, dotted with blood red, not scarlet.

Elegant Colquhounia. Shrub twining.

Cult. These elegant and curious shrubs are well fitted for ornamenting rafters in greenhouses or stoves. A light rich soil will answer them well, or one composed of equal parts of loam, sand, and peat; and young cuttings will strike root readily in the same kind of earth under a hand-glass in a little bottom heat.

Tribe X.

PRASIE'Æ (the genera contained in this tribe agree with *Pràsium* in the characters given below.) Benth. lab. p. 646. Calyx nearly equal. Corolla bilabiate. Stamens 4, ascending, didynamous; lower ones the longest. Achenia fleshy, rather baccate.

CII. GOMPHOSTE'MMA (from γομφος, *gomphos*, a club; and στεμμα, *stemma*, a crown; in reference to the tube of corolla being inflated above the middle.) Wall. pl. rar. asiat. 2. p. 12. Benth. lab. p. 646.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate-campanulate or tubular, nearly equal, 5-toothed, with the throat naked inside. Corolla with a straight usually exserted tube, which is exannulate inside, and inflated above the middle, bilabiate; lips nearly equal; upper one erect, entire, arched; lower lip spreading trifid. Stamens 4, ascending under the upper lip, lower ones the longest. Anthers approximate by pairs; cells parallel, transverse. Style about equally bifid at top, with subulate lobes; stigmas minute. Achenia fleshy.—Perennial herbs with usually simple erect stems, or with the stems procumbent and rooting at the base. Leaves generally ample, thick, villous or tomentose. Flowers rather large. Whorls sometimes spicate, and sometimes axillary and remote.

1 G. strobili'num (Wall. l. c. Benth. lab. p. 647.) stem erect; leaves elliptic-ovate, wrinkled, hispid above, and tomentose beneath; whorls crowded into a terminal spike or the lower ones are remote and axillary: floral leaves bractea-formed, broad ovate, exceeding the calyxes; calyx campanulate, clothed with soft tomentum, with ovate-lanceolate teeth; corolla about 3 times as long as the calyx. ♃. S. Native of the Burman Empire, at Meong, Prome, and on Mount Taong Dong. Stems tomentose, erect. Cauline leaves 6-10 inches long, and 3-6 broad. Corollas yellow, pubescent outside; tube exceeding the calyx, hardly incurved.

Strobile-spiked Gomphostemma. Pl. 1 to 3 feet.

2 G. vi'ride (Wall. l. c. Benth. l. c.) stem erect; leaves elliptic-ovate, flaccid, rather hispid above and pubescent beneath; whorls few-flowered, crowded into a short terminal spike; floral leaves bractea-formed, broad-ovate, exceeding the calyxes; calyx campanulate, clothed with soft villi: teeth lanceolate; corollas twice as long as the calyx. ♃. S. Native of the Burman Empire, in the province of Tavoy. Very nearly allied to *G. strobilìnum*, but of more humble stature. Leaves pale green. Spike few-flowered. Calyx large.

Green Gomphostemma. Pl. 1 foot.?

3 G. Heynea'num (Wall. l. c. Benth. l. c.) stem erect; leaves elliptic-ovate, wrinkled, clothed with soft tomentum above and dense floccose tomentum beneath; whorls crowded into a terminal spike, or the lower ones are rather remote and axillary: floral leaves bractea-formed, broad-ovate, exceeding the calyxes; calyx campanulâte, clothed with soft tomentum, with ovate-lanceolate teeth, which are hardly shorter than the corolla. ♃. S. Native of the Indian Peninsula, on mountains near Courtallum. Habit and stature of *G. strobilìnum*, but differs in the tomentum being floccose, in the floral leaves being wrinkled above and tomentose, not glabrous, in the corollas being smaller, inclosed tube, &c.

Heyne's Gomphostemma. Pl. 1 to 3 feet.

4 G. oblóngum (Wall. l. c. Benth. lab. p. 648.) stem erect; leaves oblong-elliptic, wrinkled, rather hispid above, and clothed with dense tomentum beneath: floral leaves similar to the rest; whorls axillary, remote, few-flowered; calyx campanulate, tomentose, with lanceolate-linear elongated acute teeth; corolla 3 times as long as the calyx. ♄. G. Native of the Burman Empire in the province of Tavoy. Leaves smaller and narrower than in *G. strobilìnum*. Whorls 2-4-axillary, 6-10-flowered. Corolla pubescent outside.

Oblong-leaved Gomphostemma. Pl. 1 to 2 feet.

5 G. lu'cidum Wall. l. c. Benth. l. c.) stem erect; leaves elliptic-ovate, shining above and pilosely hispid, and densely clothed with rufous tomentum beneath: floral leaves similar to the rest; whorls axillary, remote; calyx tubularly campanulate, tomentose, with short lanceolate teeth; corolla 3 times as long as the calyx. ♃. S. Native of the East Indies at Choppedong. on the Tenasserim coast; and in Pundua. Habit of the preceding, but more robust. Stems clothed with dense rufous tomentum. Leaves toothed or quite entire. Whorls 10-30-flowered. Corollas yellow, tomentose outside.

Shining Gomphostemma. Pl. 2 to 3 feet.

6 G. parviflòrum (Wall. l. c. Benth. l. c.) stem erect; leaves elliptic-ovate, pubescent above and tomentose beneath: floral ones conform to the rest; whorls axillary, remote, loosely many-flowered; bracteas lanceolate or linear, exceeding the calyxes; calyx campanulate, with lanceolate linear teeth, which are subulate at apex; corolla slender, twice as long as the calyx. ♃. S. Native of Nipaul, Silhet, and Penang. Habit of preceding, but the flowers are more numerous in the axils, loosely fasciculate. Corolla yellow, pubescent outside; throat less inflated.

Small-flowered Gomphostemma. Pl. 2 to 3 feet.?

7 G. multiflòrum (Benth. lab. p. 648.) stem erect; leaves elliptic, scarcely pubescent above, and tomentose beneath: floral leaves similar to the rest; whorls axillary, remote, loosely many-flowered; bracteas ovate, foliaceous, exceeding the calyxes; calycine teeth lanceolate-linear; corolla slender, many times longer than the calyx. ♃. S. Native of Silhet. This and *G. parviflòrum* differ from the other specimens in the form of the bracteas, &c.

Many-flowered Gomphostemma. Pl. 2 to 3 feet.?

8 G. crinìtum (Wall. l. c. Benth. l. c.) stem erect; leaves elliptic-ovate, pubescent above, and tomentose beneath: floral leaves similar to the rest; whorls axillary, remote, loosely many-flowered; bracteas linear-setaceous, about equalling the calyxes; calyx tubularly campanulate, inflated in the fructiferous state, quite glabrous at the base, with elongated setaceous hispid teeth; corolla slender, twice as long as the calyx. ♃. H. Native of the Burman Empire, in the province of Tavoy. Habit, inflorescence, and corollas of *G. parviflòrum*, but the bracteas and calyxes are very distinct, and the leaves are more ample and less wrinkled.

Long-haired Gomphostemma. Pl. 2 to 3 feet.?

9 G. erioca'rpum (Benth. in Wall. pl. rar. asiat. 2. p. 12. lab. p. 649.) stem ascending; leaves elliptic-oblong, coarsely toothed, rather hispid above and tomentose beneath; floral leaves similar to the others; whorls remote, few-flowered; bracteas ovate, denticulated; calyx campanulate, at length inflated, tomentose, with linear setaceous teeth; corolla villous, twice as long as the calyx; achenia tomentose. ♃. S. Native of the Indian Peninsula, near Courtallum. Stems elongated, slenderer than the preceding species. Leaves 3-4 inches long, and 1½ broad. Whorls few, about 10-flowered.

Woolly-fruited Gomphostemma. Pl. ascending.

10 G. ova'tum (Wall. l. c. Benth. l. c.) stem erectish, rooting at the base; leaves broad-ovate, shining and hispid above, but clothed with soft tomentum beneath: floral leaves similar to the rest; whorls axillary, remote, many-flowered; bracteas broad-ovate, outer ones about equalling the calyxes; calyx campanulate, villously tomentose, with lanceolate-linear teeth; corolla 3 times as long as the calyx. ♃. S. Native of Nipaul, Wall. Leaves smaller and broader than in the preceding. Corolla yellow, pubescent, nearly 1½ inch long.

Ovate-leaved Gomphostemma. Pl. 1 foot. ?

11 G. melissæfòlium (Wall. l. c. Benth. l. c.) stem creeping at the base, radicant; branches ascending; leaves ovate, nearly glabrous or rather hispid above, and sparingly tomentose beneath: floral leaves similar to the rest; whorls axillary, remote, loosely many-flowered; bracteas ovate: outer ones equalling the calyxes; calyx hispid, with lanceolate-linear teeth; corolla about 3 times as long as the calyx. ♃. S. Native of Silhet. Pràsium melissæfòlium, Roxb. hort. beng. p. 45. fl. ind. 3. p. 26. Very nearly allied to *G. ovàtum*, but differs in the creeping stems, in the leaves being scarcely tomentose beneath, and in the flowers being smaller.

Balm-leaved Gomphostemma. Pl. creeping.

12 G. veluti'num (Benth. in Wall. pl. rar. asiat. 1. p. 13. lab. p. 649.) stem creeping at the base, rooting; branches ascending; leaves ovate, thick, densely clothed with velvety pubescence on both surfaces: floral leaves similar to the rest; whorls axillary, remote, few-flowered; bracteas oblong, equalling the calyxes; calyx tomentose, with ovate-lanceolate teeth; corolla about twice as long as the calyx. ♃. S. Native of Silhet, Wall. Allied to *G. melissæfòlium*. Leaves 12-18 lines long, 8-15 lines broad. Corolla yellow, 11-12 lines long, with a slender tube, which is much dilated at top.

Velvety Gomphostemma. Pl. creeping.

13 G. phlomoi'des (Benth. lab. p. 649.) leaves oblong, acute at both ends, denticulated, pilose above, and densely clothed with stellate tomentum beneath; flowers fascicled, axillary. ♃. S. Native of Java, in the higher mountain woods. Pràsium phlomoìdes, Reinw. herb. ex Blume, bijdr. p. 840.

Phlomis-like Gomphostemma. Pl.?

14 G. Java'nicum (Benth. lab. p. 650.) leaves rather large, oblong, acuminated at both ends, denticulated, hairy above, and clothed with stellate tomentum beneath; flowers subfasciculate, axillary. ♃. S. Native of Java, in humid mountain woods. Pràsium Javánicum, Blum. bijdr. p. 840.

Java Gomphostemma. Pl.?

Cult. Plants of easy culture. Any light rich soil will suit the species; and they will be readily increased by cuttings and seeds.

CIII. PHYLLOSTE'GIA (from φυλλον, *phyllon*, a leaf; and στεγος, *stegos*, a covering; in allusion to the foliaceous lobes of the calyx.) Benth. in bot. reg. vol. 15. under no. 1292. lab. p. 650. Pràsium species, Gaud. in Freyc. voy. pt. bot. p. 452.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, ovate or tubular, 10-nerved, nearly equal, sometimes quinquefid, with foliaceous lobes, and sometimes shortly 5-toothed. Corolla

having the tube exceeding the calyx, sometimes much exserted, usually incurved, exannulate inside, with a nearly equal throat and a bilabiate limb; upper lip spreading a little, entire, flattish: lower lip longer, spreading, trifid, with ovate lobes, the middle lobe larger and entire. Stamens 4, ascending under the upper lip; anthers 2-celled: cells diverging, at length divaricate. Style nearly entire, clavate at top or shortly bifid, with clavately divaricate or arched lobes; stigmas terminal, usually thickening into heads. Achenia fleshy.—Erect or ascending, almost simple herbs. Leaves petiolate, ovate, usually toothed. Whorls 6-10-flowered, disposed into a terminal loose raceme, or the lower whorls are axillary. Upper floral leaves small, bractea-formed. Bracteas small, subulate, or wanting.

1 P. dentàta (Benth. in bot. reg. vol. 15. lab. p. 651.) very hairy; leaves rounded at the base; racemes dense; calyx ample, with foliaceous toothed segments; lobes of style clavate. ♃.? G. Native of Owhyhee, on Mount Raah, and Byron's Bay, Macrae. Stem herbaceous, erect, nearly simple, beset with long stiff hairs like the rest of the plant. Leaves on long petioles, 3-4 inches long; upper floral leaves nearly sessile, shorter than the fructiferous calyxes. Whorls about 10-flowered. Corolla small.

Toothed-calyxed Phyllostegia. Pl. 1 foot.

2 P. vestìta (Benth. l. c.) very hairy; leaves roundly truncate at the base: floral leaves similar to the others; whorls axillary, distant; calyx ample, with foliaceous quite entire segments; lobes of style clavate. ♃.? G. Native of Owhyhee, in Byron's Bay. This differs from *P. dentàta*, in the leaves being smaller, and in the other characters given.

Clothed Phyllostegia. Pl. 1 foot.

3 P. grandiflòra (Benth. l. c.) nearly glabrous or clothed with adpressed pubescence; leaves rounded at the base; raceme loose; calycine teeth broad-ovate, foliaceous, quite entire, spreading; corolla incurved, more than thrice as long as the calyx; lobes of style arched. ♃.? G. Native of the Island Oahu. Pràsium grandiflòrum, Gaud. in Freyc. voy. pt. bot. p. 453. t. 65. f. 2. Stems hard, procumbent or ascending. Leaves petiolate, 1-2 inches long, or the lower ones are 3 inches long, crenulated; upper ones small, bractea-formed. Whorls 6-flowered.

Great-flowered Phyllostegia. Pl. ascending.

4 P. Chamissònis (Benth. in Linnæa. 6. p. 79.) quite glabrous, rounded at the base; racemes loose; peduncles elongated, trifid; calyx shortly 5-toothed; corolla incurved, 4 times as long as the calyx. ♃.? G. Native of the Islands of Oahu and Mowee. Pràsium glàbrum, Gaud. in Freyc. voy. pt. bot. p. 452. t. 64. Stem branched. Leaves almost the form of those of *P. grandiflòra*. Peduncles trifid towards the middle. Corollas size of those of *P. grandiflòra*.

Chamisso's Phyllostegia. Pl. 1 foot.

5 P. glàbra (Benth. in bot. reg. vol. 15. lab. p. 652.) quite glabrous; leaves roundly cuneated at the base; racemes short, loose, leafy; lower peduncles elongated, trifid; calyx shortly 5-toothed; corolla erectish, scarcely 3 times the length of the calyx; lobes of style clavate. ♃.? G. Native of the Island of Oahu. Allied to the preceding, but differs in the stem being more branched, in the racemes being irregularly branched, and in the flowers being one half smaller.

Glabrous Phyllostegia. Pl. 1 to 2 feet.

6 P. macrophýlla (Benth. l. c.) nearly glabrous or pubescent at top; leaves oblong, rounded at the base; raceme short, loose; calyx shortly 5-toothed; corolla straight, about 3 times as long as the calyx; lobes of style arched. ♃.? G. Native of several of the Sandwich Islands. Pràsium macrophýllum, Gaud. in Freyc. voy. pt. bot. p. 453. t. 65. f. 3. Leaves nearly like those of *P. grandiflòra*, but narrower and longer. Inflorescence of *P. grandiflòra*. Corolla pubescent.

Long-leaved Phyllostegia. Pl. 2 to 3 feet.

7 P. parviflòra (Benth. in Linnæa. 6. p. 79.) pubescently villous; leaves rounded or cordate at the base, clothed with soft villi beneath; pedicels longer than the calyxes; calycine teeth short, acute; tube of corolla about 3 times as long as the calyx; lobes of style clavate, recurvedly divaricate. ♃. G. Native of the Island of Oahu. Pràsium parviflòrum, Gaud. in Freyc. voy. pt. bot. p. 453. t. 65. f. 1. Phyllostègia leptóstachys, Benth. in bot. reg. vol. 15. Leaves broad-ovate, crenated, 3-4 inches long, canescent beneath. Corolla half an inch long, glabrous; tube a little incurved.

Small-flowered Phyllostegia. Pl. 1 to 2 feet.

8 P. móllis (Benth. in Linnæa. 2. p. 79.) clothed with soft velvety pubescence; leaves cordate at the base; pedicels shorter than the calyxes; calycine teeth short, obtuse; tube of corolla exceeding the calyx a little; lobes of style clavate, recurvedly divaricate. ♃.? G. Native of the Sandwich islands. Whorls 6-flowered. Allied to *P. parviflòra* and *P. clavàta*.

Soft Phyllostegia. Pl. 1 to 2 feet.

9 P. clavàta (Benth. in bot. reg. vol. 15. lab. p. 658.) pubescent; leaves roundly truncate at the base or subcordate; pedicels rather shorter than the calyxes; calycine teeth short, obtuse; tube of corolla exceeding the calyx a little; style clavate at apex, with flattened recurved stigmas. ♃.? G. Native of Owhyhee. Leaves form and size of those of *P. grandiflòra*, but less coriaceous and more villous. Whorls 6-10-flowered. Corollas small, pubescent.

Clavate-styled Phyllostegia. Pl. 1 to 2 feet.

10 P. racemòsa (Benth. l. c.) villous; leaves ovate-lanceolate, cordate at the base; whorls many-flowered; pedicels very short; corolla one half longer than the calyx; lobes of style clavate. ♃.? G. Native of Owhyhee, on Mount Raah, Macrae. Habit of *Stàchys grandidentàta*. Pubescence rather clammy. Leaves 1½ inch long. Whorls about 10-12-flowered. Corollas small, form of those of *P. clavàta*.

Racemose Phyllostegia. Pl. 1 foot.

11 P.? hirsùta (Benth. l. c.) very hairy; leaves ample, cordate at the base; racemes branched; calyx glabrous, shortly 5-toothed. ♃.? G. Native of the island of Oahu, Macrae. Stem as in *P. dentàta*. Calyxes as in *P. móllis*.

Hairy Phyllostegia. Pl. 1 to 2 feet.

12 P. floribúnda (Benth. lab. p. 653.) pubescent or hairy; leaves elliptic, ample, rounded at the base or narrowed; cymes axillary, loosely much branched, many-flowered, very hairy; calyx hairy, with linear teeth, which are about equal in length to the tube of the corolla; corolla exceeding the calyx a little. ♃.? G. Native of the Sandwich islands, Nelson. Branches hard, woody.? Leaves on long petioles, 2-5 inches long. Corymbs or cymes as in *Bystropògon*. Corollas small, almost like those of *P. racemòsa*, but more slender.

Bundle-flowered Phyllostegia. Pl. 1 to 2 feet.

Cult. For culture and propagation, see *Gomphostémma*, p. 858.

CIV. STENO'GYNE (from στενος, *stenos*, narrow; and γυνη, *gyne*, a female; so called in reference to the subulate lobes of the style.) Benth. in bot. reg. vol. 15. lab. p. 654.

Lin. syst. *Didynàmia, Gymnospérmia*. Calyx ovate-campanulate, 10-nerved, nearly equal or obliquely bilabiate; sometimes 5-cleft, with ovate foliaceous lobes; and sometimes 5-toothed, having the 3 upper teeth less deeply cleft than the lower ones. Corolla with the tube exceeding the calyx, and incurved, and usually furnished with a pilose ring inside; a dilated throat, and a bilabiate limb; upper lip erect, emarginate; lower lip spreading trifid, with nearly equal entire segments. Stamens 4, ascending under the upper lip; anthers 2-celled: cells at

length divaricate. Style almost equally bifid at top, with subulate lobes; stigmas minute. Achenia fleshy.—Branched, procumbent, ascending or erect herbs, with divaricate subscandent? branches. Leaves usually coriaceous, crenated. Whorls 6-flowered, axillary, distant, or approximate at the tops of the branches. Floral leaves similar to the cauline ones. Bracteas small, subulate, or almost wanting. This genus differs chiefly from *Phyllostègia* in the form of the style and corolla, and in the axillary inflorescence.

1 S. macra'ntha (Benth. l. c.) very hairy; leaves petiolate, ovate, cordate at the base; whorls axillary, distant; pedicels equalling the calyxes. ♃.? G. Native of Owhyhee, on Mount Raah, Macrae.

Large-flowered Stenogyne. Pl.

2 S. se'ssilis (Benth. lab. p. 654.) glabrous; leaves sessile, roundish, cordate at the base, coriaceous; whorls approximate at the tops of the branches. ♃.? G. Native of the Sandwich islands, Menzies. Stem glabrous or pilose at the nodi. Whorls few, secund. Corolla villous, twice as long as the calyx. Genitals exserted a little.

Sessile-leaved Stenogyne. Pl. ascending.

3 S. corda'ta (Benth. lab. p. 654.) glabrous; lower leaves on short petioles: upper ones sessile, all ovate and cordate at the base, coriaceous; whorls axillary, distant. ♃.? G. Native of the Sandwich islands, Nelson. Allied to *S. séssilis*, but differs in the more slender branches, smaller narrower leaves, inflorescence, and smaller flowers.

Cordate-leaved Stenogyne. Pl.

4 S. rugòsa (Benth. in bot. reg. vol. 15. lab. p. 655.) glabrous; leaves on short petioles, oblong, coriaceous, roundly truncate at the base; whorls axillary, distant; pedicels shorter than the calyxes. ♃.? G. Native of Owhyhee, on Mount Raah, Menzies. Stems erect.? Leaves 1½ to 2 inches long, rough. Whorls about 6-flowered; corolla scarcely twice as long as the calyx, nearly glabrous.

Wrinkled-leaved Stenogyne. Pl. erect.

5 S. microphy'lla (Benth. lab. p. 655.) glabrous; leaves small, petiolate, acute, narrowed at the base; whorls few, 2-flowered, secund; calyxes on short pedicels, equalling the leaves in length. ♃.? G. Native of Owhyhee, at Mount Raah, Macrae. Branches subscandent. Leaves scarcely 3-4 lines long, acutely serrated. Pedicels bibracteate under the calyxes. Corolla twice as long as the calyx.

Small-leaved Stenogyne. Pl. scandent.?

6 S. scrophularioi'des (Benth. in bot. reg. vol. 15. lab. 655.) quite glabrous; leaves petiolate, ovate, flaccid; whorls axillary, distant; fructiferous pedicels longer than the calyxes; corolla pubescent, twice as long as the calyx. ♃.? G. Native of the Sandwich islands, Menzies. Branches subscandent.? Leaves 1 to 1½ inch long, roundly truncate at the base. Whorls 6-flowered. Corollas pubescent.

Figwort-leaved Stenogyne. Pl. scandent.?

7 S. Nelsòni (Benth. lab. p. 655.) glabrous; leaves petiolate, ovate, rather flaccid; whorls axillary, distant; fructiferous pedicels longer than the calyxes; corolla nearly glabrous, 3-4 times longer than the calyx. ♃.? G. Native of the Sandwich islands, Nelson. Allied to *S. scrophularioìdes*, but differs in the larger subcoriaceous leaves, many-flowered whorls, longer calyxes, longer corollas, and much exserted stamens.

Nelson's Stenogyne. Pl.

Cult. For culture and propagation, see *Gomphostémma*, p. 858.

CV. PRA'SIUM (from πρασιον, a name given by Dioscorides to a plant resembling Horehound or Marjoram, and called by Pliny *Pràsium.*) Lin. gen. no. 737. Schreb. gen. no. 992. Gærtn. fruct. 1. p. 321. t. 66. Juss. gen. p. 117. Benth. lab. p. 655.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx campanulate, 10-nerved, irregularly bilabiate; upper lip shortly trifid; lower lip deeply bifid; all the segments ovate and foliaceous. Corolla with an inclosed tube, furnished with a ring of scale-like hairs inside, and a bilabiate limb; the upper lip ovate, entire, and the lower lip trifid: the middle segment the largest and entire. Stamens 4, ascending under the upper lip; anthers 2-celled: cells at length divaricate. Style about equally bifid at top, with subulate lobes; stigmas minute. Achenia fleshy.

1 P. ma'jus (Lin. spec. 838.) ♄. F. Native of Europe and the North of Africa, in the region of the Mediterranean, and of Madeira. Sibth. et Smith, fl. græc. t. 584. P. mìnus, Lin. spec. p. 838.—Sabb. hort. rom. 3. t. 37.—Zan. hist. t. 80.—Mor. hist. 3. p. 408. sect. 11. t. 21. f. 3.—Barrel. icon. t. 895. A divaricately branched, usually glabrous evergreen shrub, rarely with some of the young leaves hispid. Leaves ½ to 1 inch long, ovate, acute, roundly truncate at the base or subcordate, irregularly serrate crenated; floral leaves similar, or the upper ones are smaller and more entire, all exceeding the calyxes. Whorls 2-flowered, distant, axillary. Flowers on short pedicels. Corollas white or pale purple, glabrous. Stamens inclosed.

Greater Prasium. Fl. June, Aug. Clt. 1699. Shrub 1 to 2 feet.

Cult. This is a curious evergreen small shrub, which will survive our milder winters in the open air if grown in a dry sandy or gravelly soil, in a sheltered situation; but in moist strong ground it is sure to perish. A reserve plant or two should be grown in pots, that they may be sheltered by placing under a frame in winter. The plant is readily increased by cuttings and seeds.

Tribe XI.

AJUGOI'DEÆ (from *Ajuga*, Bugle; and *idea*, similar; this tribe contains genera agreeing with *A'juga* in the characters given below.) Benth. lab. p. 657. Upper lip of corolla sometimes very short, sometimes cleft, with cast down, rarely erect, arched segments; lower lip elongated. Stamens 2-4, ascending, usually exserted, opposite the lip. Achenia more or less reticulately wrinkled. In many *Ajugoìdeæ*, especially in some *Teùcria*, *A'juga*, *Cymària*, &c., the ovarium is less deeply cleft than in other *Labiàtæ;* and in *Cymària* it is very evidently bipartite, with bifid divisions, instead of being equally 4-parted; thus connecting the tribe with the closely allied order of *Verbenàceæ*, ex Benth.

CVI. AMETHY'STEA (so called from the amethystine colour of the flowers.) Lin. gen. no. 34. Schreb. gen. no. 45. Gærtn. fruct. 1. p. 315. t. 66. Juss. gen. 111. Benth. lab. p. 657.

Lin. syst. *Diándria, Monogýnia.* Calyx sub-globose, campanulate, erect, equal, 5-toothed. Corolla having the tube shorter than the calyx, exannulate inside, and a declinate limb; the 4 upper lobes nearly equal, and cast down, and the lower lobe larger. Stamens 2, (inferior,) ascending, exserted between the upper segments of the corolla; the rudiments of the 2 upper ones minute and filiform; anthers 2-celled: cells at length divaricate and sub-confluent. Style almost equal, bifid at apex. Achenia reticulately wrinkled.—This genus only differs from *Teùcrium* in the abortion of the upper stamens. In habit it closely resembles *Teùcrium corymbòsum.*

1 A. cæru'lea (Lin. spec. p. 30.) ⊙. H. Native of Asiatic Russia; as of Altaia, Dahuria, &c., Pallas; and of

China, Sir G. Staunton. Sims, bot. mag. t. 2448.—Hall. in comm. gœtt. 1751. t. 10. act. ups. 1742. p. 51. f. 1. Herb erect, branched, glabrous, often bluish. Leaves petiolate, 3-5-parted; segments oblong-lanceolate, deeply toothed; floral leaves smaller: upper ones minute. Cymes peduncled, loose, racemosely panicled. Bracteas minute. Calyxes erect, bluish, quite glabrous, with lanceolate acute teeth. Corolla blue, scarcely exceeding the calyx.

Blue-flowered Amethystea. Fl. June, July. Clt. 1759. Pl. 1 to 1½ foot.

Cult. This being a hardy annual, the seeds of it should be sown in the open ground, where the plants are intended to remain.

CVII. TRICHOSTE'MA (from *θριξ τριχος, thrix trichos*, a hair; and *στημων, stemon*, a stamen; in reference to the capillary filaments.) Lin. gen. no. 733. Schreb. gen. no. 988. Juss. gen. no. 116. Benth. lab. p. 658.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx sometimes campanulate, nearly equal, deeply 5-cleft, sometimes depressedly campanulate, very oblique, with the 3 upper teeth (from the twisting of the pedicel inferior) elongated and connate; and the 2 lower ones (superior) very short. Corolla with a slender, usually exserted tube, which is exannulate inside, and a somewhat equally 5-cleft limb; segments oblong, declinate: lower ones scarcely larger. Stamens 4, didynamous: lower ones the longest, and much exserted; filaments sometimes monadelphous; anthers about 2-celled: cells divaricate or diverging. Style bifid at apex; lobes subulate; stigmas minute.—Herbs, with quite entire leaves, and axillary or racemose inflorescence. Very nearly allied in character to *Teùcrium*, but differs in habit. *Isánthus* ought probably to be placed near this genus.

Sect. I. Streptopòdium (from *στρεπτος, streptos*, twisted; and *πους ποδος, pous podos*, a foot; in allusion to the pedicels being twisted.) Benth. lab. p. 658. Calyx very oblique, reversed from the twisted pedicel. Pedicels solitary, opposite, 1-flowered.

1 T. linea're (Nutt. gen. amer. 2. p. 39.) glabrous; leaves linear; flowers reversed. ⊙. H. Native of North America, from Philadelphia and New Jersey to Louisiana. T. dichótomum, Roth, nov. pl. spec. p. 280. T. brachiàtum, Lam. ill. 3. t. 515. but not of Lin.—Dill. elth. t. 285. f. 369.? Hardly differing from *T. dichótomum*, unless in being constantly glabrous, taller in stature, larger corollas, &c. Flowers purple or blue.

Linear-leaved Trichostema. Fl. June, Aug. Clt. 1759. Pl. 1 foot.

2 T. dicho'tomum (Lin. spec. p. 834.) glabrous or pubescent; leaves petiolate, oblong; flowers reversed. ⊙. H. Native of North America, from Canada to Carolina. T. pilòsum, Roth, nov. pl. spec. p. 280. Herb paniculately branched at top. Lower leaves about an inch long: upper floral ones bractea-formed, shorter than the pedicels. Flowers secund. Corollas small, blue or purple.

Dichotomous-branched Trichostema. Fl. June, Aug. Clt. 1759. Pl. ½ to 1 foot.

Sect. II. Orthopo'dium (from *ορθος, orthos*, straight; and *πους ποδος, pous podos*, a foot; in reference to the straight pedicels.) Benth. lab. p. 659. Calyx straight, equal. Cymes many-flowered.

3 F. oblóngum (Benth. lab. p. 659.) pubescent or villous; leaves oblong, narrowed at the base; cymes axillary; calyx about 5-cleft; tube of corolla inclosed. ⊙. H. Native of North-west America, in grassy places about Fort Vancouver, Douglas. Leaves green, distant, about an inch long, obtuse. Whorls remote. Corolla small, blue or purple.? Genitals exserted, free.

Oblong-leaved Trichostema. Pl. ½ to 1 foot.

4 T. lanceola'tum (Benth. lab. p. 659.) villous; leaves lanceolate; cymes axillary; calyx equally 5-cleft; tube of corolla exserted. ⊙.? H. Native of North-west America, near Fort Vancouver, in dry places at the river Multnomah; and of New California. Herb branched, hard at the base, and probably perennial. Leaves sessile, an inch long, stem-clasping at the base. Whorls secund, distant. Corollas pubescent. Genitals exserted. Filaments connate at the base.

Lanceolate-leaved Trichostema. Pl. ½ to ¾ foot.

5 T. lana'tum (Benth. lab. p. 659.) leaves linear, with revolute edges; flowers racemose, woolly; calyx about equally 5-cleft; tube of corolla much exserted. ⊙.? H. Native of California, Douglas. Perennial or shrubby.? Branches clothed with hoary tomentum. Leaves numerous, fasciculated, form of those of rosemary, 1-2 inches long, glabrous above, and tomentose beneath. Upper floral leaves bractea-formed. Whorls sub-secund, rather loose, 10-20-flowered. Corolla woolly. Genitals exserted. Filaments free.

Woolly Trichostema. Pl. 1½ foot.

Cult. The seeds of these annual plants should be sown in autumn, in pots filled with light earth; and in winter the pots should be placed under a frame, to shelter them from frosts, but expose them at all times to the open air when the weather is mild. In the spring transplant them on to a bed of light earth, shading them from the sun until they have taken root.

CVIII. TEU'CRIUM (so named from Teucer, son of Scamander, and father-in-law of Dardanus, king of Troy.) Lin. gen. no. 706. Schreb. gen. no. 960. Juss. gen. p. 112. Benth. lab. p. 660.—Chamæ'drys, Scorodònia, Scórdium, and Pòlium, Tourn. inst. t. 93. 97. and 98. and Mœnch. Leucoscéptrum, Smith.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx tubular or campanulate, rarely inflated, 5-toothed; teeth equal, or the superior one is broadest. Corolla with a short tube, which is exannulate inside; the 4 upper segments of the limb nearly equal, or the uppermost one is broader or longer, sometimes oblong and declinate, and sometimes very short, and erectish; lower segment very large, roundish or oblong, usually concave. Stamens 4, exserted between the upper segments, didynamous: the lower ones the longest; cells of anthers confluent. Style about equally bifid at apex; stigmas minute. Achenia more or less wrinkled.—Herbs and shrubs, variable in habit and inflorescence.

Sect. I. Leucosce'ptrum (from *λευκος, leucos*, white; and *σκηπτρον, sceptron*, a sceptre; in allusion to the long verticillate spikes of white flowers.) Benth. lab. p. 663.—Leucoscéptrum, Smith, exot. bot. p. 113. Whorls many-flowered, densely spicate. Calyx turbinate, incurved, with nearly equal teeth. Corolla incurved, reflexed; the upper segments very short, broad, truncate, erect.—An Indian shrub, clothed with hoary tomentum.

1 T. macrosta'chyum (Wall. mss. ex Benth. lab. p. 663.) shrubby; branches hoary; leaves oblong, clothed with dense white tomentum beneath; whorls many-flowered, densely spicate; calyx almost equally toothed; upper segments of corolla

very short and erect. ♄. G. Native of Nipaul and Silhet. Leucoscéptrum cànum, Smith, exot. bot. p. 113. t. 116. Clerodéndron Leucoscéptrum, D. Don, prod. fl. nep. p. 103. Leaves crowded at the tops of the branches, 6-8 inches long. Spikes 3-6 inches long. Corollas white, hardly exceeding the calyxes. Genitals much exserted.

Long-spiked Germander. Fl.? Clt. 1826. Shrub 6 feet.?

Sect. II. Teucrópsis (an alteration of the generic name.) Benth. lab. p. 664. Teucrópsis, Ging. in herb. D. C. mss. Whorls 2-flowered, axillary, or disposed in terminal racemes. Calyx campanulate, declinate; the upper tooth broader, and spreading. Corolla tomentose outside; the upper segments very short, broad, truncate, erect, or hardly declinate.—Hoary shrubs, natives of the Canary Islands.

2 T. heterophy'llum (Lher. stirp. 1. p. 84.) shrubby; branches hoary; leaves ovate-elliptic, hoary beneath, or on both surfaces: floral ones similar to the rest; whorls 2-flowered, axillary, remote; calyx straight, with equal teeth; superior segments of corolla very short, erect; ovaria very villous. ♄. G. Native of the Canary Islands. T. Canariénse, Lam. dict. 2. p. 692. Leaves petiolate, 1-2 inches long, obtuse, quite entire, or crenated towards the top. Corolla dark purple, twice as long as the calyx. Genitals much exserted. Whorls 2-4 flowered.

Various-leaved Germander. Fl. June, July. Clt. 1759. Shrub 4 to 6 feet.

3 T. Betónicum (Lher. stirp. 1. p. 83. t. 49.) shrubby; branches clothed with hoary tomentum; leaves ovate-oblong, hoary beneath or on both surfaces; whorls 2-flowered, secund, loosely racemose; floral leaves bractea-formed; calyx declinate, with the upper tooth very large; superior segments of corolla very short: uppermost one broad, erect: lateral ones sub-declinate, tomentose; achenia very villous. ♄. G. Native of Madeira, among rocks. Sims, bot. mag. t. 1114. T. betonicæfòlium, Jacq. coll. 1. p. 145. t. 17. f. 2. T. canéscens, Forst. comm. gœtt. 9. p. 58. ex Willd. T. Maderénse, Lam. dict. 2. p. 692. Scorodònia betonicæfòlia, Link, handb. p. 458. Leaves 1 to 1½ inch long, crenated. Racemes loose, 3-6 inches long. Corolla purple or lilac, pubescent; tube a little exserted. Genitals much exserted.

Betony Germander. Fl. May, Aug. Clt. 1775. Shrub 2 to 3 feet.

Sect. III. Teu'cris (see genus for derivation.) Benth. lab. p. 668. Teùcris, Ging. in herb. D. C. mss. Peduncles axillary, opposite, 1-flowered: or loosely cymose, many-flowered. Calyx campanulate, erect, equal, 5-toothed or 5-cleft. Four upper segments of corolla oblong, declinate, but the lower one is oblong and concave. Achenia reticulately wrinkled, glabrous, rarely very villous.—Herbs, under-shrubs, or shrubs, with quite entire or cut, rarely crenated leaves.

4 T. fruti'cans (Lin. spec. 787.) shrubby; leaves ovate, quite entire, flat, clothed with white tomentum beneath; peduncles 1-flowered; calyx tomentose, campanulate, equal, with ovate obtuse teeth. ♄. F. Native of Europe and Africa, in the region of the Mediterranean; as of Barbary, Spain, Italy, Naples, Corsica, Melita. Sibth. et Smith, fl. græc. 6. p. 23. t. 572. Dill. hort. elth. t. 284. f. 368. T. latifòlium, Lin. spec. p. 788. Curt. bot. mag. t. 245. T. tomentòsum, Mœnch, meth. p. 382. Zan. hist. t. 163.—Sabb. hort. rom. 3. t. 96. —Barrel. icon. t. 512. Shrub divaricately branched. Leaves on short petioles, glabrous and green above, or loosely cobwebbed. Racemes terminal, or in short, lateral, few-flowered branches. Corolla blue or purple, twice as long as the calyx. In Italian and Melita specimens, the leaves are sometimes rufescent beneath.

Shrubby Germander. Fl. June, Sept. Clt. 1640. Shrub 2 to 3 feet.

5 T. brevifo'lium (Schreb. unilab. p. 27.) shrubby; leaves oblong, quite entire, with revolute margins, canescent on both surfaces; racemes short; peduncles 1-flowered; calyx tomentose, campanulate, equal, semiquinquefid. ♄. F. Native of Candia, on the sea shore, Melos and Astypalea; among rocks. Sibth. et Smith, fl. græc. 6. p. 24. t. 528. T. Créticum, Lam. dict. 2. p. 692. but not of Lin. Shrub divaricately much branched. Branches short, leafy. Leaves scarcely ½ an inch long, obtuse, sessile: floral leaves similar to the others. Calycine teeth acute. Corolla purplish or red, similar to those of *T. Créticum*. (fig. 88.)

FIG. 88.

Short-leaved Germander. Fl. June, July. Clt. 1824. Shrub 1 to 2 feet.

6 T. Cre'ticum (Lin. spec. p. 788.) shrubby; leaves oblong-linear, quite entire, with revolute edges, and clothed with white tomentum beneath, but at length almost glabrous above; raceme elongated, strict; flowers nearly sessile, solitary or by threes; calyx clothed with white tomentum, campanulate, with acute teeth. ♄. F. Native of the region of the Mediterranean, and of the Islands of Cyprus, Melos, and Astypalea, among rocks; also of Palestine and Egypt. Sibth. et Smith, fl. græc. 6. p. 25. t. 529. T. hyssopifòlium, Schreb. unil. p. 28. T. rosmarinifòlium, Lam. dict. 2. p. 693. T. Charamoniénse, Cav. descr. 1. p. 82.—Alp. exot. 103. t. 102.—Mor. hist. 3. p. 410. sect. 11. t. 16. f. 3. Leaves approximate at the base of the branches, very like those of rosemary. Whorls 2-6-flowered. Corollas reddish purple. Genitals shorter than the lip.

Cretan Germander. Fl. July, Aug. Clt. 1824. Shrub 1 to 3 feet.

7 T. racemo'sum (R. Br. prod. p. 504.) stem herbaceous, strict, branched; leaves small, oblong: lower ones a little toothed: superior ones quite entire, all glabrous above, and clothed with white tomentum beneath; racemes elongated, strict; peduncles 1-flowered; calyx campanulate, tomentose, equal. ♃.? G. Native of New Holland, on the south coast, R. Br.; in bogs at the river Lachlan, Cunningham. Branches twiggy, canescent. Leaves hardly ½ an inch long, but generally much smaller, furnished with 1-2 teeth on both sides. Corolla downy outside. Genitals shorter than the lip.

Racemose Germander. Pl. erect.

8 T. lanceola'tum (Benth. lab. p. 666.) herbaceous?; leaves lanceolate, narrowed at the base: lower ones a little toothed: upper ones quite entire, all clothed with canescent pubescence beneath; cymes axillary, pedunculate, corymbose; calyx pubescent, campanulate, with lanceolate acute nearly equal teeth. ♃.? G. Native of New Holland, near Bathurst. Branches ascending, pubescent. Leaves 1 to 1½ inch long. Cymes loose, longer than the leaves. Corolla pubescent, twice as long as the calyx; lobes all nearly equal. Stamens exserted.

Lanceolate-leaved Germander. Pl. ascending.

9 T. corymbo'sum (R. Br. prod. p. 504.) herbaceous? clothed with fine pubescence; leaves ovate, toothed or cut, green on

both surfaces: cymes axillary, pedunculate, corymbose; calyx nearly glabrous, campanulate, with lanceolate acute teeth. ♃.? G. Native of New Holland, among rocks about Port Jackson; and of Van Diemen's Land. Stem a little branched. Leaves distant: lower ones an inch long: upper floral ones minute, quite entire, clothed with fine pubescence above, and tomentose pubescence beneath. Cymes 5-7-flowered. Genitals exserted.

Corymbose-flowered Germander. Pl. 1 to 2 feet.

10 T. CAPE'NSE (Thunb. prod. p. 95.? Benth. lab. p. 667.) herbaceous, finely pubescent; leaves cuneated at the base, 3-5-cleft, with lanceolate-linear entire or 3-5-cleft segments, green on both surfaces, or canescent beneath; cymes axillary, pedunculate, corymbose; calyx glabrous, campanulate, equal, deeply 5-cleft, with lanceolate acute segments. ♃.? G. Native of the Cape of Good Hope. A'juga Capénsis, Pers. ench. 2. p. 109. Peduncles sub-secund, filiform, 3-5-flowered. Corolla hardly larger than the calyx. Stamens one half longer than the calyx.

Cape Germander. Pl. 1 to 3 feet.

11 T. ORIENTA'LE (Lin. spec. p. 786.) herbaceous, erect, nearly glabrous; leaves bipinnate, with linear, quite entire, or cut segments, green on both surfaces; peduncles loosely racemose; pedicels much longer than the floral leaves; racemes panicled; calyx glabrous, campanulate, with lanceolate equal acute teeth. ♃. H. Native of Asia Minor, and Caucasus, on the gravelly banks of rivulets; as of Armenia, Syria, Iberia. Sims, bot. mag. t. 1279.—Riv. mon. irr. 19.?—Commel. rar. t. 25. Herb branched, sometimes glabrous, and sometimes pubescent or canescent. Lower leaves 1½ to 2 inches long. Corollas glabrous, blue; lower segment large. Genitals longer than the lip.

Eastern Germander. Fl. July, Aug. Clt. 1752. Pl. 1 foot.

12 T. PARVIFLO'RUM (Schreb. unilab. p. 31. icone.) herbaceous, clothed with soft tomentum; leaves deeply twice or thrice ternate; the segments of the lower leaves broad, obtuse; of the superior ones linear; peduncles much longer than the floral leaves, divaricate, 1-flowered; racemes panicled; calyx clothed with soft tomentum, campanulate, equal, semiquinquefid. ♃. H. Native of Armenia and Syria. Stem erect, trichotomously much branched at top, canescent as well as the leaves and calyxes. Floral leaves minute. Corollas small, numerous, hardly longer than the calyxes, blue.

Small-flowered Germander. Pl. 1 to 3 feet.

13 T. OLIVIERIA'NUM (Ging. in herb. D. C. mss. ex Benth. lab. p. 668.) herbaceous, clothed with soft pubescence; leaves cuneiform, deeply toothed at apex, or 3-5-cleft; peduncles much longer than the floral leaves, divaricate, 1-flowered; calyx villous, campanulate, equal, deeply 5-cleft. ♃. F. Native of Syria, between Aleppo and Bagdad, Olivier. Stems leaves, and calyxes canescent. Lower leaves petiolate, 1½ inch long; the upper ones much smaller, and nearly sessile. Flowers disposed in a few-flowered panicle. Lip of corolla 3 times as long as the calyx. Achenia very villous.

Olivier's Germander. Pl. 1 foot.

14 T. CAMPANULA'TUM (Lin. spec. 786.) herbaceous, procumbent, glabrous; leaves sub-bipinnatifid, with linear, cuneated, quite entire, or cut, divaricate segments, glabrous on both surfaces; flowers solitary, almost sessile, shorter than the leaves; calyx campanulate, equal, glabrous. ♃. F. Native of the region of the Mediterranean; as of Spain, Balearic Islands, Sicily, Naples. T. diversiflòrum, Mœnch, ex Steud. nom. p. 828.—Riv. mon. irr. t. 24.? Stems prostrate at the base. Branches ascending a little. Corollas blue. Stamens shorter than the lip. Floral leaves less cut, exceeding the flowers.

Campanulate-calyxed Germander. Fl. July, Aug. Clt. 1728. Pl. prostrate.

15 T. CUBE'NSE (Lin. mant. p. 80.) herbaceous, glabrous; lower leaves ovate-cuneated, obtuse, deeply toothed: superior leaves deeply trifid or pinnate, with lanceolate or linear flat segments, green on both surfaces; peduncles axillary, 1-flowered, shorter than the floral leaves; calyx campanulate, equal, glabrous, deeply 5-cleft; stamens scarcely twice as long as the calyx. ♂. S. Native of Mexico, near Papantla, Tampico, Vera Cruz; Texas; Island of Cuba; Bahama Islands; South of Brazil; Buenos Ayres; Mendoza, and Cordova. Jacq. amer. p. 172. t. 183. f. 74. obs. 2. p. 5. t. 30. T. lævigàtum, Vahl, symb. 1. p. 40. T. chamædrifòlium, Mill. dict. no. 15.—Herb erect, branched, densely leafy. Lower leaves broad, cut to the middle. Racemes terminal, subsecund. Corollas blue, glabrous or pubescent; lip hardly twice the length of the calyx.

Cuba Germander. Fl. May. Clt. 1733. Pl. 1 foot.

16 T. BI'COLOR (Smith, in Rees' cycl.) herbaceous, glabrous; leaves ovate-oblong or lanceolate, obtuse, quite entire or cut, green on both surfaces; peduncles axillary, 1-flowered, shorter than the floral leaves; calyx campanulate, equal, glabrous, semiquinquefid; stamens about 3 times as long as the calyx. ♃. F. Native of Chili, on the mountains; and in Pampas de Santa Fe, Gillies. T. heterophýllum, Cav. icon. 6. p. 56. t. 577. T. orchídeum, Lindl. bot. reg. t. 1255. Leaves about an inch long, or cut into a few segments, sometimes nearly ovate, trifid; the young ones often linear, quite entire, and trifid. Corollas yellowish, tinged with red; tube inclosed.

Two-coloured Germander. Fl. July, Aug. Clt. 1826. Pl. 1 to 2 feet.

17 T. NUDICAU'LE (Hook. bot. misc. 2. p. 235.) herbaceous? glabrous, or clothed with fine pubescence; branches twiggy, nearly naked; leaves small, remote, trifid, with linear obtuse segments, green on both surfaces; flowers on short peduncles, solitary, spicately racemose; calyx campanulate, equal, semiquinquefid, and is, as well as the corollas, pubescently hairy. ♃.? G. Native of Peru, in the valley of Canta, Cruikshanks. Flowers approximate towards the tops of the branches. Corollas almost of *T. bicolor*, but more villous, and the lower segment smaller.

Naked-stemmed Germander. Pl. 1½ foot.

18 T. AFRICA'NUM (Thunb. prod. p. 95.? Benth. lab. p. 669.) suffruticose; branches erect, tomentosely pubescent; leaves deeply trifid, with linear, quite entire, rarely trifid segments, revolute on the margins, clothed with canescent tomentum beneath; peduncles axillary, solitary, 1-flowered, or the lower ones are subcymose, rather shorter than the floral leaves; calyx campanulate, equal, sub-canescent, deeply 5-cleft. ♄. G. Native of the Cape of Good Hope. T. trífidum, Retz, obs. 1. p. 21.? A'juga Africàna, Pers. ench. 2. p. 109. Stems numerous, rising from a woody base. Leaves fascicled in the axils. Flowers smaller than those of the next species. Racemes many-flowered.

African Germander. Shrub ½ to 1 foot.

19 T. PSEUDOCHAMÆPI'THYS (Lin. spec. p. 787.) suffruticose; branches erect, pilosely hairy; leaves deeply 3-5-cleft, with linear, quite entire, or trifid segments, revolute on the edges, rather hispid above, and finely pubescent beneath; peduncles axillary, solitary, 1-flowered, at length rather longer than the floral leaves; calyx campanulate, equal, pubescent, deeply 5-cleft. ♄. F. Native of Europe and Africa, in the region of the Mediterranean; as of Spain, Barbary, Syria: South of France, about Marseilles.—Sabb. hort. rom. 3. t. 95.—Mor. hist. 3. sect. 11. t. 21. f. 2. Branches numerous, simple, rising

from a woody base, hairy, as well as the peduncles and lower leaves. Racemes terminal, loose, subsecund. Lower segment of corolla 3 times as long as the calyx. Corollas purple or white. ?

False-Ground-Pine Germander. Fl. June, July. Clt. 1820. Pl. ½ to 1 foot.

20 T. lacinia'tum (Torrey, in ann. lyc. 2. p. 231.) shrubby, glabrous; leaves pinnately 5-parted: upper ones tripartite: segments linear; flowers axillary, solitary, pedicellate; pedicels much shorter than the leaves; calyx subcampanulate, 5-parted, the lower segment bifid or tridentate. ♄. F. Native of North America, among the Rocky Mountains. Branched. Lower leaves sessile; segments blunt. Corollas large for the size of the plant, violaceous? villous outside; lower segment ovate, acute.

Jagged-leaved Germander. Shrub small.

Sect. IV. Pychnóbotrys (from *πυχνος, pychnos*, dense; and *βοτρυς, botrys*, a bunch of grapes; in reference to the whorls being crowded into simple or branched spikes or racemes.) Benth. lab. p. 671. Whorls from 4 to many-flowered, crowded into simple or branched spikes. Calyx inflated, or tubularly campanulate, declinate, with nearly equal teeth, or the upper teeth are broader. Upper segments of corolla very short, broad, truncate, or declinate: lateral ones small, oblong, declinate: the lower one broad and concave. Achenia wrinkled, glabrous.—Villous or glabrous herbs or shrubs, but never hoary.

21 T. abutiloi'des (Lher, stirp. 1. p. 84.) shrubby; branches pubescent; leaves ample, heart-shaped, green on both surfaces, villous; racemes simple, paniculately branched; whorls 2-6-flowered; calyx declinate, hairy, with ovate obtuse teeth; the upper tooth rather the broadest. ♄. G. Native of Madeira. Jacq. schœnbr. 3. t. 358. T. macrophýllum, Lam. dict. 2. p. 692. Leaves like those of *Sìda móllis*, on long petioles, 3-6 inches long, crenated. Corolla 1½ inch long, red. Genitals much exserted.

Mulberry-like Germander. Fl. April, May. Clt. 1777. Shrub 3 to 4 feet.

22 T. Wallichia'num (Benth. in Wall. pl. rar. asiat. 2. p. 19. lab. p. 671.) herbaceous, ascending; leaves elliptic-ovate, acuminated, narrowed a long way at the base, green on both surfaces; racemes simple; whorls many-flowered; calyx declinate, with hardly unequal teeth. ♃. G. Native of Silhet, in the East Indies. Stems simple, rooting at the base, clothed with rufous villi. Leaves 3-4 inches long, hispid from stiff scattered hairs, quite entire at the base. Whorls about 10-flowered. Calyx hispid.

Wallich's Germander. Pl. 1 foot.

23 T. Japónicum (Willd. spec. 3. p. 23.) herbaceous, erect, or ascending, nearly glabrous; leaves ovate-oblong or lanceolate, rounded at the base, green on both surfaces; raceme branched; whorls equal, 6-flowered; floral leaves lanceolate; calyx declinate, tubularly campanulate, glabrous, with lanceolate acute nearly equal teeth. ♃. F. Native of Japan, on the mountains. T. Virgínicum, Thunb. fl. jap. p. 244. Stems glabrous or pubescent on the angles. Leaves on short petioles, deeply and sharply serrated, pale beneath: floral ones bracteaformed, ciliated. Genitals about equal in length to the lower lip.

Japan Germander. Pl. 1 to 2 feet.

Sect. V. Stachy'botrys (from *σταχυς, stachys*, a spike; and *βοτρυς, botrys*, a bunch of grapes; so called in reference to the whorls being disposed in terminal, simple, terete spikes.) Benth. lab. p. 672. Whorls from 6 to many-flowered, disposed in simple, terminal, terete spikes. Calyx campanulate, declinate; the upper teeth, and especially the upper tooth, broadest, rarely almost equal. Upper segments of corolla oblong, declinate: lower one oblong, concave. Achenia reticulately wrinkled, glabrous.—Perennial, ascending, or erect, branched herbs.

24 T. infla'tum (Swartz, prod. p. 88. fl. ind. occ. 2. p. 1003.) herbaceous, erect, pubescent or villous; leaves ovate or ovate-lanceolate, roundly truncate at the base, or subcordate, rather canescent beneath; racemes almost simple; whorls equal, 6-flowered; bracteas lanceolate; calyx declinate, inflated, pubescent, or villous, with a contracted mouth: the upper tooth the broadest. ♃. S. Native of Mexico, Jamaica, Spanish Main, Brazil, Island of Tongatabou, Buenos Ayres, &c. T. villòsum, Forster, prod. no. 232. T. palústre, H. B. et Kunth, nov. gen. amer. 2. p. 306. T. vesicàrium, Mill. ex Steud. nom. p. 830. Habit of *T. Canadénse*; but differs in the leaves being cordate at the base; and particularly in the inflated calyxes, and shorter, usually obtuse teeth. Corolla red or purplish.

Inflated-calyxed Germander. Fl. Aug. Oct. Clt. 1778. Pl. 2 feet.

25 T. Canade'nse (Lin. spec. 789.) herbaceous, erect, canescent, or villous; leaves ovate-lanceolate, rounded at the base, rather canescent beneath; racemes simple; whorls equal, 6-flowered; bracteas subulate; calyx declinate, campanulate, hoary, or sub-villous: the upper teeth the broadest. ♃. H. Native from Canada to Carolina; and of Texas. T. Virgínicum, Lin. spec. p. 789. T. speciòsum, Hill. veg. syst. 14. t. 14. Stems simple, or a little branched. Leaves on short petioles, 2-3 inches long, serrated, hispid and green above, rarely glabrous. Corollas purplish.

Canadian Germander. Fl. Aug. Sept. Clt. 1768. Pl. 1 to 3 feet.

26 T. Hirca'nicum (Lin. spec. p. 789.) herbaceous, erect, pubescent; leaves ovate-cordate, sub-canescent beneath; raceme simple; whorls equal, 6-flowered; bracteas subulate, rather shorter than the calyxes; calyx declinate, bilabiate, having the upper tooth very broad. ♃. H. Native of Eastern Caucasus; also of Iberia, in woods and in hedges. Sims, bot. mag. t. 2013. Scorodònia spicàta, Mœnch, meth. p. 385.—Hall, comm. gœtt. 2. p. 343. t. 13.—Ard. spec. 13. t. 4.? Leaves petiolate, 1-3 inches long, coarsely crenated; floral leaves subulate. Spikes dense. Corolla purple, villous outside.

Hircanean Germander. Fl. Aug. Oct. Clt. 1763. Pl. 1 to 3 feet.

27 T. Arduí'ni (Lin. mant. p. 81.) herbaceous, erect, clothed with soft villi; leaves ovate, rounded at the base, greenish on both surfaces; racemes simple; whorls equal, 6-flowered; bracteas sessile, lanceolate, acuminated, exceeding the calyxes; calyx bilabiate, the upper tooth very broad. ♃. H. Native of the South-east of Europe; as of Dalmatia, Bulgaria, and the Bithynian Olympus, in rocky places. Sibth. et Smith, fl. græc. 6. p. 26. t. 531. T. lamiifòlium, D'Urv. pl. arch. in mem. soc. Lin. par. 1. p. 320. Scutellària Crética, Lin. spec. 836. Scorodónia Arduíni, Rchb. fl. germ. exc. p. 315.—Ard. spec. 1. p. 12. c. 3. Leaves nearly sessile, or the lower ones are on short petioles, 1-2 inches long, serrately crenated. Spikes dense, very villous. Corollas white, villous outside.

Arduini's Germander. Fl. June, Oct. Clt. 1823. Pl. 1½ foot.

28 T. bractea'tum (Desf. fl. atl. 2. p. 7. t. 120.? Benth. lab. p. 673.) herbaceous, ascending, villous; leaves ovate, cordate at the base, green on both surfaces; racemes simple; whorls equal, 6-flowered; bracteas petiolate, ovate, or lanceo-

late, equalling the calyxes; calyx bilabiate, the upper tooth very broad. ♃. F. Native of the North of Africa, on uncultivated hills near Tangiers, Salzmann; Tariffa, Durand; Mascar and Tlemsen, Desfontaines. Herb a little branched. Leaves ½ to 1 inch, bluntly crenated, petiolate. Racemes loose. Corolla pubescent outside.

Bracteate Germander. Pl. ½ foot.

29 T. compa'ctum (Lag. nov. gen. et spec. 17.) suffruticose, procumbent, villous; leaves cuneate-ovate, deeply crenated, hairy; floral leaves petiolate, lanceolate, ciliated; flowers spicate. ♄. F. Native of Spain, in Granada, Clemente. Leaves quite entire at the base, narrowed into the short petioles. Calyx inflated, with a narrow throat, semiquinquefid; upper segments ovate, and shorter than the others.

Compact-flowered Germander. Shrub procumbent.

Sect. VI. Scorodo'nia (from σκορόδον, *scorodon*, garlic; the *T. scorodònia* has an odour somewhat like garlic.) Benth. lab. p. 674. Whorls 2-flowered, secund, disposed in terminal, usually branched racemes. Calyx campanulate, declinate, the upper teeth, but especially the uppermost one, broader. Upper segments of corolla oblong, declinate. Achenia small, nearly globose, wrinkled or smoothish.—Perennial, ascending, or erect, branched herbs.

30 T. tomento'sum (Hęyne, ex Benth. in Wall. pl. rar. asiat. 1. p. 58. lab. p. 674.) herbaceous? erect; branches clothed with tomentose pubescence; leaves ovate, rounded at the base, villous above, and clothed with tomentose pubescence, and canescent beneath, rarely almost glabrous; racemes paniculately much branched; calyx declinate, pilose, bilabiate, the upper tooth the broadest. ♃. H. Native of the Indian peninsula. Herb hard and woody at the base.? Leaves large, 2-4 inches long, and 1½ to 2 inches broad, coarsely and acutely crenated. Panicles dense. Corolla yellowish; tube inclosed.

Var. β, glabriúsculum (Benth. lab. p. 674.) plant nearly glabrous. ♃. G. Native of Ceylon, on Mount Nuera Ellia, Macrae.

Tomentose Germander. Pl. 2 to 4 feet.

31 T. stoloni'ferum (Hamilt. ex Benth. in Wall. pl. asiat. rar. 1 p. 58. and perhaps of Roxb. fl. ind. 3. p. 3. Benth. lab. p. 674.) herbaceous, ascending or erect, glabrous or finely pubescent; leaves ovate, rounded or cuneated at the base, green on both surfaces, not wrinkled; raceme paniculately branched; calyx declinate, ovoid, inflated in the fructiferous state, the upper tooth the broadest; tube of corolla inclosed. ♃. G. Native of Silhet; and the Burman Empire, on Mount Taong-Dong. Root stoloniferous according to Roxb. Leaves on longish petioles, 1-2 inches long, thin, scarcely wrinkled, deeply crenated; the floral leaves in the racemes bractea-formed. Flowers pendulous, yellowish.

Stoloniferous Germander. Pl. 1 to 2 feet.

32 T. vi'scidum (Blum. bijdr. p. 827.) leaves ovate, coarsely and unequally serrated, wrinkled; racemes axillary and terminal, secund, and are, as well as the calyxes, clothed with viscid pubescence; bracteas lanceolate, length of calyxes; stem a little branched. ♃.? S. Native of Java, in humid mountain places near Tugu, and at the foot of Mount Burangrang. Allied to *T. Lusitánicum*.

Viscid Germander. Pl.?

33 T. la'xum (D. Don, prod. fl. nep. p. 109.) herbaceous, procumbent? or scandent? finely pubescent; leaves ovate-lanceolate, acuminated, serrated, green on both surfaces; racemes nearly simple, axillary, and terminal; calyxes opposite, declinate, rather pilose, the upper tooth very broad. ♃. H. Native of Nipaul, Hamilt. Differing from *T. stolonífera* in habit, narrower leaves, and short, loose, few-flowered racemes.

Loose-flowered Germander. Pl. scandent.?

34 T. Roylea'num (Wall. pl. rar. asiat. 1. p. 58. Benth. lab. p. 675.) herbaceous, ascending; branches hispid; leaves on short petioles, lanceolate-ovate, acute, serrated, subcordate at the base, wrinkled, villous, canescent beneath; racemes short, nearly simple; superior floral leaves shorter than the calyxes; calyx declinate, hispid, bilabiate, the upper tooth broader; tube of corolla exserted a little. ♃. F. Native of the North of India, on stony mountains; at Deyra Dhoon, and at Kheeree Pass, Royle; and between Mussooree and Lagrasson, Jacquemont. Allied to *T. quadrifàrium*, but the habit and characters are very distinct. Stems procumbent at the base. Racemes few-flowered. Corollas larger than in *T. quadrifàrium*, purple or white.

Royle's Germander. Pl. 1 to 1½ foot.

35 T. quadrifa'rium (Hamilt. ex D. Don, prod. fl. nep. p. 108.) herbaceous, erect; branches tomentosely villous or hispid; leaves on short petioles, ovate, serrated, cordate at the base, wrinkled, villous, rather canescent beneath; racemes branched; floral leaves broadly ovate, acuminated, exceeding the calyxes; calyx declinate, hispid, sub-bilabiate, the upper tooth the broadest; tube of corolla inclosed. ♃. H. Native of Silhet, Nipaul, and Himalaya, in stony places and by way sides. Stems usually rufescent. Leaves 1-2 inches long: upper ones sessile. Racemes dense. Corolla purple, twice as long as the calyx.

Four-rowed Germander. Pl. 1 to 3 feet.

36 T. argu'tum (R. Br. prod. p. 504.) herbaceous, humble, erect; branches villous; leaves lanceolate-ovate or ovate, crenately serrated, truncate at the base, green on both surfaces, and rather hispid; racemes almost simple; floral leaves lanceolate, exceeding the calyxes; calyx declinate, villous, sub-bilabiate: upper tooth the broadest; tube of corolla inclosed. ♃. F. Native of New Holland. Floral leaves ciliated. Flowers subsecund. Nearly allied to *T. quadrifàrium*, in the more humble stature, longer petioles, and narrower floral leaves.

Sharp-toothed-leaved Germander. Pl. ½ foot.

37 T. Scorodònia (Lin. spec. 789.) herbaceous, erect, hispid, pubescent, or nearly glabrous; leaves ovate, obtuse, crenated, rounded or cordate at the base, green on both surfaces; racemes a little branched: upper ones panicled; floral leaves minute; calyx declinate, rather villous, broadly campanulate, sub-bilabiate, the upper tooth large; tube of corolla exserted. ♃. H. Native throughout Europe, in woody hilly situations, among bushes and under hedges, where the soil is dry and stony; plentiful in Britain, in like situations. Hook. fl. lond. vol. 2. icone. Smith, engl. bot. t. 1543. Curt. lond. 5. t. 40. Fl. dan. t. 485. Scorodònia heterophýlla, Mœnch, meth. p. 384. T. sylvéstre, Lam. fl. fr. 2. p. 412. Scorodònia sylvéstris, Link, handb. p. 458. Scorodònia, Riv. mon. irr. t. 12. Blackw. t. 9.—Sabb. hort. rom. 3. t. 92. Stems simple, or a little branched. Leaves 1-2 inches long, wrinkled, on short petioles. Racemes slender, loose. Corollas pale yellow, downy outside. Stamens violaceous. The smell and taste of this plant are said to resemble hops. It is called *Ambroise* in Jersey; and in that island when cyder fails, they malt their barley at home, and instead of hops use to a very good purpose the *Ambroise* of the hedges. Rutty says, that when the herb is boiled in wort, the beer sooner becomes clear than when hops are used.

Wood-sage Germander. Fl. July. Britain. Pl. 1 to 2 feet.

38 T. pseudoscorodo'nia (Desf. fl. atl. 2. p. 5. t. 119.) suf-

fruticose, erect, hispid, or pubescent; leaves ovate, obtuse, crenated, rounded or cordate at the base, green on both surfaces, or canescent beneath; racemes nearly simple; floral leaves minute; calyx declinate, rather villous, sub-bilabiate, the upper tooth large; tube of corolla inclosed, or a little exserted. ♄. F. Native of the North of Africa, at Mount Lazar, near Mayane, in Algiers; Tangiers and Gibraltar. Scorodònia salviástrum, Link, handb. p. 458.? Scorodònia Fontanesiàna, Ser. bull. bot. p. 315. This differs from *T. Scorodònia*, in the shrubby stem, erect branches, more simple racemes, rather larger calyxes, and shorter corollas. Flowers yellow.

False-Wood-Sage. Fl. July, Aug. Clt. 1818. Shrub 1 to 2 feet.

39 T. Massilie'nse (Lin. spec. 789.) herbaceous or suffruticose, ascending; branches clothed with hoary pubescence; leaves ovate, crenated, rounded or cordate at the base, wrinkled: lower ones canescent beneath; racemes nearly simple or branched, loose, secund; floral leaves shorter than the calyxes; calyx declinate, rather villous, sub-bilabiate: upper tooth the largest; tube of corolla inclosed. ♃. H. Native of Europe, in the region of the Mediterranean; as about Marseilles, Corsica, Sardinia, Candia, &c. Jacq. hort. vind. 1. t. 94. Scorodònia Massiliénsis, Link, handb. p. 458. Scorodònia cordàta, Mœnch, meth. p. 385. T. odoràtum, Lam. fl. fr. 2. p. 413. T. Créticum, Clus. hist. 1. p. 348.—Ger. fl. gallopr. 277. t. 11. Leaves ½ an inch long, rarely 1 inch, much wrinkled. Racemes and flowers like those of the preceding, to which it is very nearly allied. Corollas purple.

Marseilles Germander. Fl. June, July. Clt. 1731. Pl. 1 foot.

40 T. Lusita'nicum (Lam. dict. 2. p. 692.) herbaceous or suffruticose; branches clothed with hoary pubescence; leaves lanceolate, crenated, wrinkled, rather canescent beneath; racemes a little branched, loose, secund; calyx declinate, upper tooth the broadest; tube of corolla inclosed. ♃. H. Native of the south-west of Europe; as of Spain, Portugal, Balearic Islands, in the fissures of rocks. T. Asiáticum, Lin. mant. p. 80. Jacq. hort. vind. 3. t. 41. T. salviástrum, Hoffm. et Link, fl. port. p. 84. t. 2. Mœnch, meth. p. 384. Habit of *T. Massiliénse*, from which it hardly differs, unless in the form of the leaves. Racemes usually more loose. Corollas purplish.

Portugal Germander. Fl. June, Oct. Clt. 1822. Pl. 1 foot.

† *A species belonging to the present section, but is not sufficiently known.*

41 T. salvia'strum (Schreb. unilab. p. 38.) stems erect, pubescent, clammy; leaves oval, crenulated, wrinkled, tomentose beneath, petiolate; racemes secund. ♃.? H. Native of Portugal. Leaves rounded at both ends, clothed with hoary, silky, short villi above, white beneath; floral leaves lanceolate, acute: upper ones minute, quite entire. Corolla villous outside.

Sage-like Germander. Pl. 1 foot.?

Sect. VII. Scórdium (from *σκορδιον*, *scordion*, garlic; the *T. scordium* has a smell approaching to that of garlic.) Benth. lab. p. 678. Whorls 2-6-flowered, distant, axillary. Floral leaves similar to the cauline leaves. Calyx tubular, declinate, gibbous at the base beneath; teeth 5, nearly equal, or the upper one is broadest. Upper segments of corolla oblong, declinate. Achenia very or scarcely wrinkled.—Annual or perennial herbs.

42 T. spinòsum (Lin. spec. 793.) herbaceous; branches spinescent at top; whorls axillary, remote, 1-6-flowered; calyx declinate: upper tooth very broad. ⊙. H. Native of Europe and Africa, in the region of the Mediterranean; as of Portugal, Spain, Sicily, Naples, Syria, and the Canary Islands. Sibth. et Smith, fl. græc. 6. p. 31. t. 539. T. mucronàtum, Lin. spec. 793. Scórdium spinòsum, Cav. icon. rar. 1. p. 19. t. 31. Scorodònia spinòsa, Link, handb. p. 458.—Barrel. icon. p. 319. t. 202.—Mor. hist. 3. p. 423. sect. 11. t. 22. f. 17. Herb procumbent, divaricately branched. Branches stiff, villous, nearly all spinescent. Lower leaves oblong, deeply serrated at apex: upper and rameal ones small, green on both surfaces, but pubescent. Calycine teeth spinescent. Corollas small, white, resupinate from the twisting of the tube.

Spinose Germander. Fl. May, June. Clt. 1640. Pl. procumbent.

43 T. resupina'tum (Desf. fl. atl. 2. p. 4. t. 117.) annual, villous; leaves oblong, narrowed at the base, green on both surfaces; floral leaves similar to the others, but narrower; whorls axillary, 2-flowered; calyx declinate, tubular beneath the gibbosities at the base? with awned teeth: upper tooth the broadest. ⊙. H. Native of the North of Africa, on argillaceous hills, near Mascar, Tangiers, Algiers. Herb divaricately branched. Whorls secund. Corollas yellowish, resupinate from the twisting of the tube.

Resupinate-flowered Germander. Fl. July, Aug. Clt. 1801. Pl. ½ foot.

44 T. Scórdium (Lin. spec. 790.) herbaceous, perennial, villous, rarely glabrous; leaves oblong, toothed, narrowed at the base or rounded, sessile, green on both surfaces; floral leaves similar to the rest; whorls axillary, 2-6-flowered; calyx declinate, campanulate, with short nearly equal teeth. ♃. H. Native of Europe, and the temperate parts of Asia, in bogs and watery places. Chamæ'drys Scórdium, Mœnch, meth. p. 384. T. palústre, Lam. fl. fr. 2. p. 411. T. arenàrium, Gmel. itin. 1. p. 149. t. 26. f. 2.—Riv. mon. t. 11. Scordium legítimum, Park. theatr. 111. f. 1.—Mor. hist. 3. p. 423. sect. 11. t. 22. f. 14. Stems creeping or rooting at the base; floriferous branches erect or ascending, more or less villous. Leaves about an inch long, hairy, soft: floral ones longer than the flowers. Corollas small, purplish. The fresh leaves are bitter, and rather pungent. Powdered, they destroy worms. A decoction of the plant is a good fomentation in gangrenous cases. It has a strong disagreeable smell, somewhat approaching to that of garlic; whence its specific name from *σκορδον*, garlic. It was once in high esteem as an antiseptic and an alexpharmic, to which it certainly had no claim. Cullen says it has a bitter, joined with some volatile parts; but that neither of these qualities is considerable enough to retain it in the present practice.

Garlic or Water Germander. Fl. July, Aug. England. Pl. ½ to 1 foot.

45 T. scordioi'des (Schreb. unilab. p. 37.) herbaceous, perennial, woolly, rarely almost glabrous; leaves ovate-oblong, crenated, cordately stem-clasping at the base, green on both surfaces; floral leaves similar to the rest; whorls axillary, 6-flowered; calyx declinate, campanulate, with short nearly equal teeth. ♃. H. Native of the South of Europe, in bogs, especially near the sea; as of Portugal, Spain, South of France, Italy, Sicily, Sardinia, Candia, &c.; in England, but not common; plentiful in the fens of the Isle of Ely; from Cambridge to Histon; at Westbeach, Cottenham; on the banks of the Isis, near Highbridge, and on Eynsham Common, Oxfordshire, &c. T. Scórdium, Brot. fl. lus. 1. p. 164. Woodv. med. bot. t. 57. Oeder, fl. dan. t. 593. Bieb. fl. cauc. 2. p. 36. Smith, engl. bot. t. 828. and of many other authors, but not of Lin. T. lanuginòsum, Bauh. pin. p. 247. Hoffm. et

Link, fl. port. 1. p. 84. t. 3. Habit of *T. Scórdium*, but usually more villous, and differs particularly in the shorter cordately stem-clasping leaves, which are not narrowed at the base. Corollas small, purplish.

Scordium-like Germander. Fl. July, Aug. England. Pl. ½ to 1 foot.

46 T. Bótrys (Lin. spec. 786.) annual, villous; leaves deeply pinnate, with oblong, quite entire or cut, divaricate segments, green on both surfaces; floral leaves similar to the cauline ones; whorls axillary, 6-flowered; calyx inflately tubular, gibbous beneath at the base? with equal, lanceolate teeth. ☉. H. Native of the South of Europe and North of Africa, in calcareous arid, dry places; as of France, Spain, Germany, Italy, Sicily, Algiers, &c. Mill. fig. 176. t. 264. f. 1. Sabb. hort. rom. 3. t. 91. Chamæ'drys Bótrys, Mœnch, meth. p. 383. Scorodònia Bótrys, Ser. bull. bot. p. 317.—Riv. mon. irr. t. 14.—Mor. hist. sect. 11. t. 22. f. 18. Herb erect, branched, more or less villous. Leaves petiolate: floral ones exceeding the flowers. Corollas small, purplish. The plant has a pleasant aromatic smell; it may, therefore, be successfully used in fevers, rheumatism, gout, &c.

Botrys or Cut-leaved annual Germander. Fl. July, Sept. Clt. 1633. Pl. ½ foot.

Sect. VIII. Chamæ'drys (from χαμαι, *chamai*, on the ground; and δρυς, *drus*, an oak; the plants are dwarf, with leaves resembling that of the oak.) Benth. lab. p. 680. Whorls 2-6-flowered, distinct, disposed in a loose terminal raceme. Calyx tubularly campanulate, declinate, oblique at the base; teeth 5, nearly equal, or the superior ones rather the broadest. Upper segments of corolla oblong, declinate. Achenia reticulately wrinkled.—Small shrubs, erect or procumbent at the base.

47 T. lu'cidum (Lin. spec. 790.) herbaceous, perennial, quite glabrous; leaves petiolate, ovate, deeply toothed, crenated at the base: floral ones smaller, scarcely toothed; whorls 2-6-flowered: the upper ones racemose; calyx declinate, tubularly campanulate, with lanceolate nearly equal teeth. ♃. H. Native in the region of the Mediterranean, in the fissures of rocks; as of Provence, Piedmont, Mount Atlas, and the mountains of Cyrenaica. Med. act. pal. 3. phys. 211. t. 12. f. 7. Chamæ'drys lùcida, Mœnch, meth. p. 383. Magn. hort. 52. icone. This differs from *T. Chamæ'drys*, in the stems being more firm, more erect, and taller; in the cauline leaves being larger and thinner, and in the floral leaves being usually smaller; but especially in the plant being quite glabrous. Calyxes purplish. Corollas reddish purple. Root creeping.

Shining Germander. Fl. June, Sept. Clt. 1730. Pl. 1 to 1½ foot.

48 T. Chamæ'drys (Lin. spec. 790.) perennial or suffruticose, procumbent at the base, pubescent or villous, rarely glabrous; leaves on short petioles, ovate or oblong, deeply crenated, cuneated at the base, green on both surfaces, or canescent beneath; floral leaves smaller, scarcely toothed; whorls 2-6-flowered: the superior ones racemose; calyx declinate, tubularly campanulate, with lanceolate nearly equal teeth. ♃. H. Native throughout Europe and Asia Pontica, on walls, rocks, and by way sides; as of Spain, France, Germany, Italy, Sicily, Turkey, Tauria, and Caucasus; in England, among the ruins of old castles and walls, but by no means plentiful. Smith, engl. bot. t. 680. Woodv. med. bot. suppl. 82. t. 243. Sabb. hort. rom. 2. t. 88. Chamæ'drys officinàlis, Mœnch, meth. p. 383. T. pseudochamæ'drys, Wender. in bot. zeit. 1826. p. 358. T. multiflòrum, Hort. but not of Lin. T. officinàle, Lam. fl. fr. 2. p. 414.—Riv. mon. t. 10. f. 2. Root creeping. Leaves often shining above, glabrous or villous: upper floral ones bracteaformed, quite entire, reddish. Racemes subsecund. Corollas reddish purple, villous outside. This plant has been esteemed chiefly as a mild aperient and corroborant, and was recommended in intermitting fevers, rheumatism, and gout. It has been employed in various forms and combinations, of which the Portland powder is one of the most celebrated instances. Its qualities seem nearly allied to those of horehound, and therefore it may be equally useful in asthmatic affections and coughs.

Germander, Common. Fl. May, Aug. England. Pl. ½ to ¾ foot.

49 T. ca'num (Fisch. et Meyer, ind. sem. hort. petrop. 1835. p. 40.) clothed with hoary tomentum, frutescent at the base, many-stemmed; stems erectish, simple; leaves oblong, toothed, cuneated at the base; floral leaves quite entire; whorls 6-flowered; pedicels length of calyx; calycine teeth equal, acute, mucronulate. ♄.? or ♃.? H. Native of the Transcaucasian province Somchetia. Allied to *T. Chamæ'drys* and *T. quadrátulum*; but differs from the first in being clothed with canescent villi; in the distant loose whorls, and quite entire floral leaves; and from the last in the elongated, almost simple stems, 6-flowered whorls, longer pedicels, villous corollas, &c. Corolla purple.

Hoary Germander. Pl. 1 to 2 feet.?

50 T. multiflòrum (Lin. spec. 788.? Benth. lab. p. 681.) suffruticose, nearly glabrous, or clothed with fine hoary pubescence; leaves on short petioles, ovate, acute, narrowed at the base, acutely toothed at apex, green on both surfaces, or canescent beneath; floral leaves smaller; whorls 2-6-flowered, distant, racemose; calyx declinate, tubularly campanulate, with lanceolate nearly equal teeth. ♄. F. Native of Spain.—Bocc. mus. t. 117.? Intermediate between *T. Chamæ'drys* and *T. Màrum*. Habit of the first, but more branched. Leaves 2-4 inches long. Flowers like those of *T. Chamæ'drys*, but one half smaller.

Many-flowered Germander. Fl. July, Sept. Clt. 1731. Shrub 1 foot.

51 T. Ma'rum (Lin. spec. p. 788.) shrubby, hoary; leaves small, ovate, quite entire, hoary beneath: floral ones smaller; whorls 2-4-flowered, racemose; calyx declinate, hairy, tubularly campanulate, with short nearly equal teeth. ♄. F. Native of the region of the Mediterranean; as of Spain, Corsica, Italy, &c. Woodv. med. bot. 153. t. 56.—Blackw. t. 47.—Riv. mon. irr. t. 23.—Sabb. hort. rom. 3. t. 90. Chamæ'drys Màrum, Mœnch, meth. p. 383. T. marítimum, Lam. fl. fr. 2. p. 414. —A small branched shrub, with the habit of *Thymus vulgàris*. Leaves small, petiolate, rarely obscurely crenated, canescent above, and tomentose beneath. Whorls subsecund, approximate into spikes. Corollas purplish, villous outside. The leaves and younger branches of *Màrum*, when recent, on being rubbed between the fingers, emit a volatile aromatic smell, which readily excites sneezing; but to the taste they are bitterish, accompanied with a sensation of heat and acrimony. Judging from the sensible qualities of this plant, it may be supposed to possess very active powers; and on this consideration it is strongly recommended by Wedelius as an important remedy in many diseases requiring medicines of a stimulant, aromatic, and deobstruent quality: his opinion seems in some measure to have been since verified by actual experience of its efficacy. At present, however, *Màrum* is chiefly used as an errhine, and is an ingredient in pulvis asari compositus. Cats are very fond of this plant, and often destroy it.

Marum Germander, or Cat-Thyme. Fl. July, Sept. Clt. 1640. Shrub 1 to 3 feet.

52 T. microphy'llum (Desf. cor. pl. Tourn. in ann. mus. 10. p. 300. t. 22.) suffruticose, humble, divaricately much branched; leaves small, ovate, crenated, glabrous above and

hoary beneath; whorls few, about 2-flowered; calyx declinate, tubularly campanulate, with lanceolate nearly equal teeth. ♄. F. Native of Candia, among rocks. T. quadrátulum, Smith, et Sibth. fl. græc. 6. p. 25. t. 530. but hardly of Schreb. T. divaricàtum, Sieb. pl. exs.? Corollas red. Habit of *T. flàvum*.

Var. β; branches short, canescent; leaves smaller; flowers smaller and fewer.

Small-leaved Germander. Shrub humble.

53 T. fla'vum (Lin. spec. 791.) shrubby; branches tomentosely pubescent; leaves broad-ovate, crenated, truncate or cuneated at the base, green on both surfaces, or canescent beneath; superior floral leaves quite entire, acute; whorls 2-6-flowered, racemose; calyx declinate, tubularly campanulate, with lanceolate nearly equal teeth. ♄. F. Native of Europe and Africa, in the region of the Mediterranean; as of Spain, Eastern Pyrenees, South of France, Corsica, Sardinia, Italy, Sicily, Dalmatia, Grecian Islands, Algiers, and Mount Atlas. Sibth. et Smith, fl. græc. 6. p. 27. t. 533. Chamæ'drys flàva, Mœnch, meth. p. 383.—Sabb. hort. rom. 3. t. 89.—Jungh. icon. cent. 1. f. 5.—Besl. eyst. 7. p. 11. f. 1.—Mor. hist. 3. p. 421. sect. 11. t. 22. f. 1.? Shrub much branched. Leaves thickish, variable in size, 3-10 lines long. Calyx coloured at top. Corolla yellowish.

Var. β, *purpùreum* (Benth. lab. p. 682.) flowers reddish purple; leaves usually canescent beneath. ♄. F. Native of Spain, Mount Parnassus, Syria, Cyprus, &c. T. règium, Hort. and probably of Schreb. T. lùcidum, Sibth. et Smith, fl. græc. 6. p. 27. t. 532. but not of Lin. T. divaricàtum, Sieb. pl. exs.?

Yellow-flowered Germander. Fl. July, Sept. Clt. 1640. Shrub 1 to 2 feet.

54 T. ramosi'ssimum (Desf. fl. atl. 2. p. 4. t. 118.) shrubby, much branched, hoary; branchlets filiform; leaves obovate, crenated; flowers solitary, axillary, and terminal; calyx slender, elongated, with nearly equal acute teeth. ♄. F. Native of Barbary, in the fissures of rocks near Cafsa. Leaves size of those of *T. Màrum*. Corollas small, violaceous. The whole plant exhales a very sweet scent.

Much-branched Germander. Shrub.

55 T. ni'tidum (Schreb. unilab. p. 35.) shrubby; stems bifariously bearded; leaves on short petioles, ovate, crenated, glabrous, shining, but bearded on the middle nerve at the base; floral leaves quite entire; whorls dimidiate, racemose. ♄. F. Native of Mauritania. Leaves entire at the base, with reflexed cut margins; floral leaves almost lanceolate, more pilose than in *T. flàvum*. Corollas purple. Perhaps a variety of *T. flàvum*.

Shining-leaved Germander. Shrub 1 to 2 feet.?

56 T. re'gium (Schreb. unilab. p. 35.) shrubby, diffuse; branches pubescent; leaves on short petioles, ovate, toothed in front: floral ones quite entire, sessile; whorls racemose. ♄. F. Native of Spain and Italy. Leaves deep green, with reflexed edges, shining, beset with short hairs, which are only seen under a lens, hoary beneath: floral ones equalling the calyxes. Whorls contiguous. Corollas purple. Probably a variety of *T. Chamæ'drys*.

Royal Germander. Fl. May, Oct. Clt. 1699. Shrub 1 to 1½ foot.

57 T. myrtifòlium (Poir. dict. suppl. 2. p. 766.) shrubby, erect, pubescent; leaves ovate, a little toothed, villous beneath, and cinereous; flowers spicate; calyx villous, with 5 acute, nearly equal teeth. ♄. F. Native of the Levant. Said to be nearly allied to *T. microphýllum*. Leaves petiolate, 3-5 lines long. Middle segment of lower lip of corolla dilated, roundish, crenulated. Perhaps a variety of *T. Màrum*.

Myrtle-leaved Germander. Shrub.

58 T. quadra'tulum (Schreb. unilab. p. 36.) perennial; stems and under sides of leaves clothed with white tomentum; leaves ovate-rhomboid, toothed, shining above; whorls racemose. ♃. H. Native of Spain. Stems erect, branched at the base. Leaves similar to those of *T. Màrum*, but a little broader. Racemes short. Calyx pubescent. Corolla purple. This appears to be nearest allied to *T. multiflòrum* and *T. Chamæ'drys*, ex Benth.

Small-square Germander. Pl. ½ foot.

59 T. subspinòsum (Pourr. ex Willd. enum. p. 596.) perennial; leaves quite entire, ovate, acute, petiolate, pubescent, with revolute margins, tomentose beneath; flowers racemose; branches spinescent. ♄. F. Native of the Balearic Islands. Very like *T. Màrum*, ex Willd.

Subspinose Germander. Fl. June, Aug. Clt. 1816. Shrub 1 to 1½ foot.

Sect. IX. Pòlium (from πολιος, *polios*, white; the *T. Polium* and some other species are white from tomentum.) Benth. lab. p. 684. Whorls few, condensed into terminal subglobose heads. Calyx tubularly campanulate, subdeclinate, oblique at the base, with 5 nearly equal teeth; the superior teeth hardly broader. Upper segments of corolla oblong, declinate: lateral ones small. Achenia much wrinkled.—Perennial herbs or under-shrubs. Stems generally procumbent at the base, much branched; floriferous branches ascending.

60 T. Pyrena'icum (Lin. spec. p. 791.) creeping, villous; leaves roundish, crenated, green on both surfaces; whorls few, crowded into a terminal head; calyx tubularly campanulate, declinate, with nearly equal teeth. ♃. H. Native of the South of Europe; as of Catalonia, Arragon, Pyrenees, and Auvergne. Pòlium Pyrenàicum, Mill. dict. no. 6. T. réptans, Pourr. act. toul. 3. p. 330. T. rotundifòlium, Schreb. unilab. p. 42.?—Bocc. mus. 2. t. 61.—Barrel. icon. t. 1086. Stems rooting at the base, creeping under the earth. Sterile branches prostrate: floriferous ones ascending. Leaves on short petioles. Heads solitary, terminal. Corollas pale yellow, the lower segment sometimes purplish.

Pyrenean Germander. Fl. June, Aug. Clt. 1731. Pl. procumbent.

61 T. buxifòlium (Schreb. unilab. p. 42.) suffruticose; leaves obovate-cuneated, with subrevolute crenated margins, green and nearly glabrous above, and canescent beneath; whorls crowded into a terminal head; calyx tubularly campanulate, declinate, with nearly equal teeth. ♄. F. Native of Spain, in the fissures of rocks. T. saxátile, Cav. icon. rar. 2. p. 19. t. 121. f. 1. Stems procumbent at the base, ascending, often much branched, pilosely pubescent. Leaves ½ an inch long, numerous, narrowed into short petioles at the base. Heads, calyxes, and flowers of *T. Pyrenàicum*. Corollas whitish, and often reddish.

Box-leaved Germander. Shrub procumbent.

62 T. cuneifòlium (Sibth. et Smith, fl. græc. 6. p. 30. t. 537.) procumbent, clothed with dense tomentose wool; leaves roundish, crenated, cuneated at the base, thick, densely tomentose on both surfaces; whorls few, condensed into a terminal head; calyx tubular, tomentose, with short nearly equal teeth. ♃. H. Native of Candia, on the Sphaciotic mountains. This differs from the two preceding species, at first sight, in the whole plant being canescent or yellowish from dense tomentum; but the habit is similar. Leaves scarcely ½ an inch long, thick. Corolla white, yellowish at base.

Wedge-leaved Germander. Pl. procumbent.

63 T. alpe'stre (Sibth. et Smith, fl. græc. 6. p. 31. t. 538.) suffruticose, humble, divaricately much branched, clothed with hoary or yellowish villi; leaves small, obovate-cuneated, round-

ish, crenated, with revolute edges ; whorls very few, subcapitate at the tops of the branches ; calyx declinate, ovate-tubular, pilose, with nearly equal short obtuse teeth. ♄. H. Native of Candia, on the Sphaciotic Mountains, and near Mirabello. T. saxátile, Sieb. pl. cret. exs. but not of Cav. Habit of *T. thymifòlium*, but allied to *T. Pòlium* in character. Leaves distant, 2-3 lines long, greenish on both surfaces. Heads terminal, size of peas, composed of 4-6 flowers. Corollas small, white.

Alp Germander. Shrub humble.

64 T. Pòlium (Lin. spec. p. 792.) suffruticose, canescent from tomentum, woolly, rarely pilosely hispid; leaves cuneated, oblong or linear, with revolute edges ; whorls few, condensed into globose or oblong terminal heads ; calyx tubularly campanulate, with nearly equal teeth. ♄. F. Native of Europe and Africa, in the region of the Mediterranean ; as well as of Tauria and Caucasus. Stems much branched ; branches procumbent or ascending, rarely erect. Leaves sessile, variable in form. Whorls 2-6-flowered. Corollas small, white, yellowish, or purple.

Var. α, flavéscens (Benth. lab. p. 685.) leaves broader ; heads very hairy ; tops of branches yellowish. ♄. F. In the western region common. T. aúreum, Schreb. unilab. p. 43. Cav. icon. 2. p. 16. t. 117. T. flávicans, Lam. dict. 2. p. 700. T. tomentòsum, Vill. fl. dauph. 2. p. 352. Pòlium aúreum, Mœnch, meth. p. 385. Pòlium lùteum, Mill. dict. no. 2.—Barrel. icon. t. 1082.—Blackw. 456. Flowers of a deep yellow colour. The yellow Poly or Mountain Germander.

Var. β, hirsùtum (Benth. lab. 685.) leaves oblong, scarcely canescent, and are, as well as the heads, pilose. ♄. F. Native of Egypt. T. Ægyptìacum, Pers. ench. 2. p. 112.

Var. γ, vulgàre, (Benth. lab. p. 685.) leaves oblong, and are, as well as the heads, clothed with tomentose wool ; corolla white. ♄. F. Common throughout the region of all the varieties. T. Pòlium, Lin. and other authors. Sibth. et Smith, fl. græc. 6. p. 29. t. 535. T. pseudohyssòpus, Schreb. unilab. p. 45. T. Teùthrion, Schreb. unilab. p. 46. T. Bèlion, Schreb. unilab. p. 47. T. Lusitánicum, Schreb. unilab. p. 47.? but not of Lam. T. álbum, Poir. dict. suppl. 2. p. 770. T. trifoliàtum, Vahl. symb. 1. p. 40. T. subtriphýllum, Lag. gen. et spec. nov. p. 17. Pòlium álbum, Mill. dict. no. 4. Pòlium latifòlium, Mill. dict. no. 7. Pòlium Smyrnèum, Mill. dict. no. 15. Pòlium angustifòlium, Mill. dict. no. 3. Pòlium ramòsum, Mill, dict. no. 2. Pòlium diffùsum, Mill. dict. no. 13.—Lob. icon. 486.—Barrell, icon. 1074.—Column. ecphr. 1. p. 59. t. 67. White Poly or Mountain Germander.

Var. δ, gnaphalòdes (Benth. lab. p. 686.) humble ; leaves and heads densely woolly. ♄. F. Native of Spain. T. gnaphalòdes. Vahl. symb. 1. p. 41. Lher. stirp. T. lanígerum, Lag. gen. et spec. nov. p. 17. ?

Var. ε, purpuráscens (Benth. lab. p. 686.) leaves oblong, and are, as well as the heads, clothed with tomentose wool ; corollas reddish purple. ♄. F. On the sea-shore about Marseilles, and on the shores of the Adriatic sea. T. Achæmènis, Schreb. unilab. p. 44. Pòlium integérrimum, Mill. dict. no. 14.—Mor. hist. 3. sect. 11. t. 2. f. 12. The purple Poly or Mountain Germander.

Var. ζ, angustifòlium (Benth. lab. p. 686.) leaves linear or linear-oblong, and are, as well as the heads, which are small, clothed with hoary, rarely yellowish, tomentum ; corollas red. ♄. F. Native throughout the whole region of the species. T. capitàtum, Lin. spec. 792. Cav. icon. 2. p. 17. t. 119. Sibth. et Smith, fl. græc. 6. p. 30. t. 536. T. flavéscens, Schreb. unilab. p. 44. T. Valentìnum, Schreb. unilab. p. 46. T. pycnophýllum, Schreb. unilab. p. 48. ? T. lavandulàtum, Pourr. T. corymbíferum, Desf. fl. atl. 2. p. 8. ? T. cylíndricum, Lam. ex Steud. nom. p. 829. Pòlium capitàtum, Mill. dict. no. 5. Pòlium serràtum, Mill. dict. no. 12. Pòlium spicàtum, Mill. dict. no. 18. Pòlium fruticòsum, Mill. dict. no. 11. Pòlium eréctum, Mill. dict. no. 8.—Barrel. icon. t. 1079 and 1078. Pòlium Monspessulànum, Bauh. hist. 3. p. 299.

Poly Mountain. Fl. July, Sept. Clt. var. α, 1731. ; γ, 1562. ; ε, 1816. ; ζ, 1731. Shrub ½ to 1 foot.

65 T. amplexicau'le (Benth. lab. p. 687.) suffruticose ; branches clothed with white wool ; leaves ovate-oblong or oblong, crenated, usually cordately stem clasping at the base, with revolute margins, at first tomentose above, but at length nearly glabrous, and clothed with dense white wool beneath ; whorls few, globosely capitate ; calyx declinate, tubularly campanulate, with nearly equal broad acute teeth ; tube of corolla exserted. ♄. F. Native of Spain. Habit and leaves of some of the varieties of *T. Pòlium*, but stiffer. Flowers similar to those of *T. montànum*, and *T. Pyrenàicum*, but much larger than in *T. Pòlium*. It differs from *T. thymifòlium* in the taller stature, form of leaves, and larger heads.

Stem-clasping-leaved Germander. Shrub.

66 T. thymifòlium (Schreb. unilab. p. 50. Benth. lab. p. 687.) suffruticose, humble, much branched ; branchlets hoary, ascending ; leaves oblong or obovate, hoary on both surfaces or only beneath ; whorls about 2-flowered, very few, subcapitate at the tops of the branches ; calyx declinate, tubularly campanulàte, with nearly equal broad acute teeth ; tube of corolla subexserted. ♄. F. Native of Spain. Habit of *T. alpéstre*, tufted. Leaves short, crowded, less wrinkled and less tomentose than in *T. Pòlium*, but more so than in *T. montànum*. Flowers 2-6 on each branch, hardly capitate. Calyx one half smaller than in *T. montànum*, and the corollas are reddish.

Thyme-leaved Poly or Germander. Fl. June, Oct. Clt. 1816. Shrub ¼ to ½ foot, tufted.

67 T. monta'num (Lin. spec. 791.) suffruticose, prostrate ; branches hoary or pubescent ; leaves oblong-linear, quite entire, hoary on both surfaces or only beneath, flat or the margins are revolute ; whorls few, condensed into a terminal head ; calyx subdeclinate, tubularly campanulate, glabrous or hoary, with nearly equal lanceolate subulately acuminated teeth. ♄. F. Native of the southern parts of Europe, on hills and mountains, in calcareous places ; as of Spain, South of France, South of Germany, Italy, Sicily, Grecian Mountains ; and of Volhynia and Tauria. Sibth. et Smith, fl. græc. 6. p. 28. t. 534. T. supìnum, Lin. spec. 791. Jacq. austr. 5. p. 8. t. 417. Pòlium montànum, Mill. dict. no. 1.—Lob. icon. 488. Stem much branched. Leaves smoothish above. Heads larger than in *T. Pòlium*, each usually composed of 2-4, 4-6-flowered whorls. Corollas cream-coloured or white.

Mountain Poly or Mountain Germander. Fl. June, Oct. Clt. 1710. Shrub prostrate.

68 T. pu'milum (Lin. spec. p. 792. ? Benth. lab. p. 687.) suffruticose, procumbent or erect ; branches hoary ; leaves narrow-linear, quite entire, hoary beneath, with revolute margins ; whorls few, condensed into terminal heads ; calyx subdeclinate, tubularly campanulate, with nearly equal lanceolate subulately acuminated teeth. ♄. F. Native of Spain. T. Libanòtis, Schreb. unilab. p. 38. ? Cav. icon. 2. p. 17. t. 118.—Barrel. icon. t. 1091 and 1093. ? This hardly differs from *T. montànum*, except in the more erect stems, narrower leaves, and purplish flowers.

Dwarf Mountain Poly. Fl. July, Aug. Clt. 1816. Shrub procumbent.

69 T. verticilla'tum (Cav. icon. 2. p. 77. t. 198.) stems erect ; leaves linear, verticillate, whitish, glaucous, sessile, with revolute margins ; heads terminal, leafy at the base ; calyx turbi-

nate, tomentose, 5 crenate. 4. F. Native of Spain, among the mountains. Roots woody. Leaves 4-6 in a whorl. Whorls approximate. Corollas yellowish.

Whorled-leaved Poly or Germander. Pl. ½ to 1 foot.

† *Species belonging to sect.* IX. *Pòlium, but are not sufficiently known.*

70 T. angusti'ssimum (Schreb. unilab. p. 39.) shrubby, erect; leaves linear, quite entire, nearly naked; heads of flowers terminal, pilose; calyx pilose, with a bearded mouth. ħ. F. Native of Spain.—Barrel. icon. t. 1080. Stems filiform, clothed with dense white tomentum. Leaves narrowed, with revolute edges. Heads solitary, usually composed of 3 whorls, small. Corolla white, hardly longer than the calyx. Perhaps a variety of *T. Pòlium*.

Very narrow-leaved Poly or Germander. Fl. June, July. Clt. 1818. Shrub ¼ foot.

71 T. cæle'ste (Schreb. unilab. p. 39.) suffruticose, erect; hoary from tomentum; leaves linear, quite entire; heads terminal, tomentose: calyx green, but loosely tomentose, with triangular teeth. ħ. F. Native of Spain, among the mountains in Valentia.—Barrel. icon. t. 1081. Heads solitary or by threes. Corollas white, smaller than those of the preceding. Perhaps a variety of *T. Pòlium*.

Heavenly Poly or Germander. Shrub ½ to 1 foot.?

72 T. cymòsum (Pers. ench. 2. p. 112.) flowers paniculately cymose; leaves linear, toothed; stem woolly, suffruticose. ħ. F. Native of Spain, near Aranjuez. Perhaps a variety of *T. Pòlium*.

Cymose-flowered Poly or Germander. Shrub.

73 T. marjora'na (Pers. l. c.) spikes ovate; peduncles subcymose; leaves linear, with revolute edges; stem almost filiform. ħ. F. Native of Spain. Perhaps a variety of *T. Pòlium*.

Marjoram Poly or Germander. Shrub.

† † *Doubtful species.*

74 T. sessilifòlium (Clarke's trav. 4. p. 555.) leaves hairy, sessile, obtuse: lower ones lanceolate, quite entire: upper ones and bracteas crenated, elliptic-lanceolate; flowers axillary, solitary; peduncles very short. ħ. F. Native of Turkey, between Constantinople and Rutschuk, Clarke. Stems erect, woolly. Leaves more than an inch long. Flowers an inch long, with a bearded throat.

Sessile-leaved Germander. Pl.?

75 T. undula'tum (Lour. coch. p. 362.) leaves oblong, undulated, a little crenated; corymbs terminal. ħ. G. Native of Cochinchina, in hedges. Stem shrubby, erect, branched. Leaves obtuse, glabrous, petiolate. Flowers pale, disposed in terminal racemose corymbs. Corolla 5-cleft, with a short tube and obtuse segments, the superior segments divaricate. Stamens very long, ascending. Achenia naked.

Undulated-leaved Germander. Shrub 5 feet.

76 T. the'a (Lour. coch. p. 363.) leaves ovate-lanceolate; stem procumbent; peduncles axillary, 3-flowered. ħ. G. Native of Cochinchina, among bushes. Stem shrubby, 8 feet, procumbent, glabrous, unarmed, terete, branched. Leaves ovate-oblong, acute, quite entire, petiolate, glabrous. Flowers white. Stamens longer than the corolla. Stigma bipartite, acute.

Tea Germander. Shrub procumbent.

77 T. rotundifòlium (Poir. dict. suppl. 2. p. 767.) leaves ovate-rounded, crenated, glabrous, on long petioles; spike terminal, few-flowered; peduncles very long; stem simple, tetragonal. 4. F. Native of Buenos Ayres, Commerson. T. Commersònii, Spreng, syst. 2. p. 710. Leaves distant, glabrous, petiolate. Peduncle slender, terminal, bearing a short spike of flowers at top. Calyx pubescent, acutely 5-toothed. Lip of corolla blue.

Round-leaved Germander. Pl. 1 foot.

78 T. fasciula'tum (Poir. dict. suppl. 2. p. 767.) stem shrubby; leaves subfasciculate, narrow-linear, glabrous, with a subtubercular tooth on one or other side; spike short, terminal. ħ. F. Native country unknown. Stem brown, glabrous, terete. Leaves sessile, 6-8 lines long. Corollas yellow.

Fascicled-leaved Germander. Shrub.

Cult. The greater number of the species grow best in a dry soil and shady situation; but *T. Scórdium* and *T. lanuginòsum* require a moist boggy soil. All the perennial herbaceous kinds are readily propagated by division and by seeds. Most of the shrubby species being rather tender require the protection of a frame or greenhouse in winter; and they are readily increased by cuttings of young wood. The seeds of annual kinds only require to be sown in the open border in spring, where they are intended to remain.

CIX. A'JUGA (said to be from *a* priv. and *ζυγος, zugos*, a yoke; in reference to the calyx being equal, not bilabiate; or either from *Abigo*, or from *a* priv. and Jugo, to yoke; both from a supposed power of procuring abortion, which, however, the plants do not possess.) Benth. lab. p. 690. A'juga and Teùcrium species, Lin. and other authors.—Phleboánthe, Tauch. —Bùgula and Chamæ'pithys, Tourn.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx ovate or globosely campanulate, nearly equal, 5-cleft or toothed. Corolla with an inclosed or exserted tube, straight or somewhat spirally twisted, usually furnished with a pilose ring inside; limb bilabiate; upper lip short, but generally very short, emarginate: lower lip elongated, spreading, trifid, having the lateral segments oblong, and the middle segment broader, emarginate, or bifid. Stamens 4, ascending, usually exserted from the upper lip, didynamous, lower ones the longest; anthers 2-celled: cells diverging or divaricate, at length confluent. Style about equally bifid at top; stigmas minute. Achenia reticulately wrinkled.—Annual or perennial herbs, usually procumbent or ascending, sometimes stoloniferous. Whorls 2 or many-flowered, dense, sometimes all axillary, when the floral leaves conform to the cauline ones; sometimes the superior whorls are approximate into spikes, then the floral leaves are small, and of a different form from the cauline ones.

Sect. I. Bu'gula (the Latin name of *Comfrey.*) Benth. lab. p. 692. Whorls 6, but generally many-flowered. Corollas usually blue, rose-coloured, white, purplish, but never yellow.

1 A. loba'ta (D. Don, prod. fl. nep. p. 108.) stolons creeping; leaves on long petioles, roundish, coarsely crenated or lobed, nearly glabrous. 4. F. Native of Nipaul and Gosainsthan. Herb nearly glabrous or sparingly pilose. Leaves 1-2 inches long, usually deeply cordate at the base, but sometimes truncate and cuneated. Lower whorls 2-flowered, upper ones approximate. Calyx 4-5 cleft.

Lobed-leaved Bugle. Pl. ½ foot.?

2 A. re'ptans (Lin. spec. 785.) stolons creeping; leaves ovate or obovate, quite entire or sinuated, and are, as well as the stems, nearly glabrous. 4. H. Native of Europe and Middle Asia, in grassy humid places; plentiful in Britain. Hook. fl. lond. vol. 2. icone. Smith, engl. bot. 7. t. 489. Bùgula réptans, Mill. dict. no. 1. Mœnch, meth. p. 382. Búgula, Riv. mon. irr. t. 75. f. 1.—Blackw. t. 64. f. 1. Floriferous branches

erect, glabrous, or pubescent. Radical leaves petiolate; cauline ones nearly sessile. Lower whorls remote; upper ones spicate, 6-20-flowered. Corollas varying from blue to rose-colour and white. This was formerly recommended as a vulnerary herb, but it is now altogether neglected.

Creeping or Common Bugle. Fl. May, July. Britain. Pl. ½ foot.

3 A. orienta'lis (Lin. spec. 785.) plant without stolons ascending, pilosely woolly; leaves ovate, coarsely and sinuately toothed, narrowed at the base: floral ones sessile, broad-ovate, deeply lobed or toothed, exceeding the flowers; whorls distant, or the upper ones are approximate; tube of corolla twisted, exserted, naked inside; limb of corolla resupinate. ♃. H. Native of Europe and Asia, in the region of the Mediterranean, on dry hills and pastures; as of Spain, Sicily, Italy, Grecian Islands, Syria, Tauria, and Caucasus, &c. Bùgula oblìqua, Mœnch, meth. p. 382. Bùgula orientàlis, Mill. dict. no. 5.—Dill. elth. t. 53. f. 61. Radical leaves petiolate, large. Calyx deeply 5-cleft, with narrow, very pilose segments. Corollas blue.

Eastern Bugle. Fl. May, June. Clt. 1732. Pl. 1 to 1½ foot.

4 A. pyramida'lis (Lin. spec. p. 785.) plant without stolons, pilosely hispid or glabrous, erect; cauline leaves approximate, scarcely petiolate, obovate: floral leaves broad-ovate, clasping the flowers, tetragonally pyramidate, the upper ones often coloured, all quite entire or obscurely sinuated; upper whorls or all spicate; tube of corolla straight, exserted, annulate inside. ♃. H. Native of Europe, in shady mountain-places; and of Eastern Caucasus; as of Lapland, Sweden, Pyrenees, Cevennes, Provence, Switzerland, Piedmont, Greece, &c. in several parts of the North of Scotland. Smith, engl. bot. t. 1270. Œd. fl. dan. 185. Bùgula pyramidàlis, Mill. dict. no. 2. Teùcrium pyramidàle, Crantz, stirp. austr. Radical leaves 1½ to 2 inches long, gradually becoming smaller as they ascend the stem. Whorls many-flowered. Calyx 5-cleft. Corollas blue or purple.

Pyramidal Bugle. Fl. May, June. Scotland. Pl. ½ foot.

5 A. cilia'ta (Bunge, enum. pl. chin. bor. p. 51.) plant without stolons; stems erect, elongated, glabrous; cauline leaves remote, ovate, coarsely toothed, membranaceous, almost glabrous, with ciliated margins: lower floral leaves similar to the cauline ones: upper ones ovate, acute, quite entire, coloured a little, ciliated; whorls spicate, or the lower ones are remote; tube of corolla much exserted. ♃. H. Native of the North of China, in humid shady places at the rivulet called Ssi-jui-ssy, Bunge. Stems a little branched. Corollas blue. Bracteas purplish. Very nearly allied to *A. Genevénsis*.

Ciliated Bugle. Pl. 1½ foot.

6 A. Geneve'nsis (Lin. spec. p. 785.) plant without stolons; stem erect, pilose; cauline leaves oblong-elliptic or obovate, narrowed at the base: lower ones petiolate: floral ones ovate or cuneated: superior ones scarcely equalling the flowers or shorter, all usually coarsely toothed, membranaceous, green on both surfaces, and beset with scattered hairs; upper whorls spicate: lower ones distant; tube of corolla much exserted. ♃. H. Native of Europe and Asiatic Russia, on grassy mountains; as of Sweden, France, Germany, Italy, Tauria, and Caucasus, North of China, &c.; North of England, among the mountains. A. alpìna, Lin. mant. p. 80. Smith, engl. bot. t. 477. A. foliòsa, Tratt. arab. 1. p. 25, with a figure. ? A. rugòsa, Host, fl. austr. 2. p. 120. A. multiflòra, Bunge, enum. pl. chin. bor. p. 51. A. pyramidàlis, Bieb. fl. cauc. 2. p. 32. Lasch. in Linnæa. 5. p. 443. and of many other authors, but not of Lin. A. alpéstris, Dumort, florul. belg. p. 42.? Teùcrum Genevénsis, Crantz, stirp. austr. Bùgula alpìna, All. ped. 1. p. 45. Bùgula decúmbens, Mill. dict. no. 2. Bùgula Genevénsis, Mill. dict. no. 4. Bùgula montàna, Riv. mon. irr. t. 140. f. 2. Plant very variable in stature, form of leaves, and hairiness, as sometimes hardly to be distinguished from *A. pyramidàlis*, and sometimes it is also allied to *A. austràlis* and *A. remòta*. Leaves more or less pilose, with a few teeth or lobes; upper floral ones coloured. Calyx 5-cleft, hairy. Corollas varying from blue to rose-colour and white; tube annulate inside.

FIG. 89.

Geneva Bugle. Fl. May, July. England. Pl. ½ to 1 foot.

7 A. remòta (Benth. in Wall. pl. rar. asiat. 1. p. 59. lab. p. 694.) plant without stolons, branched at the base, procumbent; floriferous branches ascending, villous; leaves oblong-elliptic or ovate, narrowed at the base: floral leaves ovate-cuneated, exceeding the flowers, all thickish and somewhat coriaceous, villous, coarsely few-toothed; whorls remote or the upper ones are approximate; tube of corolla exserted; middle segment of lower lip scarcely emarginate. ♃. H. Native of India, in the provinces of Oude, Hurdwar, and Kamaon, Wall; Himalaya at Nag-kanda, Royle; Deyra Dhoun, Royle and Jacquemont; Berali and Mirpoor, Jacquemont. This differs from *A. Genevénsis* in the characters given. Whorls many-flowered. Calyx inflately globose after inflorescence. Corollas varying from violaceous or blue to rose colour and white, more slender and smaller than in *A. Genevénsis*.

Remote Bugle. Pl. ascending or procumbent.

8 A. O'phrydis (Burch. cat. geogr. pl. afr. austr. no. 3700.) plant without stolons, erect, pilosely hispid; leaves obovate, narrowed at the base: floral leaves ovate, equalling the flowers or scarcely exceeding them, all thickish and somewhat coriaceous, glabrous or villous, coarsely few-toothed; lower whorls remote: upper ones spicate; tube of corolla equalling the calyx; middle lobe of lower lip bifid. ♃. G. Native of the Cape of Good Hope, Masson, Burchell. Allied to *A. Genevénsis* and *A. remòta*, but differs from both in the stems being erect and hispid, in the floral leaves being broad, and in the flowers being twice the size, and in the form of the corolla. Corollas blue; tube annulate inside.

Ophrys-like Bugle. Pl. ½ to ¾ foot.

9 A. austra'lis (R. Br. prod. p. 503.) plant without stolons; stems ascending or erect, pubescent, rather villous or glabrous; leaves narrow-oblong, narrowed at the base, quite entire or sinuated, thickish, rather villous: floral leaves similar to the cauline leaves, exceeding the flowers; lower whorls remote: upper ones subspicate; tube of corolla exserted; middle segment of lower lip emarginately bifid. ♃. F. Native of New Holland, in grassy places, at Port Jackson, and in the interior, &c. Very like *A. Genevénsis*, but differs in the leaves being narrower, longer, and more entire, especially the floral leaves. Stem, leaves, and calyxes pubescent, with short adpressed hairs. Teeth of calyx short. Corolla blue; tube annulate inside.

Southern Bugle. Fl. May, July. Clt. 1822. Pl. ½ foot.

10 A. Dieme'nica (Benth. lab. p. 695.) plant humble, without stolons, ascending; leaves narrow-oblong, narrowed at the base, petiolate, or the superior ones are sessile, quite entire or sinuately toothed, thickish: floral leaves similar to the cauline ones, much longer than the flowers; whorls all remote; tube of corolla equalling the calyx: middle segment of lower lip shortly emarginate. ♃. F. Native of Van Diemen's Land, Gunn and Lawrence. Plant more humble, more villous, and less erect than *A. austràlis*. Leaves, especially the floral ones, usually toothed. Corollas blue; ? tube annulate inside.

Van Diemen's Land Bugle. Pl. ¼ foot.

11 A. acau'lis (Brocchi, Osserv. sulli. abruz. p. 22.) plant without stolons; stems very short; leaves oblong or obovate, narrowed a long way at the base, hardly sinuately toothed: floral leaves similar to the cauline leaves, but smaller, all glabrous or pilose; whorls few, condensed; tube of corolla straight, much exserted. ♃. H. Native of the South of Italy, in the higher mountain pastures, in Abruzzo and Calabria; also of Sicily. A. decúmbens, Tenor. fl. nap. but not of Thunb. A. Tenòrii, Presl. fl. sic. p. 34. Stems shorter than the leaves, scarcely 2 inches. Leaves approximate, 1½ to 2 inches long, or longer; floral ones narrower, generally quite entire, about equal in length to the corollas. Whorls few-flowered. Calyx semiquinquefid. Corolla nearly an inch long; tube annulate inside.

Stemless Bugle. Pl. 2 to 3 inches.

12 A. sinua'ta (R. Br. prod. p. 503.) hairy; stems many, procumbent; radical leaves longer than the petioles, and are, as well as the floral ones, sinuated, attenuated at the base; whorls 6-flowered; calyx very hairy; corolla rather pilose. ♃. ? F. Native of New Holland, at the Coal river near Port Jackson. A very distinct species, with the habit of *A. parviflòra*. Flowers small, blue.

Sinuated-leaved Bugle. Pl. procumbent.

13 A. parviflòra (Benth. in Wall. pl. rar. asiat. 1. p. 59. lab. p. 696.) plant diffuse, without stolons; branches ascending, villous; leaves broad-ovate, narrowed into the petioles at the base, sinuately subdentate: floral leaves ovate, almost quite entire, exceeding the flowers, all thick, very villous, and subcanescent; flowers minute; tube of corolla shorter than the calyx. ♃. F. Native of the Himalaya, in Kamaon, Wall; at Simlah, Lady Dalhousie; Mussooree, Royle and Jacquemont; at Illahabad, and in the valley of the Jumna, Jacquemont. Stems numerous. Whorls many-flowered. Corollas pale violet, exannulate. Stamens inclosed.

Small-flowered Bugle. Pl. ¼ to ½ foot.

14 A. bracteòsa (Wall. ex Benth. l. c. lab. p. 696.) plant without stolons, diffuse; branches ascending, villous; leaves broad-ovate, narrowed into the petioles at the base: floral leaves similar to the rest, exceeding the flowers, all sinuately toothed or quite entire, thick, very villous, subcanescent; upper whorls spicate; flowers small; tube of corolla exserted. ♃. F. Native of Nipaul, Hamilt. A. integrifòlia, Hamilt. in D. Don, prod. fl. nep. p. 108. Habit and hairiness of *A. parviflòra*, but taller and more branched; cauline and floral leaves larger; whorls more approximate; flowers as large again, but one half smaller than those of *A. Genevénsis*. Corollas blue; tube annulate inside.

Bracteate Bugle. Fl. July, Aug. Clt. 1821. Pl. ½ to ¾ foot.

15 A. densiflòra (Wall, ex Benth. l. c. lab. p. 696.) plant without stolons, humble, ascending, or erect, villous; leaves oblong or ovate, subcrenated, narrowed at the base, thick, villous: upper floral leaves or all are shorter than the flowers; whorls spicate or the lower ones hardly remote; tube of corolla equalling the calyx: middle segment of lower lip scarcely emarginate. ♃. F. Native of Nipaul. Allied to *A. parviflòra* and *A. bracteòsa*. Corolla blue; lower lip size of that of *A. Genevénsis*.

Dense-flowered Bugle. Pl. ¼ to ½ foot.

16 A. decu'mbens (Thunb. fl. jap. 243. ? Benth. lab. p. 697.) plant procumbent, without stolons; leaves subovate, coarsely toothed or cut, narrowed at the base, glabrous or villous: lower floral leaves almost similar to the cauline leaves: superior ones or all are bractea-formed, shorter than the flowers; whorls spicate, or the lower ones are few, axillary, and distant; calycine teeth bluntish; tube of corolla inclosed or a little exserted. ♃. F. Native of Nipaul and Kamaon, Wall; Kheree Pass and Deyra Dhoun, Royle; China, Sir G. Staunton. Intermediate between *A. densiflòra* and *A. macrospérma*. Whorls globose.

Decumbent Bugle. Pl. procumbent.

17 A. macrospe'rma (Wall, ex Benth. l. c. lab. p. 697) plant without stolons, erect or ascending, branched; cauline leaves ample, ovate, coarsely toothed, narrowed a long way at the base, membranaceous, glabrous or sparingly pilose: lower leaves almost similar to the rest: upper floral leaves or all bractea-formed, and shorter than the flowers; whorls spicate, or the lower ones are subremote; calycine teeth obtuse; tube of corolla shortly exserted. ♃. F. Native of the East Indies, on the Pundua Mountains, and on Mount Taong Dong near Ava. Stem paniculately branched. Lower leaves on long petioles, 2-4 inches long. Calyx turbinate. Corolla small, with an elongated tube, which is inflated in the middle, and annulate inside.

Large-seeded Bugle. Pl. 1 to 2 feet.

Sect. II. Chamæ'pithys (from χαμαι, *chamai*, on the ground, and πιτυς, *pitus*, a pine; the odour of Chamæ'pithys is bitter and resinous like that of the pine.) Benth. lab. p. 697. Whorls 2, rarely 4-flowered. Corollas red or yellow; upper lip very short and truncate.

18 A. Laxma'nni (Benth. lab. p. 697.) stems ascending, pilosely woolly; leaves sessile, oblong or elliptic, obtuse, quite entire, pubescent or pilose: floral leaves similar to the cauline ones; whorls 2-flowered; calyx ample, semiquinquefid, with oblong, bluntish, nearly equal segments; tube of corolla inclosed. ♃. H. Native of the South-east of Europe and Middle Asia; as of Hungary, Transylvania, Bessarabia, Tauria, Caucasus, and Iberia. Teùcrium Laxmánni, Lin. syst. p. 439. Waldst. et Kit. pl. rar. hung. 1. t. 69. Phleboánthe Laxmánni, Tausch. in bot. zeit. 1828. 1. p. 323. Stems branched, clothed with long hairs. Leaves about 2 inches long, stem-clasping; lower ones narrowed at the base; upper ones roundish; floral leaves all exceeding the flowers. Corollas yellow, nearly an inch long. Genitals equal in length to the segments of corolla.

Laxmann's Ground-pine. Fl. June, Aug. Clt. 1800. Pl. 1 to 2 feet.

19 A. oblonga'ta (Bieb. fl. cauc. suppl. p. 388.) stem erectish, very pilose; leaves nearly sessile, narrowly oblong, obtuse, quite entire, pilose: floral leaves similar to the cauline leaves; whorls 2-flowered; upper tooth of calyx minute: lower ones equal in length to the tube; tube of corolla shortly exserted. ♃. H. Native of Caucasus, in sandy places; and of Syria, between Bagdad and Aleppo. A. salicifòlia, Stev. mem. soc. nat. cur. mosq. 3. p. 265, but not of Lin. This differs from *A. Laxmánni* in the smaller stature and leaves, more stiff hairs, and form of calyx. Stems usually panicled. Corollas yellow, about the size of those of *A. Laxmánni*, but the lateral segments are rather broader.

Oblong-leaved Ground-pine. Pl. 1 foot.

20 A. salicifòlia (Schreb. unilab. p. 26.) herbaceous, pubescent; leaves oblong-lanceolate, bluntish, quite entire or a little toothed, narrowed into the short petioles at the base; calyx tomentosely hairy, with oblong obtuse teeth, the upper tooth the shortest; flowers on short pedicels. ♃. H. Native of Syria, between Smyrna and Bursa; and of Tauria and Armenia. Sibth. et Smith, fl. græc. 6. p. 22. t. 526. Teùcrium salicifòlium, Lin. mant. p. 80. Schreb. dec. 1. p. 17. t. 9. This differs from *A. oblongàta* in the short stiff pubescence. Habit and flowers almost the same, but the calyx is larger.

Willow-leaved Ground-pine. Pl. procumbent. ?

21 A. chamæci'stus (Ging. in herb. D. C. ex Benth. lab. p. 698.) suffruticose; branches white, nearly glabrous; leaves sessile, ovate-elliptic, obtuse, quite entire, green on both surfaces, but finely pubescent or glabrous; flowers pedicellate; calyx attenuated at the base, with oblong obtuse equal teeth. ♄. F. Native of Persia. A very distinct species. Leaves an inch long. Calyx tomentose at the base, whitish, with green teeth. Tube of corolla a little exserted.

Dwarf-cistus Ground-pine. Shrub.

22 A. Iva (Schreb. unilab. p. 25.) annual, diffuse, pilosely hispid; leaves oblong-linear, coarsely toothed or almost quite entire, with subrevolute edges: floral leaves similar to the cauline leaves; whorls 2-6-flowered; tube of corolla exserted. ⊙. H. Native of the South of Europe and North of Africa, in the region of the Mediterranean. A. moschàta, Schreb. unilab. p. 26. Teùcrium Iva, Lin. spec. p. 787. Cav. icon. 2. t. 120. Teùcrium moschàtum, Lam. fl. fr. 2. p. 409. Moschària asperifòlia, Forsk, fl. ægypt. 154.—Mor. hist. sect. 11. t. 22. f. 3. —Lob. icon. t. 384. Branches numerous, tufted, leafy. The whole plant beset with stiff hairs. Leaves about an inch long, narrowed at the base. Corolla rose-coloured; tube annulate inside. This species possesses the same qualities as *A. Chamæpithys*. Var. β, flowers yellow. ♄. F. A. pseudoìva, D. C. fl. fr. suppl. p. 395. A. Iva, Sibth. et Smith, fl. græc. 6. p. 22. t. 525. This does not differ from the species, unless in the colour of the flower.

Iva Ground-pine. Fl. July, Aug. Clt. 1759. Pl. ¼ to ½ foot.

23 A. tridactylìtes (Ging. mss. ex Benth. lab. p. 699.) suffruticose, diffuse, pilosely hispid; leaves cuneated-oblong, deeply tridentate at the apex or trifid, with short ovate-oblong teeth: floral leaves similar to the cauline ones: upper ones shorter than the flowers; whorls 2-flowered; tube of corolla exserted. ♄. F. Native of Palestine, on the top of Mount St. Catherine, N. Bové; and at the foot of Mount Libanon, Meryon. Habit of *A. Iva*, but differs in the form of the leaves and smaller flowers. Corolla rose-coloured. Filaments pilose, like those of *A. Iva*.

Three-fingered-leaved Ground-pine. Shrub ¼ to ½ foot.

24 A. Chìa (Schreb. unilab. p. 25.) herbaceous, erect, pilosely hispid; leaves deeply trifid, with linear, quite entire or trifid lobes: floral leaves similar to the others, rather shorter than the corollas; whorls 2-flowered, distinct. ⊙. H. Native of Europe and Asia, in the region of the Mediterranean, on dry hills; as of Sicily, Italy, Island of Chio, and other Grecian islands; also of Tauria. Sibth. et Smith, fl. græc. 6. p. 21. t. 524. A. Chamæ´pithys, Guss. fl. sic. prod. 2. p. 66. Teùcrium Chìum, Poir. suppl. 2. p. 772. Hardly differing from *A. Chamæ´pithys*, unless in the corollas being twice as long, and in the stems and leaves being more hairy.

Var. β, *mìnor* (Benth. lab. p. 699.) ⊙. H. Native of Syria, near Aleppo, Russell. This variety is nearly allied to *A. tridactylìtes*.

Chio Ground-pine. Pl. ½ to 1 foot.

25 A. Chamæ´pithys (Schreb. unilab. 24.) herbaceous, diffuse; leaves deeply trifid, with linear, quite entire or trifid lobes: floral leaves similar to the others, exceeding the flowers; whorls 2-flowered. ⊙. H. Native of Middle and South Europe; also of Asia, in the Pontic region; Tauria and Caucasus. In England it abounds in Kent and Surrey, but otherwise a scarce plant. Smith, engl. bot. t. 77. Teùcrium Chamæ´pithys, Lin. spec. 787. Œd. fl. dan. t. 733. Bùgula Chamæ´pithys, Scop. carn. no. 718. Chamæ´pithys vulgàris, Link, handb. p. 453. Chamæ´pithys trífida, Dumort, florul. belg. p. 42.—Ludw. ect. t. 130.—Riv. mon. irr. t. 14. f. 1.—Mor. hist. sect. 11. f. 22. f. 1. Stems procumbent at the base, much branched, beset with long hairs like the leaves, which are ciliated with long hairs. Corolla yellow, dotted with red, pubescent outside. Filaments rather pilose. The whole plant has a highly aromatic odour, and was much esteemed in the same disorders as *Teùcrium Bòtrys*, and was an ingredient in the Portland powder.

Ground-Pine, Common. Fl. April, July. England. Pl. diffuse ¼ to ½ foot.

26 A. gla`bra (Presl. fl. sic. p. 36.? Benth. lab. p. 700.) herbaceous, glabrous; leaves dilated at the base, deeply trifid, with linear, quite entire lobes: floral leaves similar to the others; whorls 2-flowered; calycine teeth lanceolate, obtuse, glabrous. ⊙.? H. Native of Sicily and Syria. Teùcrium lævigàtum, Russ. nat. hist. alepp. 2. p. 255. This differs from the preceding by its being glabrous, and by the flowers being twice the size; and from *A. Chìa* by its being glabrous.

Glabrous Ground-Pine. Pl. ¼ to ½ foot.?

Sect. III Pseudoanisómeles (so called from the species having the habit of the genus *Anisómeles*, with the anthers of *Ajuga*. False Anisomeles.) Benth. lab. p. 700. Whorls 2-6-flowered. Upper lip of corolla hardly thrice as short as the lower lip. Australian plants. The two species have the calyx, corolla, and nearly the habit of *Anisómeles*, with the anthers of *Ajuga*. The achenia have not been seen.

27 A.? virga`ta (Benth. lab. p. 700.) stems elongated, twiggy, nearly simple; leaves oblong: cauline leaves coarsely serrated, somewhat canescently villous: floral leaves quite entire, exceeding the calyxes; whorls distant, 2-6-flowered, disposed in long racemes; tube of corolla inclosed. ♃.? G. Native of New Holland, in the interior, at the river Lachlan, Cunningham. Stems pubescent. Leaves almost of *Anisómeles;* lower ones petiolate; upper ones sessile, narrow at the base, 1-2 inches long. Flowers nearly sessile.

Twiggy Bugle. Pl. 1 to 1½ foot.

28 A.? tridenta`ta (Benth. lab. p. 701.) stems elongated, twiggy, simple; cauline leaves oblong, petiolate: floral leaves sessile, ovate, trifid at apex, exceeding the flowers; whorls distant, 2-6-flowered, disposed in long racemes; tube of corolla exserted. ♃.? G. Native along with the preceding, Cunningham. Whorls occupying the larger part of the stem, usually 2-flowered. Flowers nearly sessile. Calyx glabrous or pubescent, campanulate, deeply 5-toothed. This differs from the preceding in the smaller calyxes, larger corollas, and tridentate floral leaves.

Tridentate-leaved Bugle. Pl. 1 to 1½ foot.

† *A species not sufficiently known.*

29 A. re`pens (Roxb. fl. ind. 3. p. 3.) biennial, procumbent, villous; leaves oblong-lanceolate, narrowed into the petioles at the base, coarsely and unequally serrated; spikes terminal, cylindrical; bracteas oblong, ventricose, 5-flowered, therefore the whorls are 10-flowered. ♂. G. Native of the East Indies, in the province of Chittagong. A robust diffuse plant, having the lower branches generally radicant.

Creeping Bugle. Pl. robust.

Cult. For culture and propagation see *Teùcrium*, p. 870.

Most of the species belonging to section *Búgula* require a moist soil.

CX. CYMA`RIA (from *cyma*, a cyme; in allusion to the flowers being disposed in cymes.) Benth. in bot. reg. vol. 15. lab. p. 705.

Lin. syst. *Didynàmia, Gymnospérmia.* Calyx nearly globose, about 10-nerved, equal, 5-toothed; throat coarctate, naked inside. Corolla with a subexserted straight tube and a bilabiate limb; lips nearly equal; upper lip erect, entire, arched; lower lip spreading, trifid, having the middle segment entire. Stamens 4, ascending under the lower lip, didynamous; lower ones the longest; anthers 2-celled: cells at length divaricate. Upper lobe of style very short; stigmas minute. Achenia dry, wrinkled.—Shrubs. Flowers small, cymose; cymes racemose. This genus resembles *Craniótome* and *Plectránthus* in habit; yet the rugose achenia, less deeply separated than in most *Labiàtæ*,

seem to indicate its station as lying between *Ajugoídeæ* and *Verbenàceæ*.

1 C. dichótoma (Benth. in Wall. pl. rar. 1. p. 64. lab. p. 705.) leaves ovate, nearly glabrous above, scarcely wrinkled; cymes loose, panicled; peduncles slender, 3-4 times longer than the petioles. ♄. S. Native of the Burman Empire, on Mount Taong Dong and at Segaen. Branches tomentose. Leaves on short petioles, crenated, tomentose beneath while young.

Dichotomous Cymaria. Shrub 2 to 3 feet.

2 C. elonga`ta (Benth. in Wall. l. c. lab. p. 705.) leaves wrinkled, tomentose on both surfaces; cymes dense, on short peduncles; racemes terminal, elongated, loose. ♄. S. Native along with the preceding. This differs from the first in the branches being elongated and densely tomentose, in the leaves being on shorter petioles, and usually rounded at the base; cymes of flowers more numerous, disposed into an elongated terminal raceme. Calyx densely tomentose.

Elongated-branched Cymaria. Shrub 3 to 4 feet.

Cult. For culture and propagation, see *Plectránthus*, p. 682.

THE END.

A CATALOGUE

OF THE

NAMES OF BOOKS AND OTHER AUTHORITIES REFERRED TO;

WITH THE ABBREVIATIONS USED.

*** *In this catalogue the abbreviations used in the text are in Italics, and the full titles of the works in Roman letters.*

Abel Chin. Abel (Clarke). Voyage to China, 4to. London, 1818.

Abbot. ins. } Abbott's natural history of the insects
Abbott, insect. georg. } of Georgia, 2 vols. fol. London, 1798.

Abercrombie. Abercrombie (John). The practical gardener's companion, or horticultural calendar, &c., London, and The gardener's pocket journal and annual register, &c., 1 vol. 12mo., 1791.

Abhand. acad. wiss. Abhandlungen der churfürstlich baierischen Akademie der Wissenschaften, 6 vols. 4to. Munchen, 1763. Continued. New Series, 1827.

Abhand. nat. ges. dantz. Versuche und Abhandlungen der naturforschenden Gesellschaft in Dantzig, 4 vols. 4to. Dantzig, 1747-1778.

Abhand. nat. ges. hall. Abhandlungen der Hallischen natürforschenden Gesellschaft, 1 vol. 8vo. Leipsig, 1783.

Abhand. acad. ges. zur. Abhandlungen der natürforschenden gesellschaft in Zurich, 3 vols. 8vo., 1761-1766.

Abhand. böhm. Abhandlungen einer Gesellschaft in Böhmen zur Aufnahme der vaterländischen Geschichte und der Natural geschichte, 8vo. Prague, 1775-1789.

Abhand (neu) Böhm, or *bohem.* Neuen Abhandlungen der Böhmischen Gesellschaft, 8vo. Prague.

Achar. lich. Acharius (Erick). Lichenographia universalis, 1 vol. 4to. Göttingen, 1810.

Act acad. erford. Acta academiæ electoralis moguntinæ scientiarum utilium quæ Erfordi est. 2 vols. 8vo. 1778-1795

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Act. nov. acad. petrop. Nova acta academiæ scientiarum imperialis petropolitanæ, 4to. Petersburg, 1783-1816.

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THE END.

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